

**Proceedings of the Eighth Annual  
High Desert Linguistics Society Conference**

November 6-8, 2008  
Department of Linguistics  
University of New Mexico

Volume 8

Edited by  
Evan Ashworth



High Desert Linguistics Society ♦ Albuquerque, New  
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The High Desert Linguistics Society (HDLS) began ten years ago as a coordinated effort of the graduate student body in the Department of Linguistics at the University of New Mexico. The mission statement for HDLS, and more specifically for its biennial conference, was to provide a forum in which those interested in linguistics could meet to exchange ideas, share research, and provide feedback in the spirit of collegiality and support. HDLS has significantly increased in size and scope since that first conference and was proud to continue this tradition with its eighth meeting, held November 6-8, 2008 on the University of New Mexico campus. As a conference organized entirely by graduate students, there are many who have contributed to the overall success of the conference and deserve recognition for their efforts.

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## ON FELICITOUS ASSERTION AND FREE SPEECH

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*The felicitously made assertive depends in a very fundamental way on the right to free speech. This is because it conforms to a contract between speaker and addressee, which not only respects free speech but, more importantly, requires it. It is a contract realized in the form of certain felicity conditions (Searle, 1969) which are all in one way or another reflexes of the free speech requirement. In this paper, I will show the ways in which assertion becomes compromised in response to the absence of free speech and equity in speech exchange. I will show, in particular, that certain felicity conditions are violated under these circumstances and that this violation generates an implicature about the speaker's power or powerlessness. I will suggest, in addition, that these implicated statements also serve as discursive expressions of marked affect and speaker identity, born out of the linguistic and broader social inequity within which the speaker functions.*

### 1. INTRODUCTION.

There is enormous current interest in social inequity as it is expressed in, and implemented by means of, language. Scholars have worked on not only the relatively more benign forms of asymmetry apparent in speech exchange as it is practiced in various different institutional settings, e.g., between doctor/therapist and patient, attorney and defendant, teacher and student or government official and the public (cf. Hofmann, 1983; Jansen & Steehouder, 2001; Sarangi & Slembrouk, 1996; Renkema, 2004; Wodak 1996; amongst others), but also on racism, sexism and the other more toxic forms of discrimination expressed in different discourse-types and in varied social settings (cf. Caldas-Coulthard & van Leeuwen, 2002; Ehrlich, 1998; Fairclough, 1995; Fang, 2001; Flowerdew, Li & Tran 2002; McConnell-Ginet, 1988; Resigl & Wodak, 2001; Renkema & Hoeken, 1988; Tannen, 1996; van Dijk, 1984, 1988, 1993, 1996, 1998; amongst others). One of the points of greatest interest in this body of research is that it exposes 'naturalized' types of bias and "hidden agendas" (Cameron, 2001) and in so doing draws attention to what have become 'respectable' expressions of discrimination. As a result, it raises awareness of forms of injustice that people would otherwise remain effectively blind to, and, for this reason, it has enormous appeal both as scholarship and as humanitarian intervention.

The systematic silencing of dissent does not appear to fall into the category of 'hidden' inequities. But it is not only, in and of itself, a violation of a fundamental human right; it is also a linguistic strategy knowingly enforced to cover up discriminatory behavior. People without a voice, obviously, cannot speak of their privations; so having no voice, in effect, prevents inequity from being an issue at all. In addition, enforced silence gives rise to veiled forms of talk. That is, disallowance of free speech and equitable speech exchange is, in fact, apparent in not merely silence where one would

normally have an expectation of speech, but also a very particular type of language use on those occasions when speech is ventured. I want to draw attention to one aspect of this veiled way of speaking, what I will refer to as a corrupted use of the speech act of assertion.

The felicitously made assertive depends in a very fundamental way on the right to free speech. This is because it conforms to a contract between speaker and addressee, which not only respects free speech but, more importantly, requires it. It is a contract realized in the form of certain felicity conditions (Searle, 1969) which, as we will see, are all in one way or another reflexes of the free speech requirement. In this paper, I will show the ways in which assertion becomes compromised in response to the absence of free speech and equity in speech exchange. I will show, in particular, that certain felicity conditions are violated under these circumstances and that this violation generates an implicature about the speaker's power or powerlessness. I will suggest, in addition, that these implicated statements on power or powerlessness also serve as discursive expressions of marked affect and speaker identity, born out of the linguistic and broader social inequity within which the speaker functions, and effective, therefore, in laying bare an undemocratic and oppressive social order.

In short, in the ensuing discussion, I will attempt to demonstrate that when we speak in the absence of free speech and equity in speech exchange:

- 1) Our assertions are mal-formed in predictable ways, and
- 2) These corrupted assertions inevitably make second-order, i.e., implicated, statements about our power or powerlessness, and in doing so give verbal expression to aberrant affect and speaker identity manifest in undemocratic and oppressive social circumstances.

To achieve these objectives, in section 2 I will first briefly illustrate that felicitously made assertions show proper alignment to (or, in other words, are properly grounded in) a frame of shared (between speaker and hearer) beliefs and world view. In section 3.1., I will then suggest that there is, therefore, a need to gauge the assertion in general, and its conformity to any particular felicity condition in particular, by referring to the relevant frame(s) in which the assertion is made. To do this, I will review the felicity conditions, and speak of the relevance of two types of frames of reference in their assessment— a broader frame of more universally held beliefs and a more local frame, constituting the ideology of a powerful indigenous subgroup. In section 3.2., I will, then, point to the need for justification as a means of grounding the ostensibly infelicitous assertion in a particular frame, and argue for the role of this accompanying justification as a fool-proof ultimate indicator of the felicity-status of the assertion. It will be seen that it is the failure to justify, or to justify appropriately, that triggers an implicature about power or powerlessness, and concomitantly gives expression to a marked affect and speaker identity. The varied ways in which justification is handled will be used to identify different types of compromised assertive, differences in effected implicature, and associated affect and speaker identity.

This study of assertion in the absence of free speech is based on the examination of representative assertives in the dialogue of Orwell's *1984*. *1984* is a rich source of data

because it is the perfect exemplar of a repressed society, and it is made so in significant measure by the authenticity of its dialogue. Because art replicates life so successfully in this novel, this body of language data serves very effectively in allowing for the identification of well-differentiated types of compromised assertive. It is also true, of course, that access to more naturally occurring data is difficult, because informant-consent is unlikely when the language-data is used to uncover actionable forms of discriminatory behavior.

## 2. THE ROLE OF THE FRAME.

It is first important to acknowledge that felicitous assertion is grounded in a shared frame of knowledge, basic assumptions and world view. The absence of this shared frame makes communication difficult, if not impossible, because the participants in a speech exchange are not able to assess in the same way what qualifies as felicitous, and when a verbalized justification is called for to correct any appearance of infelicity.

- 1) “From your general appearance—merely because you’re young and fresh and healthy, you understand—I thought that probably--”  
“..if I had a quarter of a chance I would denounce you and get you killed off?”  
(p. 101)

In the extract of (1), Winston starts to make a statement about what he thought of his lover before he knew her, suggesting that her youth and vigor made him believe she would report him to the thought police and have him vaporized. This assertion is unjustified, because it is common knowledge in Winston’s world that such young women belong to the anti-sex league and are amongst those who go about identifying thought-criminals and getting them executed. Actually, Julia’s ability to finish his half-made assertion makes this very clear. It is Julia’s ability to do this and the obvious absence of any accompanying justification that makes the reader perceive this assertion as common knowledge in the social order represented in this novel.

## 3. A TAXONOMY OF CORRUPTED ASSERTIONS, POWER, POWERLESSNESS AND SPEAKER IDENTITY.

### 3.1 THE FELICITY CONDITIONS

Recognition of the grounded nature of the assertion in the frame in which it is made helps us to understand how exploitation of this basic requirement is used to convey secondary levels of meaning.

In the first instance, the interlocutor assesses the felicity of the specific conditions that assertion must conform to. Of relevance here are the two following Searle-defined conditions (1969):

1. Preparatory condition: “S has evidence (reasons etc.) for the truth of *p*.” (p. 67)
2. Sincerity condition: “S believes *p*.” (p.67)



I will also recognize two other conditions that are in consequence of 1 and 2, above:

1. The assertion is a volitional act; the speaker must make it willfully. So assertions made under duress are infelicitous.
2. The speaker is taken as author of *p*, unless the statement is a truism. Speaker as author is, hence, the expectation.

Both these conditions and the justification their apparent violation may be given are first assessed with respect to the broader frame of more or less universally held beliefs. That is, the following specific questions are asked in an attempt to assess the felicity of any given assertion: With reference to this broader frame of beliefs, is it likely that the asserted proposition is a speaker belief? With reference to this broader frame is the asserted proposition supported by any body of existing evidence? With reference to this broader frame, does the assertion appear to be willfully made, and with reference to this broader frame of beliefs can speaker be regarded as the author of the proposition? When assertions are thus examined, apparent violations call for justification. This justification serves to demonstrate proper and expected alignment to the broader frame, and is, therefore, a focal point of attention.

### 3.2 PROBLEMATIC JUSTIFICATION, LOCAL FRAME, AND IMPLICATURE.

So violation of a condition is actually registered only if there is failure to properly justify, when the broader frame of generally held beliefs would warrant that justification. In the absence of proper justification, the more local frame of beliefs is brought to bear to the assessment of the assertion. This assessment in terms of the local frame may serve to correct the apparent condition violation. In this case, the assertion will reflect the unique ideology of the local frame.

#### 3.2.1 VIOLATIONS THAT EXPRESS CONFORMITY: ELIDED JUSTIFICATION.

- 1) “They’re disappointed because they couldn’t see the hanging, that’s what it is”

The assertion of (2) is not accompanied by any justification, and actually calls for none in the speech community in which it is being used. The fact that justification is not needed clearly communicates that it is customary for children to be eager to see a hanging and to be disappointed if they miss that opportunity. The absence of any need for justification in the narrative world gives this, otherwise quite extraordinary, statement authenticity. The children of “Nineteen Eighty-Four” also say “Want to see the hanging! Want to see the hanging” (p.26) just as our children routinely say “Want to go to the movies! Want to go to the movies”. The parity between the two routines is unmistakable, and highlights the acceptance that enjoying hangings is given in this community.

#### 3.2.2 VIOLATIONS THAT EXPRESS POWER OR POWERLESSNESS.

When the unjustified condition violation is not corrected by the local frame, then it has the potential to convey an implicature in the context of this local frame. It is, then, likely to convey one of two types of implicature: 1) that condition-satisfaction in the form of an

appropriate justification is not forthcoming, as a statement of the speaker's power in the local context, or 2) that condition-satisfaction in the form of an appropriate justification cannot be met, or cannot be properly met, as a statement about the speaker's powerlessness in the local context. The following examples will show that problems in justification, vis-à-vis the broader frame, are used to generate specific implicatures about the speaker's power or powerlessness in the local frame of reference. I will also suggest that such violations are, concomitantly, vehicles for the expression of marked affect and, therefore, aberrant speaker identity. In making this claim, I am adopting the view that there are normative modes of social behavior, as there are of assertion making and speech exchange more generally. Both the implicated statement about power/powerlessness and the marked affect and speaker identity it also conveys are indicative of the social inequity which lies at the core of the particular local ideology.

### 3.2.2.1 VIOLATIONS THAT EXPRESS POWER

#### 3.2.2.1.1 POWER AS AGGRESSION

##### 3. "War is peace. Freedom is slavery. Ignorance is strength." (p.2)

The assertions in (3) are blatant contradictions by the broader frame of universally held beliefs. They, therefore, cannot satisfy either the sincerity condition (S believes p) or fulfill the preparatory condition (S has evidence for p). In the absence of accompanying justification, in the first instance we must consider whether they constitute accepted local beliefs, in which case no justification would be needed and the assertions would be properly grounded. But, in fact, these blatant contradictions are not made otherwise by the local frame. Since there is an expectation of speaker cooperation (Grice) and relevance (Sperber & Wilson), the cavalier setting aside of these two necessary conditions must be perceived as motivated. In the context of the local frame, it is seen specifically as a claim to power. The condition violation is deliberate; it is a liberty taken to demonstrate one has the power to do it. As such it serves as a linguistic expression of power.

It is also significant to note that these assertions come in slogan format, that routinely conveys truisms, which by definition do not require justification (e.g., "God is love", or "The truth will liberate you"). That is, we don't process the assertion for its felicity, in the customary way, with such assertions, specifically because they are in the form of slogans. In such a format, that accommodates statements that just 'ring true', these blatant contradictions are even more audacious; they become aggressive assertions of power. Unjustified questionable assertion that has become 'naturalized' captures the bias of a dominant ideology (referred to above as 'violations that express conformity'). But one that has not been naturalized can become an overt expression of power, and, in this respect, an act of aggression by a person wielding complete power against a powerless addressee. In terms of the affect conveyed and speaker identity expressed, this appears to be the stance adopted by the megalomaniac, since there is no other meaning conveyed through this assertion except the aggressive claim to power.

### 3.2.2.1.2 POWER AS DEFIANCE.

The unjustified questionable assertion can also be perceived as an act empowerment, when it serves to make the statement a rejection of the status quo, and, hence, an act of defiance.

- 2) “I hate purity, I hate goodness. I don’t want any virtue to exist anywhere. I want everyone to be corrupt to the bones.”

“Well then, I ought to suit you, dear. I’m corrupt to the bones.”

With respect to the broader frame, the statements of (3) are questionable as the convictions of the average, sane person. Therefore, evidence in support for them is also unlikely to be either self-evident or convincing. Nor does the local frame provide a way to ground such assertions, which would make justification unnecessary. In the assumption of cooperation and relevance, the failure to justify must, therefore, be perceived as deliberate and, hence, motivated. In the context of the local frame, it is mutually known between this particular speaker and interlocutor, Winston and his girlfriend Julia, that “purity” and “goodness” have become tantamount to the quashing of all healthy and natural instincts. So, in this context of use, what Winston is suggesting is hatred of this suppression of natural instincts in the name of virtue, which makes his claim reasonable. In doing this, he is, at the same time, daring to express his disapproval of the dominant ideology, and conveying defiance of the status quo.

It also true, however, that he could have conveyed this message directly, by saying that he abhors the suppression of natural instincts in the name of virtue. So choosing to make an unjustified attack on purity and goodness is significant in itself. The unjustified violation of the basic conditions that constrain this assertion (the sincerity condition and preparatory condition) in itself suggests either the power or daring to do that. Since Winston has no power at all, it is seen as an act of daring and hence empowerment. In this instance, defiance and empowerment constitute the affect conveyed and speaker identity that is discursively expressed.

### 3.2.2.1.3 THE BASIC UNACCEPTABILITY OF CONDITION-VIOLATION.

Even when it effects the expression of power or defiance, the unjustified questionable assertion retains its essential unacceptability for the simple reason that it makes for a fundamentally untenable statement. The fact that the speaker is able to convey a secondary meaning in choosing not to justify the assertion (i.e., to express his/her power or defiance) does not change that fact. The assertion “Freedom is slavery”, for example, does not become less of a contradiction because it is an implicit expression of the power of its speaker. Fundamentally, it remains a marked form of language use.

Because there is a level at which they are fundamentally unacceptable, unjustified questionable assertions, made to claim power or to empower, can sometimes sound more ludicrous than empowering. The degree to which they empower or evoke ridicule appears to depend on many factors, including, who is making the assertion, about what, to whom, and also on how the assertion is made. Consider, for example, the set of assertions of (4), below. All of them, like the above examples, violate both the sincerity and preparatory

conditions, but in this instance specifically by being absurdly inaccurate in consequence of making extreme overstatements.

- 3) “Comrades!” cried an eager youthful voice. Attention, comrades! We have glorious news for you. We have won the battle for production! Returns now completed of the out of all classes of consumption goods show that the standard of living has risen by no less than twenty percent over the past year. All over Oceania this morning there were irrepressible spontaneous demonstrations when workers marched out of factories and offices and paraded through the streets with banners voicing their gratitude to Big Brother for the new, happy life which his wise leadership has bestowed upon us. Here are some of the completed figures.” (p.51)

In each assertion the intensifiers used are both excessive and stylistically inappropriate: The “glorious” in “glorious news” is both excessive as an intensifier and, because it is biblical, also inappropriate in a statement about success in the production of food and similar mundane essentials. This excess and inappropriacy is also true for “won the battle” in “won the battle for production”. Representing food production as engagement in fighting and success in it as victory in battle is extremely hyperbolic by the standards of conventional usage. The same problem of excess and stylistic inappropriacy is also true of the phrase “irrepressible spontaneous demonstrations”, in the description of public expressions in support of the state. Both ‘irrepressible’ and ‘spontaneous’ bring natural urges to mind, and demonstrations expressing gratitude to the state, even if they are sincere, are most unlikely to be either spontaneous or irrepressible. Again, the hyperbolic nature of the description makes it unacceptable. In “the new happy life”, the combination of ‘new’ and ‘happy’ as a description of life overstates by being a profound simplification; it glazes over details to the point of meaning nothing and so sounding simple-minded. Finally, “his wise leadership has bestowed upon us” is again excessive and inappropriate. It, once more, carries biblical overtones, in that ‘bestow upon us’ is what God does.

Because of the character of the overstatement adopted in the implementation of the condition violation such assertions are likely to be seen as pure propaganda and also to incite ridicule. In the local frame the absurd levels of overstatement also signals an assumed license to violate the basic contract on felicitous assertion and therefore represents the voice of power. But there is an odd co-mingling of the two perceptions: violation as untenable and, in consequence of the means adopted for it, ridiculous, and violation as power.

### 3.2.2.2 VIOLATIONS THAT EXPRESS POWERLESSNESS.

#### 3.2.2.2.1 THE FALSE JUSTIFICATION.

- 5) a. “I think he was a little upset at not going to the execution” said Winston.  
b. “Ah, well – What I mean to say, shows the right spirit, doesn’t it? ...  
c. Then, when they got into Amersham, handed him over to the patrols”

- d. “What did they do that for?” said Winston, somewhat taken aback. Parsons went on triumphantly:
- e. “My kid made sure he was some kind of enemy agent .. Pretty smart for a nipper of seven, eh?”
- f. “What happened to the man?” said Winston.
- g. “Ah, that I couldn’t say, of course. But I wouldn’t be altogether surprised if” Parsons made the motion of aiming a rifle, and clicked his tongue for the explosion.
- h. “Good”, said Syme abstractedly,...
- i. “Of course we can’t afford to take chances” agreed Winston dutifully.

In excerpt (5), Winston is caught by surprise by what seems to be a patently uncalled for act – the children handing some unfortunate man over to the patrols (in c) – and honestly expresses his shock, asking why the children did this (d) and “what happened to the man” (f). But when he hears the inevitable – that the man was likely executed (g) – and Syme’s approval of this (h), he feels compelled to say what is expected of him, that they cannot “afford to take chances” (i). In saying this, though he does not overtly express approval of the act, he justifies it by representing it as a means to self-preservation. It is significant that he cannot approve of the act, and opts instead to do the next best thing – justify it as necessary – even though, coming from him, the one is as false an assertion as the other would be.

The false justification shows full awareness of the local frame: one is not allowed to express concern for people handed over to the patrols; their annihilation is supposed to be favorably looked upon. It also shows fear of nonconformity. But it concomitantly indicates obvious discomfort with the more blatant violation of the basic contract requiring the speaker to assert only what s/he believes (stated in the sincerity condition). In response to this basic contract, Winston chooses a false justification of the act rather than, the also false, outright approval of it. The objective is to demonstrate an expected alignment to the local frame in the least morally repugnant way.

Threatening life circumstances make a certain type of compromise an inevitable survival strategy – speakers feel pressured to violate inviolable conditions, but opt for the less, rather than more, egregious form of violation. Concomitantly, they violate ethical standards, and again seek the less, rather than more, immoral option. It is essentially an unethical though helpless compromise that is the stance adopted and given discursive expression. Again, both the language use and the affect and identity expressed are non-normative and reflective of aberrant life circumstances.

- 6) “ ‘Did you go and see the prisoners hanged yesterday?’ said Syme  
‘I was working’ said Winston indifferently. ‘I shall see it on the flicks, I suppose.  
‘A very inadequate substitute’, said Syme.’”(p.44)

Justification is, of course, absolutely necessary when there is ostensible nonalignment with the local frame. In (6), we first have Syme’s question, presupposing that it is customary to go to see public hangings, and this, as questionable as it is with respect to

the broader frame, is represented as needing no justification. What does need justification in the local frame is Winston's suggestion that he did not see the hanging, an assertion that is not represented overtly at all. By saying he was working, Winston, rather, justifies not going, conveying by implicature that he could not go, because he was working. This justification also suggests that he would have gone if he had not been working, and he further justifies not going, by saying he will see the hanging at the movies.

The implied failure to go is the truth. But the justifications, that he could not go because he was working, and that he intends to see the hanging at the movies, are lies. It is clear that there is no acceptable way of merely stating the truth when the oversight is the failure to attend a public hanging, in the world in which Winston lives, making false justification an absolute necessity.

Here, there is, then, another level of compromise. The basic contract (expressed in the sincerity condition and the preparatory condition) is upheld in the implicated truth, but only by means of overtly expressed falsehoods. Both the linguistic choices and associated speaker stance reflect the strange gymnastics the speaker feels compelled to perform to somehow hang on to his fundamental sense of integrity, in a world that makes no allowance for it.

#### 3.2.2.2.2 THE QUESTIONABLE JUSTIFICATION

There are two main kinds of questionable justification that are used by people giving verbal expression to their powerlessness. In one of these the speaker justifies an assertion that represents him/her in an unfavorable way. In (7), Parsons justifies the proposition that represents him as guilty, both in his initial response to Winston's query about his guilt – "of course" -- and in the follow up justification for it, expressed in the statement that the party would not arrest an innocent man.

7). "Are you guilty?" said Winston.

"Of course I'm guilty," cried Parsons with a servile glance at the telescreen. "You don't think the party would arrest an innocent man, do you?" (p. 192)

Self-deprecation is not normal behavior for the simple reason that people in a healthy frame of mind do not speak of themselves in demeaning ways. Contrition and remorse, of course, lead to self-accusatory statements, but they also presuppose a transformation of the speaker at the time of the expressed emotions.

One can account for this form of justification in more than one way: It is a fact that in the local frame the assault on the self would be favorably looked upon. It is a type of questionable justification that the powerless might exploit, in order to gain favor with the powerful. This justification could also be interpreted as a made under extreme duress, by a person who is terrified of noncompliance of any form. It might be said that the circumstances are such then that the speaker feels compelled to act without volition, to do and say only what is expected of him. Such an avolitional assertion would make the act of assertion essentially meaningless. Additionally, since assertion presupposes volitionality, the avolitional assertion not only sounds strange, but also suggests an aberrant mental condition in which the sense of self is set aside, as is suggested by (8).

- 8) “Comrade! Officer! ...There is nothing I wouldn’t confess, nothing. Just tell me what it is and I will confess it straight off...”

In the second type of questionable justification, authorship of *p* is renounced. If the speaker is clearly the author of the asserted proposition, then renouncing and reassigning authorial responsibility is perceived as marked behavior. It can make the speaker appear servile, fawning, and subservient.

- 9) “It’s a beautiful thing, the destruction of words....Take ‘good’, for instance. If you have a word like ‘good’, what need is there for a word like ‘bad’? ‘Ungood’ will do just as well – better, because it’s an exact opposite, which the other is not...In the end the whole notion of goodness and badness will be covered by only six words – in reality, only one word. Don’t you see the beauty of that Winston? It was BB’s idea originally, of course,” he added as an afterthought.” (p.45)

In (9), the assertion that makes a claim in support of the destruction of words is expressing a novel idea (in both the reader’s world and in “Nineteen Eighty-Four”). It needs justification, with respect to both these frames, and is justified at some length by Syme. But having done so, he then disclaims, and reassigns, authorship, in a statement which serves to diminish or do away with pride of ownership.

The uncompromised assertion, with the feature of authorship, and therefore the facility to express free thought, is not permitted in the world depicted in “Nineteen Eighty-Four”. The justification which reassigns authorship is regarded appropriate behavior for the powerless.

#### 3.2.2.2.3 SPEECH IN CRISIS MODE

I want to make a final point on the category of justifications that express powerlessness. It is fair to say that powerless people function in crisis mode in response to constraints on free speech. One outcome of speech in crisis mode is a general adoption of vague language use. People are vague, both because it is not possible to tell the truth and because they, as a rule, are uncomfortable lying. We have seen this above, in the modes of justification adopted in the assertion-making of powerless people. When one’s true response is not permitted, one has two options: to mitigate the dispreferred response, because it is not accommodated in the local frame, or to mitigate the preferred response, because it constitutes a lie and is disallowed by the general contract that serves to make assertion felicitous. In the mitigated dispreferred response, what is overtly expressed is a justification for it; the dispreferred response is, therefore, conveyed only by implicature. (Winston justifying the dispreferred assertion about not going to see the hanging (“I was working”) instead of stating it (“I didn’t go”) is this kind of vagueness.) In mitigating the preferred response, what is overtly expressed is a justification for it; the preferred response is, in consequence, conveyed by implicature. (Winston justifying approval of the execution of some unfortunate man, reported to the patrols by Parsons’ children (“Well, we can’t take chances”) instead of stating it (“that is good”) is this kind of vagueness.) In short by adopting the general strategy of vague language use, one avoids

saying both “I disagree”, which would be the unacceptable truth, and “I agree”, which would be a blatant lie.

Vagueness is an obvious way of weakening the strength of the assertion. But it is only one of the strategies adopted by people expressing their powerlessness. As we have seen above, it is also possible to weaken the power of the assertion by disempowering the speaker. Self-deprecation (where justification is used to make self-assault statements) and the act of renouncing authorship (where justification serves to disclaim authorship) are ways of disempowering the speaker, and by this means make the assertion essentially ineffective. As we saw, above, this outcome too is put in place by an appropriate management of justification, and is also characteristic of speech in crisis mode.

A third usage of justification apparent in speech in crisis mode is characterized by the elimination of certain types of justification, again as a means to strip the assertive of the full impact it has in its untampered form.

Stripping the assertion of expected justification is usually a means of giving it excessive force, making it, as it were, an act of aggression. We saw this above in the section on elided justification, where the absence of expected justification served as a statement of the speaker’s power or, alternatively, as an act of empowerment. In contexts where the expected justification is an expression of the speaker’s propositional attitude, however, eliding it can take away a crucial affective component and so mark the assertion as the speech of the powerless, generated under threatening circumstances, that is, in crisis mode. The telegraphic and pithy character of the following first exchange between Winston and his would-be lover, Julia, (10) makes it appear quite unnatural:

10) “What time do you leave work?”

“Eighteen thirty.”

“Where can we meet?”

“Victory Square, near the monument.”

“It’s full of telescreens.”

“It doesn’t matter if there’s a crowd.”

Any signal?”

“No. Don’t come up to me until you see me among a lot of people, And don’t look at me. Just keep somewhere near me.”

“What time?”

“Nineteen hours.”

“All right.”



It is noteworthy that it is not the propositional content that is tampered with. It is quite clear in this exchange that the two would-be lovers are arranging to meet each other, though one must assume that this is what they would be interested in hiding. In fact, the crux of the message is very much intact, because, of course, it is what must be retained for communication to happen. What has been left out is the affective component, which would be captured in justifications for each asserted plan of action. What is left out specifically, in (10), is the set of emotive justifications that would normally accompany the selection of time and place for this romantic rendezvous. What is lost, in consequence, is the want of economy in our use of language that enters into our exchanges to contribute not the transmission of the core message, but to convey caring, empathy, camaraderie and other core-meaning supportive emotive elements.

Speech in crisis mode, hence, takes two potential routes: either justification of an unstated assertion provides the means to avoid direct assertion-making, to weaken the assertion or disempower the speaker, or alternatively all supporting justification is effectively eliminated to leave out evidence of speaker's propositional attitude. Either way, under threat the robustness and power of the assertion are strategically eroded.

In the above examples, I have provided different manifestations of three main modes of justification which flaunt the felicity conditions: elided justification, false justification, and questionable justification. Each kind produces a particular type of implicature on power or powerlessness and gives expression to an aberrant stance and discursively expressed identity, and each is reflective, therefore, of the core challenge posed by, and the contradiction inherent in, the need to talk without free speech and without equity in speech exchange.

#### 4. CONCLUSION.

Assertion is vitally dependent on the assumption of free speech and equity in speech exchange. Its normative manifestation presupposes this right. When either speaker or hearer is denied this right, the essential and core character of the assertive is compromised. In general, if I don't have the right to free speech, then, of course, there cannot be much credence given to the "I believe" part of the contract. If, on the other hand, I, as speaker, alone have the right to free speech, then my belief is no longer just that; it takes on an unquestionable quality – a God's truth character – which again is aberrative with respect to the normative modes of assertion. In this study, I have attempted to take a closer look at a how assertion is implemented in, and shaped by, the absence of free speech and equity in speech exchange.

We have acknowledged the conditions which constrain the felicitous use of assertions, and the ways in which these are flaunted by managing assertion-justification in varied ways, to generate different types of implicature and mark distinct speaker stance and discursive identity. We have seen that the compromised assertion can serve to give expression to the speaker's power or defiance (when expected justification is elided), or powerlessness – expressing unethical compromise born out of extreme fear (in the use of false justification), fawning servility (in questionable justification that re-assigns authorship), and psychologically weakened conditions (in self-deprecating questionable justification, or questionable justification that expresses avolitional proposition-making).

It follows from this that there is an inherent need for balance in the normative assertive. Both the overly strong assertion (that results when respect is not given to the need for clear supporting justification) and the vagueness/weakness of under-assertion (which comes with false justification, to avoid stating the truth, or questionable justification that transfers authorship, or expresses avolitional proposition-making) is equally problematic. In all these cases, it is clear that compromised assertions are also discursive expressions of compromised speaker stance and identity, of, that is, unhealthy states of mind born out of the inequities imposed by oppressive regimes. People in such situations are giving expression to their internal pathology – the compromised assertion expresses unlimited power and aggression, extreme forms of rejection of the status quo, or pathological levels of fear and low self-esteem. None of these are expressions of the normal, balanced self. Hence, language exchange in which the act of assertion is used in such deviant ways is in and of itself indicative of oppression.

The constant feature of any ideology which engenders this type of language use is that there is no room for two opinions. There is only one way of thinking, which of course is tantamount to saying there is a requirement not to think at all. When there is no room for difference of opinion and the consequences nonconformity are dire, then there will be a widespread use of the compromised assertion, which is one discursive expression of the pathology that is born out of all extreme forms of inequity and oppression.

## REFERENCES

- CALDAS-COULTHARD, C., & T. VAN LEEUWEN, 2002. Stunning, shimmering, iridescent: Toys as the representation of gendered social actors. In *Gender identity and discourse analysis*, ed. by L. Litosseliti & J. Sunderland, 91-108. Amsterdam: Benjamins.
- CAMERON, DEBORAH. 2001. *Working with Spoken Discourse*. London: Sage Publications Ltd.
- DIJK, T. A. VAN. 1984. *Prejudice in discourse: An analysis of ethnic prejudice in cognition and conversation*. Amsterdam: Benjamins.
- DIJK, T. A. VAN. 1988. *News analysis: Case studies of international and national news in the press*. Hillsdale, NJ: Erlbaum.
- DIJK, T. A. VAN. 1993. *Elite discourse and racism*. Newbury Park, CA: Sage.
- DIJK, T. A. VAN. 1996. Discourse, power and access. In C. Caldas-Coulthard & M. Coulthard (Eds.), *Texts and practices: Readings in Critical Discourse Analysis* (pp. 84-104). London: Routledge.
- DIJK, T. A. VAN. 1998. *Ideology*. London: Sage.
- EHRlich, SUSAN. 1998. The discursive reconstruction of sexual consent. *Discourse & Society* 9( 2): 149-71.
- FANG, Y.J. 2001. Reporting the same events? A critical analysis of Chinese print news media texts. *Discourse & Society*, 12, 585-613.
- FAIRCLOUGH, N. 1992. *Language and power*. London: Longman.

- FAIRCLOUGH, N. 1995. *Critical discourse analysis: The critical study of language*. London: Longman.
- FLOWERDEW, J., D. LI & S. TRAN. 2002. Discriminatory news discourse: Some Hong Kong data. *Discourse & Society*, 13, 319-345.
- HOFFMANN, L. 1983. *Kommunikation vor Gericht* [Communication before the court]. Tübingen: Narr.
- JANSEN, C., & M. STEEHOUDER. 2001. How research can lead to better government forms. In *Reading and writing public documents*, ed. by D.Janssen & R. Neutelings, 12-36. Amsterdam:Benjamins.
- MCCONNELL-GINET, SALLY.1988. Language and gender. In *Linguistics: The Cambridge Survey, Vol IV*, ed. by Frederick Newmeyer, 75-99. Cambridge: Cambridge University Press.
- REISIGL, M., & R. WODAK. 2001. *Discourse and discrimination: Rhetorics of racism and antisemitism*. London: Routledge and Keagan Paul.
- RENKEMA, J., & H. HOEKEN.1998.The influence of negative newspaper publicity on corporate image in the Netherlands. *Journal of Business Communication*, 35, 521-535.
- RENKEMA, J. 2004. *Introduction to Discourse Studies*. Philadelphia, PA, USA: John Benjamins Publishing Company.
- SARANGI, S., & S. SLEMBROUCK.1996. *Language, bureaucracy & social control*. London: Longman.
- SEARLE, J. R. 1969. *Speech acts: An essay in the philosophy of language*. Cambridge: Cambridge University Press.
- TANNEN, D. 1994. *Gender and discourse*. Oxford: Oxford University Press.

# ON THE ORDERING OF THE TWO COMPONENTS OF RESULTATIVES\*

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*This paper offers a structural-functional account of the different orderings of the causing component (C) and the result component (R) of the resultative construction. It argues that the ordering of C, R, and O (i.e., object) is conditioned by three structures factors and two iconicity considerations and that the functional account is more natural and explanatory than Williams' (2008) derivational account. Moreover, the paper argues that contrary to Williams' claims, CR order is not always basic when R is non-phrasal, and CRO and OCR orders do not entail that R is a verb.*

## 1. INTRODUCTION.

This paper examines the ordering of the two components of resultatives. To make things straight, I would like to make it clear from the very beginning what is meant by “resultative.” Following Li (2008: 4), the resultative construction is defined in this paper “as a complex predicate composed of two free components in a single clause, with the eventuality denoted by one component causing a change in a certain entity as a result, a change that is denoted by the other component, but not entailed by the causing component.”

The ordering of the two components of resultatives—the causing predicate (C) and the result predicate (R)—varies from language to language.<sup>1</sup> For example, while Mandarin resultative verb compounds (RVC) have the CR order, as shown by *xi-ganjing* ‘wash-clean’ in (1), Korean resultatives have the RC order, as shown in (2).

(1) Zhangsan XI-GANJING-le yifu. (Mandarin)  
Zhangsan wash-clean-PERF clothes  
‘Zhangsan washed his clothes clean.’

(2) Kutul-un kil-ul PHYENPHYENHA-key KOLLASS-ta. (Korean)  
they-TOP road-ACC flat-COMP level/roll-PAST-DCL  
‘They leveled the road flat/even.’ (Washio 1999: 682)

With respect to the ordering of C and R, Williams (2005, 2008) makes the following three claims, among others. First, the decisive factor is not the category of R, but whether or not R is phrasal (Williams 2008: 509, 511; cf. Williams 2005: 204-252, particularly

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Abbreviations: ACC=accusative; BVC=bound verb cognate, COMP=complementizer; DCL=declarative; FACT=factative; NOM=nominative marker; PERF=perfective aspect; PROG=progressive; TOP=topic marker.

<sup>1</sup> Williams (2005, 2008) uses “M” to refer to what I called “the causing predicate,” because according to him, the causing predicate is a means predicate.

p.229 and p.237). According to Williams (2008: 508), R is phrasal if it can be modified by adverbials, and R is non-phrasal if it can not. Second, CR order is always basic when R is non-phrasal, regardless of whether the language in question has the VO (i.e., Verb + Object) or OV (i.e., Object + Verb) order (Williams 2005: 241, 252; 2008: 508). According to Williams (2008: 508), “[a]n order is BASIC when it does not depend on special phonological or pragmatic conditions.” Finally, CRO and OCR orders entail that R is a verb (Williams 2008: 514).

The purposes of this paper are three-fold. The first is to show that Williams’ second and third claims are empirically incorrect, and that his account of the different orderings of C and R relies on unjustified assumptions. The second purpose is to argue that there are three structural factors conditioning the ordering of C and R, namely whether or not R is phrasal, whether or not R can be used as a predicate on its own, and what the order of the Verb (V) and its Object (O) is in a particular language. The third purpose is to give a functional account of (i) why when R is phrasal, the (basic) order is COR in a SVO language, and is ORC in an SOV language, and (ii) why only the CR order is attested when R is non-phrasal and when both C and R can function as a predicate without auxiliary support. In what follows, I will first discuss Williams’ proposal as to the different orderings of C and R and then offer my own structural-functional account.

## 2. WILLIAMS’ GENERALIZATION AND ACCOUNT.

Williams (2008: 508) makes the generalization in (3).

### (3) Williams’ Generalization

- a. Basic order is MOR [our COR] in a VO language, and ORM [our ORC] in an OV language, if and only if R is phrasal.<sup>2</sup>
- b. Basic order is MRO [our CRO] in a VO language, and OMR [our OCR] in an OV language, if and only if R is nonphrasal.

For example, English has the VO order, and R in the language is phrasal, as it can be modified with adverbs like *very*. As a result, the basic order with respect to resultatives in English is COR, as shown in (4).

(4) a. He WIPED the table very CLEAN.

b. He SHARPENED the pencil very POINTY.

However, for an OV language like Japanese, the basic order with respect to resultatives is expected to be ORC as far as phrasal resultatives are concerned. The examples in (5)

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<sup>2</sup> Only SVO and SOV languages are discussed by Williams (2005, 2008). In this paper, I will also restrict my attention to these two types of language.

show that the expectation is met.<sup>3</sup> In (5), the phrasal nature of R is evidenced by the fact that it can be modified with adverbs like *totemo* ‘very.’

(5) Japanese; from Washio 1997: 9 (with ‘very’ being added)

- a. John-wa kinzoku-o totemo PIKAPIKA-ni MIGAI-ta.  
 John-TOP metal-ACC very shiny polish-PAST  
 ‘John polished the metal very shiny.’
- b. John-wa niku-o totemo YAWARAKAKU NI-ta.  
 John-TOP meat-ACC very soft boil-PAST  
 ‘John boiled the meat very soft’

As far as cases where R is non-phrasal, Williams’ generalization in (3) can be illustrated with Mandarin and Japanese, which also has non-phrasal resultatives. As shown in (6), R in Mandarin is non-phrasal as it cannot be modified with *hen* ‘very.’ As Mandarin has the VO order, resultatives in the language have the CRO order, which conforms to Williams’ generalization.

(6) Mandarin

- a. Zhangsan CA-(\*hen)-GANJING-le zhuozi.  
 Zhangsan wipe-(very)-clean-PERF table  
 ‘Zhangsan wiped the table clean.’
- b. Zhangsan KU-(\*hen)-SHI-le shoujuan.  
 Zhangsan cry-(very)-wet-PERF handkerchief  
 ‘Zhangsan cried the handkerchief wet.’

As for OV languages like Japanese, the basic order is OCR when R is non-phrasal, as shown in (7). The non-phrasal nature of R in (7) is evidenced by the fact that it cannot be modified with adverbs like *korituyoku* ‘effectively.’<sup>4</sup>

<sup>3</sup> When the result predicate is phrasal in Japanese, *-ku* is used when R is a canonical adjective, and *-ni* is employed when R is a nominal adjective.

<sup>4</sup> Note that the result component of the resultative verb compound in (7) is intransitive. This type of compound is semiproductive in Japanese (Yafei Li 1993: 481, note 2), and is not the most predominant V-V compound type in the language. In fact, according to Nishiyama (1998: 184), the most predominant V-V compounds in Japanese are those which consist of two transitive verbs, as illustrated in (i).

- (i) John-ga niwatori-o naguri-korosi-ta.  
 John-NOM chicken-ACC hit-kill-PAST  
 ‘John beat and killed a chicken.’

While Williams (2008) considers similar examples to (i) to be resultatives, these compounds, by the definition of the resultative construction introduced at the beginning of this paper, do not count as resultatives. For one thing, the example in (i) cannot be paraphrased as “That John beat a chicken caused him to kill it.” Therefore, it does not meet the criterion that a resultative should express a causative meaning. For another, even the paraphrase “John beat a chicken and as a result of his beating he killed it” is

- (7) John-ga Bill-o oi-(\*korituyoku)-aki-ta. (Japanese)  
 John-NOM Bill-ACC chase-effectively-get.bored-PAST  
 ‘John chased Bill and effectively got John bored.’

While Williams’ generalization generally holds, there is evidence from Swedish resultatives that CR does not always obtain when R is non-phrasal. For example, the example in (8a) is a non-phrasal or compound resultative, as the result component cannot be modified with adverbs like *mycket* ‘very.’ However, as shown in (8), Swedish compound resultatives have the RC order, which provides clear evidence against Williams’ claim that when R is non-phrasal, only the CR order will be allowed.

(8) Swedish

- a. John (\*mycket) REN-TORKADE bordet.  
 John very clean-wiped table.the  
 ‘John wiped the table clean.’
- b. De RÖDMÅLADE huset.  
 they red.painted house.the  
 ‘They painted the house red.’

Moreover, while it is true that R can be a verb when the order of C, R, and O is CRO (see Igbo examples in (9)) or OCR (see (7), the Japanese example), Mandarin resultatives provide evidence against Williams’ (2008) claim that CRO and OCR orders entail that R is a verb ((10)). This is because the R in (10), namely *ganjing* ‘clean,’ is an adjective, not a verb, although the sentence involves the CRO order.

(9) Igbo<sup>5</sup>

- a. Ọ KỤ WA-ra ọba ahụ.  
 3SG strike split-FACT gourd that  
 ‘S/he made that gourd split by striking it.’ (Williams 2005: 11)
- b. Ọba ahụ wa-ra awa.  
 gourd that split-FACT BVC  
 ‘That gourd split.’ (Williams 2005: 11)

- (10) Zhangsan CA-GANJING-le zhuozi. (Mandarin)  
 Zhangsan wipe-clean-PERF table  
 ‘Zhangsan wiped the table clean.’

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somewhat awkward. In other words, although the death of the chicken is due to John’s beating it, the killing action is not due to the beating activity. Given these, I do not analyze sentences like (i) as resultatives in this study.

<sup>5</sup> “BVC” in the glosses of (9b) means “bound verb cognate,” which indicates “a nominalization of the verb group” (Williams 2005: 2, note 2).

The evidence for the status of *ganjing* as an adjective comes from Zhu 1982, which establishes the criterion for distinguishing between adjectives and verbs in Mandarin. According to Zhu, adjectives can be modified with *hen* ‘very,’ a degree modifier, AND cannot take an object, while verbs cannot be modified with *hen*, or can take an object, or both. By this criterion, *ganjing* in (10) is an adjective as it can be modified by *hen* and cannot take an object, as shown in (11). In this respect, it forms a contrast with verbs like *ca* ‘wipe,’ which can take an object ((12)), and with verbs like *pao* ‘run,’ which cannot be modified with *hen* ((13)).

(11) Mandarin

- a. Zhuozi hen ganjing.  
table very clean  
‘The table is very clean.’
- b. \*Zhangsan ganjing-le zhuozi.  
Zhangsan clean-PERF table  
Intended: ‘Zhangsan cleaned the table.’

(12) Zhangsan ca-le zhouzi. (Mandarin)  
Zhangsan wipe-PERF table  
‘Zhangsan wiped the table.’

(13) Zhangsan zai (\*hen) pao. (Mandarin)  
Zhangsan PROG very run.  
‘Zhangsan is running.’

In addition to offering a generalization in (3), Williams (2008) also gives a formal account of the different orderings of C and R. According to him, VP in the resultative construction has the underlying structure in (14).

(14) Based on Williams 2008: 511

- a. [VP O [V[C/R] V<sub>C</sub> [Y CAUSE Z<sub>P</sub>R] ] ]
- b. [VP O [V[C/R] V<sub>C</sub> [Y CAUSE Z<sub>R</sub>] ] ]

In (14), O c-commands C/R. In addition, R is a phrase in (14a), but simply an X<sub>o</sub> in (14b). Similarly, C/R itself is a phrase in (14a), but an X<sub>o</sub> in (14b) because in the latter case it comprises only X<sub>o</sub>’s. In addition, the underlying structure in (14) also involves a silent X<sub>o</sub>, namely “CAUSE,” which introduces the semantic relation between C and R.

Williams assumes that VP has a *v* sister that, by following general rules of head movement, attracts the least embedded X<sub>o</sub> in its complement. This X<sub>o</sub> is the causing predicate itself when R is phrasal, as shown in (15a). However, when R is non-phrasal, C is embedded within a closer X<sub>o</sub>, namely V[C/R]. In this case, it is the complex verb as a whole that raises to *v*, as shown in (15b).



(15) Based on Williams 2008: 511

- a. [<sub>v</sub>' [<sub>v</sub> V<sub>k</sub> v ] [<sub>VP</sub> O [<sub>V</sub>'[C/R] [<sub>V</sub>[C] t<sub>k</sub>] [<sub>X</sub>' CAUSE Z<sub>R</sub> ] ] ] ]  
 b. [<sub>v</sub>' [<sub>v</sub> [<sub>V</sub> V<sub>C</sub> [<sub>X</sub> CAUSE Z<sub>R</sub>] ]<sub>k</sub> v ] ] [<sub>VP</sub> O [<sub>V</sub>[C/R] t<sub>k</sub> ] ] ]

Williams further assumes that “[a] complex verb [<sub>v</sub> X [ CAUSE Z ] ] is pronounced XZ” (Williams 2008: 512). Finally, according to Williams, the little *v* precedes VP in typical VO languages (as shown in (15)) and follows it in typical OV languages. When R is a phrase, the causing predicate raises to *v* and leads to COR in VO languages (as seen in (15a)) and to ORC in OV languages. When R is an X<sub>o</sub>, what raises is the complex verb V[C/R] and this gives rise to V[C/R]O in VO languages (as seen in (15b)) and OV[C/R] in OV languages.

There are at least three problems with Williams’ account. First, the account relies on abstract and complex underlying structures and movements to derive the surface form, which make it short on naturalness and too powerful as an analytic tool (cf. Jackendoff 2002: 169 for general comments on such strategies). Second, the assumption as to the position of *v* in relation to VP is not a standard assumption in generative literature and seems *ad hoc* and stipulative. Finally, the account fails to predict the existence of the RCO order as attested in Swedish when R is non-phrasal.

### 3. AN ALTERNATIVE ACCOUNT.

In this section, I would like to give an alternative account to Williams’ proposal as to the different orderings of the two components of the resultative construction. Contrary to Williams’ assumption that there are underlying syntactic representations, I assume that syntax is monostratal and that the different orderings of V and O are considered to be language-particular facts.

I argue that there are three structural factors that condition the ordering of C and R, namely whether or not R is phrasal, whether or not R can be used as a predicate on its own, and what the order of the verb and its object is. The evidence for the second factor—whether R can be used as a predicate on its own—comes from the contrast between Mandarin, Japanese and Igbo RVCs on the one hand, and Swedish RVCs on the other. As shown in (16) and (17), Japanese and Igbo RVCs, like Mandarin RVCs in (18), have the CR order. In contrast, as shown in (19), Swedish RVCs have the RC order.

- (16) John-wa HASHIRI-TSUKARE-ta. (Japanese)  
 John-TOP run-get.tired-PAST  
 ‘John got tired as a result of his running.’

- (17) ỌKỤ WA-ra ọba ahụ. (Igbo)  
 3SG strike split-FACT gourd that  
 ‘S/he made that gourd split by striking it.’ (Williams 2005: 11)

- (18) Zhangsan XI-GANJING-le yifu. (Mandarin)  
 Zhangsan wash-clean-PERF clothes  
 ‘Zhangsan washed his clothes clean.’

- (19) De RÖDMÅLADE huset. (Swedish)  
 they red.painted house.the  
 ‘They painted the house red.’

This contrast, however, is closely related to the fact that as shown in (20), R in Igbo, Japanese, and Mandarin RVCs can be used as a predicate on its own, and R in Swedish RVCs can not. Therefore, whether R can function as a predicate on its own plays a part in the ordering of C and R.

- (20) a. John-wa tsukare-ta. (cf. (16)) (Japanese)  
 John-TOP get.tired-PAST  
 ‘John got tired.’
- b. Oba ahụ wa-ra awa. (cf. (17)) (Igbo)  
 gourd that split-FACT BVC  
 ‘That gourd split.’ (Williams 2005: 11)
- c. Yifu ganjing-le. (cf. (18)) (Mandarin)  
 clothes clean-PERF  
 ‘The clothes became clean.’
- d. \*Huset rött. (cf. (19)) (Swedish)  
 house.the red  
 Intended: ‘The house is/was red.’

However, the factor discussed above, namely whether R can be used as a predicate on its own, is only relevant when R is non-phrasal. Therefore, whether R is phrasal or not is another important factor that conditions the ordering of C and R. We have seen that when R is non-phrasal, C precedes R when R can be used as a predicate on its own (e.g., Igbo and Mandarin), and C follows R when R can not (e.g., Swedish). As for the cases where R is phrasal, the ordering of C and R is further conditioned by whether the verb precedes or follows its object. C precedes R in a VO language, as evidenced by English resultatives illustrated in (21); C follows R in an OV language, as shown by Korean resultatives in (22).

- (21) John wiped the table clean.

- (22) Korean (Washio 1999: 682)

- a. Ku yeca-nun meli-lul PPALKAH-key MWULTULI-ess-ta.  
 she-TOP hair-ACC red-COMP dye-PAST-DCL  
 ‘She dyed her hair red.’
- b. Kutul-un kil-ul PHYENGPYENGHA-key KOLLass-ta.  
 they-TOP road-ACC flat-COMP level/roll-PAST-DCL  
 ‘They leveled the road flat/even.’

In sum, the ordering of C and R is, first of all, conditioned by whether R is phrasal or not, as observed by Williams (2008). When R is phrasal, the ordering is further conditioned by whether or not the verb precedes its object. On the other hand, when R is non-phrasal, the ordering of C and R is further conditioned by whether or not R can be used as a predicate on its own.

In addition to making the above generalizations, I would like to offer explanations for the following three observations: (i) when R is phrasal, the order of C, R, and O in a VO language like English is COR, not RCO; (ii) when R is phrasal, the (basic) order of C, R, and O in an OV language like Korean is ORC, not ROC; (iii) for non-phrasal resultatives, the CR order, not the RC order, is attested as long as R can function as a predicate on its own.

While Williams resorts to underlying representations and movements that are short on empirical evidence to account for the first two observations, I argue that they follow naturally from iconicity considerations. Since one of the metafunctions of language is “experiential” or “ideational,” i.e., to represent patterns of experience (Halliday 1994, 2004), we expect that other things being equal, the order of C, R, and O should reflect the order of the actions and participants involved in the event that we experience. First, while resultatives involve a causing subevent and a resulting subevent, the former logically goes before the latter and as a result the most natural order of C and R is that of C preceding R. Second, being a resultative also means that the causing subevent causes a change in a certain entity, a change that is denoted by the result predicate. For an event of some entity undergoing a certain change, it is logical and natural to have that entity before the result predicate. As O in a transitive resultative is typically the entity that undergoes the change, we expect that O precedes R. As a result, it is expected that when R is phrasal, the basic order in a VO language is COR, in which C is the V, the main predicate.

The above iconicity considerations can also account for the second observation, namely that when R is phrasal, the (basic) order of C, R, and O in an OV language is ORC, not ROC. As C corresponds to V in phrasal resultatives of an OV language and is in the sentence-final position, the natural order of CR cannot be obtained. The two remaining possibilities are ORC and ROC orders. Between ORC and ROC, the former is more natural because it obeys the OR order. As a result, ORC, not ROC, is expected to be either the only order or the more basic order in a particular language.

As for the third observation, namely that for non-phrasal resultatives, the CR order, not the RC order, is attested as long as R can function as a predicate on its own, it can also be readily accounted for by the above iconicity considerations. As noted earlier, unlike phrasal resultatives, the two components of a non-phrasal resultative form a compound. In this case, the ordering of C and R is not subject to the word order of the language involved, and can be said to be more subject to iconicity considerations (cf. Li 1993, Tai 1985). That is, when other conditions are met, the CR order is always preferred over the RC order due to iconicity considerations. As a result, wherever the structural condition is met (i.e., wherever R can function as a predicate when used separately), only the CR order is attested. Therefore, the fact that Igbo, Japanese, and Mandarin RVCs show the CR order follows from the iconicity condition and from the fact that in such languages R can function as a predicate on its own. Moreover, Swedish

RVCs show the RC order because R in Swedish is an adjective, which cannot stand on its own and cannot bear any tense marker.

#### 4. SUMMARY AND CONCLUSIONS.

This paper shows that Williams' claim that CR order is always basic when R is non-phrasal is empirically incorrect, as there are languages like Swedish in which when R is non-phrasal, the basic order is RC. It demonstrates that Williams' claim that CRO and OCR orders entail that R is a verb is also empirically invalid, as there are languages like Mandarin which have CRO resultatives, but the R in this case can be an adjective.

The paper argues that there are three structural factors that condition the ordering of C and R, namely whether or not R is phrasal, whether or not R can be used as a predicate on its own, and what the order of the verb and its object is in a particular language. More specifically, the ordering of C and R is, first of all, conditioned by whether R is phrasal or not. When R is phrasal, the ordering is further conditioned by whether or not the verb precedes its object. On the other hand, when R is non-phrasal, the ordering of C and R is further conditioned by whether or not R can be used as a predicate on its own.

The paper proposes that the fact that for phrasal resultatives, the (basic) order is COR in a VO language and ORC in an OV language can be accounted for by iconicity factors. Such iconicity considerations can also readily explain why for non-phrasal resultatives, only the CR order is attested when R can function as a predicate on its own. Compared with Williams' derivational account, our functional account is more natural and more explanatory.

#### REFERENCES

- HALLIDAY, M.A.K. 1994. *An Introduction to Functional Grammar*. 2<sup>nd</sup> ed. London: Arnold.
- HALLIDAY, M.A.K. 2004. *An Introduction to Functional Grammar*. 3<sup>rd</sup> ed. Rev. by Christian M.I.M. Matthiessen. London: Arnold.
- JACKENDOFF, RAY. 2002. *Foundations of Language: Brain, Meaning, Grammar, Evolution*. New York: Oxford University Press.
- LI, CHAO. 2008. *Mandarin Resultative Verb Compounds: Where Syntax, Semantics, and Pragmatics Meet*. München: Lincom Europa.
- LI, YAFEI. 1993. Structural Head and Aspectuality. *Language* 69.480-504.
- NISHIYAMA, KUNIO. 1998. V-V Compounds as Serialization. *Journal of East Asian Linguistics* 7.175-217.
- TAI, JAMES H-Y. 1985. Temporal Sequence and Chinese Word Order. In *Iconicity in Syntax*, ed. by John Haiman, 49-72. Amsterdam: Benjamins.
- WASHIO, RYUICHI. 1997. Resultatives, compositionality and language variation. *Journal of East Asian Linguistics* 6: 1-49.
- WASHIO, RYUICHI. 1999. Some Comparative Notes on Resultatives. In *Linguistics: In Search of the Human Mind*, ed. by Masatake Muraki and Enoch Iwamoto, 674-707. Tokyo: Kaitakusha.

- WILLIAMS, ALEXANDER. 2005. *Complex Causatives and Verbal Valence*. Ph.D. Dissertation, University of Pennsylvania.
- WILLIAMS, ALEXANDER. 2008. Word Order in Resultatives. In *Proceedings of the 26th West Coast Conference on Formal Linguistics*, ed. Charles B. Chang and Hannah J. Haynie, 507-515. Somerville, MA: Cascadilla Proceedings Project.
- ZHU, DEXI. 1982. *Yufa Jiangyi*. (Lectures on Grammar.) Beijing: Commercial Press.

# THE EFFECTS OF BILINGUALISM ON INHIBITORY CONTROL IN YOUNG ADULTS: EVIDENCE FROM THE SIMON AND STROOP TASKS

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*Advantages for bilinguals on complex tasks have been attributed to superior inhibitory control. Bialystok, Martin, and Viswanathan (2005) found that bilinguals performed better than monolinguals on the Simon task across age groups--except for the young adult group. This study singles out young adults (ages 18-30) who differ in their language experience and frequency of computer game playing, and adds to the Simon task a day/night Stroop task. The latter, while also targeting inhibitory control, does not involve computer experience. The results corroborate those of Bialystok, Martin, and Viswanathan in that the bilinguals performed no differently from the monolinguals, while high computer users were significantly faster. The results of the Stroop task show no advantage for bilinguals, nor for high computer users. Considerations of additional variables such as age, as well as different types of inhibitory control, are necessary to further explain the factors involved with language and cognitive tasks.*

## 1. INTRODUCTION.

Speaking more than one language offers social, cultural, and emotional benefits that speakers readily appreciate in their daily lives; however, recent research programs have investigated whether bilingualism influences or even changes the structure of the brain and the organization of a person's cognitive capacity. This line of research rests on two assumptions about the relationship between language and cognition (see Bialystok 2001; Bialystok, Martin, and Viswanathan 2005). First, cognition is organized around central processing skills rather than separated into modular units; assuming this is so, then experience or skill in one area of cognition can be hypothesized to have an effect on another area, whereas if all areas of cognition were separate modules, there would be no basis for the idea that changes in one module would affect another. Second, cognition is flexible and influenced by life experiences; that is, if cognition progressed in accordance with developmental milestones only, then we could not assume that personal experience or individual differences would have any additional effect on cognition. If we allow these assumptions, we can situate the line of research on how being bilingual may influence cognition. Evidence that bilingualism in fact does influence cognition would further support these assumptions.

Following these assumptions, this paper focuses on one particular skill: inhibitory control, or the ability to inhibit reactions to irrelevant stimuli while attending to a specific goal. A number of studies point to inhibitory control, or control of attention, as a skill in which bilinguals excel compared to their monolingual counterparts. This observation was tested by Bialystok, Martin, and Viswanathan (2005) in a study that investigated

inhibitory control in a variety of age groups, from young children (age 5) to older adults (up to age 80).

If bilinguals are shown to have better inhibitory control than monolinguals, and language experience is the only variable that distinguishes the two groups from one another, then not only would this finding support the two assumptions about cognition and the organization of the mind mentioned earlier, but it could have important implications for how valued bilingualism is as a facilitator of sound cognitive function throughout life.

## 2. BACKGROUND.

A large and growing body of research shows that bilinguals and monolinguals differ in their understanding of language, number concepts, and reasoning processes and skills (for a review, see Bialystok 2001). In the current study, of most concern is how bilinguals and monolinguals differ in their performance on measures of inhibitory control. The role of inhibitory control in the bilingual mind in particular is the centerpiece of an active research program, and there is evidence to imply that a bilingual's brain, rather than performing like two monolingual brains combined into one, is uniquely structured and is organized quite differently from a monolingual brain. Such evidence comes from recent neuroimaging studies (Fabbro 2001; Perani et al. 1998; for a review see Abutalebi and Green 2007) that support the idea that language production in bilinguals makes use of inhibition to resolve, for example, lexical competition between the two linguistic systems. So, it is argued that in order to communicate in one language, a bilingual person must constantly inhibit "irrelevant stimuli" (i.e., the other language) in order to use one language successfully (Green 1998; Meuter and Allport 1999).

Research on bilingualism and inhibitory control has also been conducted in the context of age and aging. Inhibition is a skill that is developed in early childhood, and it underlies higher cognitive function (Diamond 2002; Tipper 1992). In general, studies in this area tend to show that inhibitory control skills improve markedly during childhood and then diminish very slightly throughout adulthood, until it declines more sharply in older adulthood (Bedard et al. 2002; Bialystok, Craik, Klein, and Viswanathan 2004; Williams et al. 1999); but additional research suggests that not only should inhibitory control be investigated, but different types of inhibitory control, such as inhibition of attention to a specific cue, and inhibition of habitual responses. The former type is tapped by bivalent tasks (such as the Simon task), in which two stimuli are in play, and they either coincide or conflict. The latter type involves univalent tasks (such as the Stroop task) in which a habitual or familiar response must be inhibited and replaced by a less-familiar, conflicting response (see Martin-Rhee and Bialystok 2008). Investigating different types of control may be especially important in testing young adults, where there are rarely significant differences found between bilinguals and monolinguals, as we will see. Regarding types of control, Bialystok, Craik, and Ryan (2006) tested adults using an antisaccade task. They found no effects for bilingualism in young adult participants, but older bilinguals (age 65 and above) performed better than their monolingual counterparts. Colzato et al. (2007) tested young adults on stop-signal, inhibition of return, and attentional blink tasks. They found that bilinguals and monolinguals performed equally well on the stop-signal task, implying that the two

groups show the same ability to actively inhibit their responses to distractions. But the bilinguals did perform better on the other two tasks, suggesting that bilinguals might be better at attending to goal-related information, which in turn may indicate that they inhibited irrelevant information. More evidence is needed; the study does imply, however, that the type of control could be a relevant consideration. In the study by Martin-Rhee and Bialystok (2008), bilingual and monolingual children's inhibitory control was evaluated using the Simon task and the day/night Stroop task (the same tasks used in the current study presented in this paper). On the Simon task, the bilinguals were found to perform more efficiently on conditions that required the highest degree of inhibitory control. On the other hand, on the Stroop task, the bilingual children did not show the same advantage that they did in the Simon task; the two groups performed equally well. Martin-Rhee and Bialystok argue that it is necessary to assume two distinct types of inhibitory control: inhibition of interfering cues, tested in the Simon task, and inhibition of habitual responses, tested in the Stroop task. Their study suggests that only in the inhibition of interfering cues does bilingualism offer an advantage. So far this study has been carried out only with young children; these findings will be pertinent to the current study, as will become clear.

Continuing the topic of research on inhibitory control, but focusing specifically on young adults, we now review in more detail the study partially replicated in this paper (Bialystok, Martin, and Viswanathan 2005). Bialystok and her colleagues carried out five nearly-identical studies using the Simon task, chosen not only because it is a well-known and widely-used test of inhibitory control, but because it can be adapted to be appropriate for any age (Lu and Proctor 1995). Before continuing, it will be useful to review the Simon task in more detail. The Simon task (Simon and Rudell 1967) represents a problem of stimulus/response incompatibility, which requires inhibition to ignore the irrelevant stimulus. The Simon task uses rectangles of two colors (e.g., red and blue), that appear on a screen in left- or right-hand positions. The participant is instructed to press the red key, or left-side key, when she sees a red rectangle, and the blue key, or right-side key, when she sees a blue rectangle. When the red rectangle appears on the left-hand side of the screen, this is called a "congruent" condition; there is no reaction to inhibit because the stimulus appears on the side of the screen congruent with the correct key. When the red rectangle appears on the right-hand side, however, this is called an "incongruent" condition because the participant must inhibit her reaction to press the right-hand key, in accordance with the spatial stimulus, and instead press the left-hand key, which is the correct response. The same rules apply, in reverse, for the blue rectangles. The "Simon effect" is the difference in reaction time between congruent and incongruent conditions.

The five studies conducted by Bialystok, Martin, and Viswanathan (2005) are briefly summarized in the following table.



Study	Results
34 children, age 5, on typical Simon task	Significant advantage for bilinguals.
40 children, age 5, with break	Significant advantage (though smaller) for bilinguals.
96 undergraduates, age 20-30, with control condition	No difference in reaction time between bilinguals and monolinguals; significant difference between high computer users and low.
40 adults, age 30-59 (middle-aged adults) and 60-80 (older adults)	Significant advantage for bilinguals and middle-aged adults.
94 adults, age 30-59 and 60-80, with control condition	Significant advantage for bilinguals and middle-aged adults.

TABLE 1. SUMMARY OF STUDIES IN BIALYSTOK, MARTIN, AND VISWANATHAN (2005)

Note that in four of the five studies, the bilingual participants showed significant advantages in inhibitory control; however, in the young adult age group, this was not the case, so we will focus more closely on this particular study. This study tested 96 young adults ages 20-30, 56 bilingual and 40 monolingual. In their Simon task, there were 80 trials which included a "control" condition, in which the rectangle appeared in the center of the screen, to remove the element of a salient left- or right-hand position. In this age group, though there was a significant difference between the incongruent and the congruent and control conditions in the group as a whole, there was no difference between the performances of the bilingual and monolingual groups. In order to try to account for these results, Bialystok, Martin, and Viswanathan (2005) reanalyzed the data according to participants' self-reported computer use. Participants were given a survey asking how often they played speeded computer games, and the group was divided into high and low computer users. (The terms "high and low computer users" are a shorthand for how frequently participants played speeded computer games, and not how much time they spent on the computer doing routine activities like word processing and emailing.) Roughly half of each high and low computer group was bilingual. Analyzing the results this way, the authors found that differences between the groups were significant for the congruent and incongruent conditions (though not the control), in that the high computer users were significantly faster. They concluded that being bilingual does seem to be an

advantage in performing tasks requiring inhibitory control, at least in young children and middle-aged to older adults. But for the young adults, the advantage does not seem to exist; rather, computer use seems to provide an advantage while bilingualism does not. The authors hypothesize that people in this age group are already so efficient (i.e., their reaction times are so fast) that the advantage that bilingualism provides is not relevant at this life stage, or at least, no testing has provided evidence for it. Or perhaps heavy computer use by young adults is an advantage that is powerful enough to mask any others.

This leaves open the question of what happened in the young adult age group, which showed clear results for the younger and older age groups. Bialystok, Martin, and Viswanathan's findings that bilinguals and monolinguals performed the same in the young adult age group are interesting and puzzling compared to the findings for the other age groups, which showed a clear advantage for bilinguals across the age groups throughout the lifespan. Would these results hold in a replication, and were there any effects from other variables not included in the original analyses that might be helpful in illuminating the results? Also, the question remains whether the Simon task was the best task to use, or if others might be helpful as well, given that different types of inhibitory control appear to be differently affected in bilinguals and monolinguals (Colzato et al. 2007; Martin-Rhee and Bialystok 2008).

The research questions are as follows: Is it the case that bilinguals and monolinguals aged 18-30 do not show significant differences in reaction time on the Simon task? Also, in the young adult age group, do the results of a Stroop task, testing inhibition of habitual response, match those of the Simon task, testing inhibition of conflicting cues? If not, how do they differ? Two null hypotheses are posited: First, that there will be no difference between bilinguals and monolinguals in terms of reaction time on the Simon task, and second, there will be no difference between bilinguals and monolinguals in terms of reaction time on the Stroop task.

### 3. METHODOLOGY.

Participants were recruited for this study primarily at Georgetown University. Before they were given the tasks, participants completed a consent form and a questionnaire with information about their linguistic background and computer experience. On the language portion of the questionnaire, participants were asked about age of exposure for each language they had learned, and where they had learned the language (e.g., at home, at school, etc.). Then, participants were asked to rate themselves in four core competencies (reading, writing, speaking, and understanding) on a scale of 1 (*somewhat proficient, least proficient*) to 5 (*fully fluent, most proficient*). They were then asked to rate themselves again on a series of questions about how often they use the language in various domains on a scale of 1 (*very rarely, less than 30 minutes per month*) to 5 (*very often, at least 30 minutes per day*). Based on their responses, participants were classified as bilingual or monolingual, or they were excluded. The criteria were as follows.

Bilinguals, for the purposes of this study, must have been exposed to at least two languages by age 12. In these languages, they must have rated themselves as having a level 4 or 5 in proficiency in speaking and understanding; reading and writing proficiency were not considered, as some of the participants' languages did not have writing systems

that the speakers had ever learned. In addition, to qualify as bilingual the participant must have reported using at least two languages at level 3 in general day-to-day activities, or in the domains of talking to family or friends. This would mean, roughly, that a participant used the language at least several times per week for communication with another speaker.

Regarding monolinguals, of course participants who only reported knowledge of one (native) language were included, but those who had experience with a non-native language were classified as monolingual if they reported proficiencies of 1 or 2 in reading, writing, speaking, and understanding, and if they reported using the language at level 1 or 2 across the domains of use. If participants were in their first or second semesters of language learning, and showed proficiencies of 1 or 2 in the four competencies, they were accepted as monolingual even if they reported higher frequencies of use of the language in academic domains such as note taking, etc.

On the computer-use portion of the questionnaire, participants were asked if they ever played computer games and/or video games. If yes, they were asked about their experiences with popular games, grouped by genre (such as "first person shooter", "Role-Playing Games (RPG's)", "Adventure and Puzzle", etc.). Participants were also encouraged to list games that were not included in the questionnaire. They were asked if the games they played depended on speed for success, they were asked at what age they began playing, and then, on the same scales of 1 to 5, they were asked to report how often they played and how proficient they were. Low computer users did not play computer or video games at all, or played games that do not depend on speed for success (such as "The Sims", card games, etc.). High computer users played at least one game whose success depends on speed, and reported at least a 3 in frequency or proficiency. Scores of 2 on frequency and proficiency were accepted if the participant played multiple games at this level. As in Bialystok, Martin, and Viswanathan (2005), the terms "high and low computer" refer to the time spent playing speeded games, not general use of a computer.

A total of 83 people participated in the study, and 53 were included in the analysis; there were 29 bilinguals and 24 monolinguals. The age range was 18-30, with a mean age of 22.7. After completing the questionnaire, participants were ready to complete the Simon and Stroop tasks. This version of the Simon task was created using E-Prime 2.0 software (Psychology Software Tools, Inc. 2008), and presented on a PC laptop. The task included 24 warm-up trials followed by a short, optional break. Then there were two longer sets of trials: first a group of 40 trials and then a group of 60 trials. In the first group, participants saw either a red or blue rectangle on either the left side of the screen or on the right side of the screen. They were instructed to press the "Q" key (covered with a red dot) when they saw a red rectangle, and to press the "P" key (covered with a blue dot) when they saw a blue rectangle. There were four possible stimuli, and each was presented 10 times in random order (for a total of 40 trials). The congruent trials were those in which the red rectangle appeared on the left or the blue rectangle appeared on the right; the incongruent trials were those in which the red rectangle appeared on the right and the blue rectangle appeared on the left. In the second group of trials, the procedure was the same, except that in addition to the four possible stimuli, there was an additional condition: control trials, in which a red or blue rectangle appeared in the center of the screen. So there were six possible stimuli, and each was presented 10

times in random order (for a total of 60 trials). Reaction times for each keystroke were recorded in ms by E-Prime 2.0 software.

The Stroop task (Stroop 1935/1992) was administered immediately following. In this study a day/night Stroop task was used, following Piaget's day/night task for children (Piaget 1929), a version which is commonly used, as in Martin-Rhee and Bialystok's studies (2008). This task was also created using E-Prime 2.0 software. It included two sets of 14 trials each; first, the participant was shown a picture of a sun or a moon on the screen. When a sun appeared, the participant was to say *day*, and when a moon appeared, the participant was to say *night* (the congruent condition). Though these were the instructions, participants were told that they could perform the task in the language they felt most comfortable using, if not English. All participants chose to use English. When a picture appeared, it was accompanied by a short simultaneous *beep*. The participant was asked to speak into a microphone connected to the laptop; there was no use of the keyboard in this task. The second group of 14 trials was the same, except that the participant was first instructed that when a sun appeared, the participant should say *night*, and when a moon appeared, the participant should say *day* (the incongruent condition). In each group of trials, each stimulus was presented seven times, and while the order was randomized, each participant saw the same order. This is because while E-Prime 2.0 recorded the participants' oral responses and the beeps from the tasks, it did not record reaction time; the responses were coded by hand and reaction time was measured for each individual trial, using Praat phonetic analysis software (Institute of Phonetic Sciences, University of Amsterdam 2008).

#### 4. RESULTS.

First, the results are examined against the analyses reported in Bialystok, Martin, and Viswanathan (2005). Overall, they found that for the entire group of participants, the mean reaction time for the incongruent condition was significantly different from the mean reaction times for the congruent and control conditions, which were not different from one another (i.e., a Simon effect was observed). The results of this study showed a significant Simon effect across all participants as well, in that the incongruent trials ( $M = 506.9$  ms,  $SD = 89.2$ ) took longer than the congruent trials ( $M = 475.2$  ms,  $SD = 82.2$ ),  $t(52) = -5.19$ ,  $p < .000$ . The reaction times for the congruent and control trials ( $M = 488.1$ ,  $SD = 95$ ) were not significantly different from each other.

In the Simon task, Bialystok, Martin, and Viswanathan (2005) found that the bilingual and monolingual groups performed the same as each other; the groups were barely distinguishable. The results of the current study, shown in Figure 3, coincide with those of the original. A MANOVA revealed a significant difference in the performance of the bilinguals compared to the monolinguals on the congruent condition,  $F(1,51) = 4.33$ ,  $p < .04$ , however, a MANOVA in which covariants such as age, gender, and computer use were considered together showed that language experience was no longer predictive of reaction time, and the bilinguals and monolinguals in fact did not perform significantly differently in any condition.

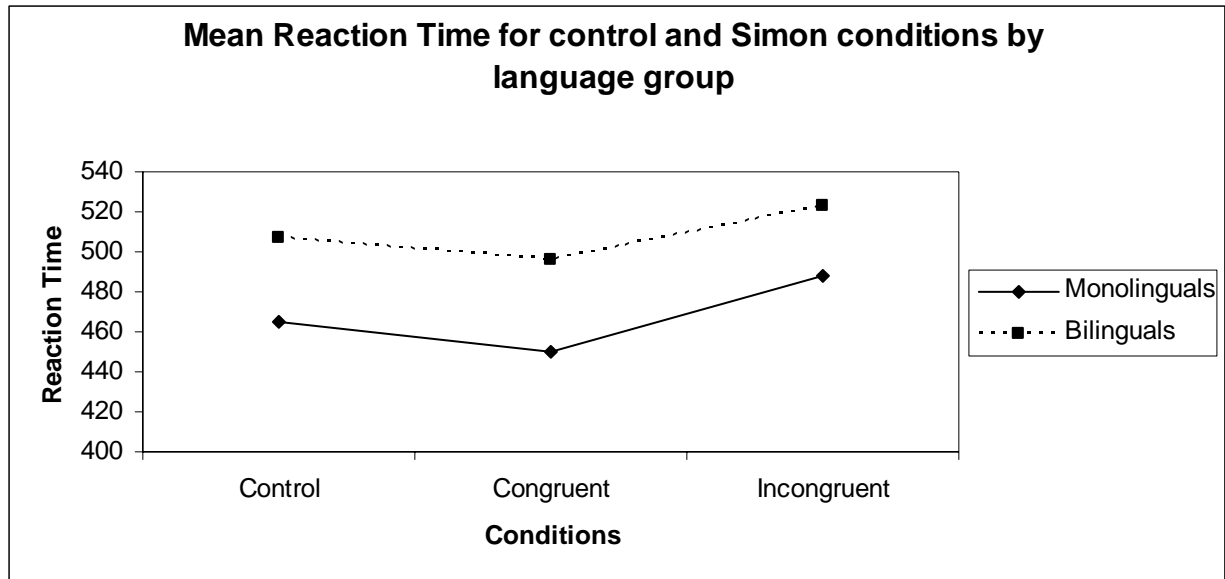


FIGURE 1. MEAN RT FOR SIMON TASK BY LANGUAGE GROUP

Also in the Simon task, when comparing low and high computer users, Bialystok, Martin, and Viswanathan (2005) found that high computer users did significantly better than low computer users on the congruent and incongruent conditions. The current study yielded similar results, shown in Figure 4; high computer users did better than low computer users on the incongruent condition,  $F(1,51) = 5.2, p < .03$ , and on the congruent condition,  $F(1,51) = 4.84, p < .03$ . However the results differed slightly from those of Bialystok, Martin, and Viswanathan on the control condition. They found no significant difference in the performance of high and low computer users on that condition, while this study showed that the high computer users were significantly faster,  $F(1,51) = 6.41, p < .01$ . This difference in results is not otherwise noteworthy, however, because the Simon effect is determined by the congruent and incongruent conditions, and the control is peripheral to those. If anything, the significant difference in performance on the control condition is not surprising, as it shows that high computer users were simply faster across the board in the current sample.

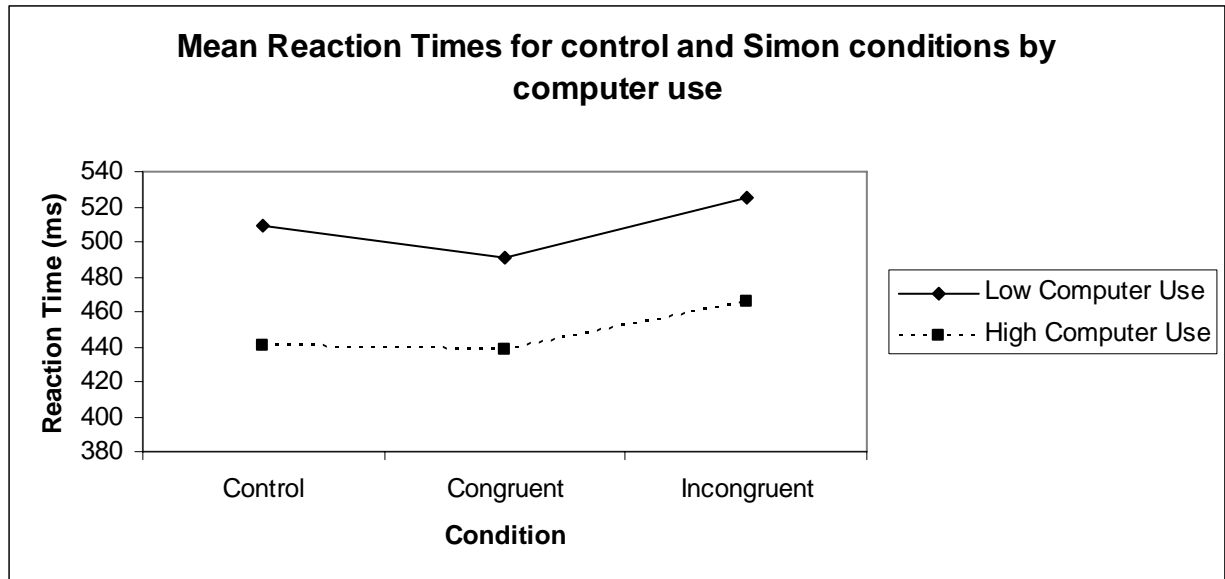


FIGURE 2. MEAN RT FOR SIMON TASK BY COMPUTER USE.

Though these initial analyses of the results of the current study support those in Bialystok, Martin, and Viswanathan (2005), there are additional variables in this sample that might be predictive of reaction time. First, it was necessary to know if any variables were systematically correlated with reaction time or with one another. In addition to language experience and computer use, age and gender were examined. As reaction time was the dependent variable in the regression models, correlations with that variable were examined first. Computer use and age were correlated with reaction time in each of the three Simon conditions, so they were included in all regression models. Language experience was correlated with reaction time only in the congruent Simon condition, so it was included in the congruent condition regression. Gender was not correlated with reaction time in any condition, and so it was not included in any regression. Next, correlations between independent variables were examined. Language experience and age were moderately (almost strongly) correlated,  $p < .001$ , so bilinguals tended to be older than monolinguals; language experience and computer use were moderately correlated,  $p < .024$ , so bilinguals were less likely to be high computer users; and computer use and gender were strongly correlated,  $p < .000$ , so males were much more likely to be high computer users. A complete table of correlations is presented in Table 2.

	Computer use	Language experience	Age	Gender
RT Control Simon	0.01**	0.11	0.02*	0.90
RT Congruent Simon	0.03*	0.04*	0.01**	0.86
RT Incongruent Simon	0.03*	0.16	0.01**	0.82
Computer use	–	0.02*	0.31	0.00**
Language experience		–	0.00*	0.60
Age			–	0.15
Gender				–

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

TABLE 2: SUMMARY OF CORRELATIONS AND INTERCORRELATIONS OF ADDITIONAL VARIABLES.

The fact that these correlations were observed in the sample made it necessary to reanalyze the results with regression models (keeping in mind that these variables might be additionally correlated with variables not measured in this study). For clarity, the results of these analyses are presented in Table 3.

	Control Condition			Congruent Condition			Incongruent Condition		
	B	SE B	$\beta$	B	SE B	$\beta$	B	SE B	$\beta$
(Constant)	360.06	72.01		349.30	63.92		358.93	67.19	
Computer Use	-60.53	26.45	-0.30**	-40.33	23.99	-0.23*	-49.73	24.68	-0.26**
Age	6.44	3.05	0.27**	5.73	2.92	0.28**	7.17	2.85	0.32***
Language Experience				14.32	24.32	0.09			

\* $p < .10$ , \*\* $p < .05$ , \*\*\* $p < .01$

TABLE 3: SUMMARY OF RESULTS OF REGRESSION ANALYSES ON VARIABLES PREDICTING REACTION TIME.

It is immediately apparent that language experience is not predictive of reaction time in any condition. Rather, computer use and age are implicated as significant predictors in each Simon condition. These results will be discussed later.

Now we turn to the results of the Stroop task, shown in Figure 3. Bilinguals and monolinguals, low and high computer users all performed similarly on this task. Regression analyses for the congruent and incongruent condition showed no effect on reaction time for any variable (language experience, computer use, gender, or age). There was, however, a significant Stroop effect across the participants as a group. The incongruent trials ( $M = 583$ ,  $SD = 92.7$ ) took longer than the congruent trials ( $M = 624.1$ ,  $SD = 116.3$ ),  $t(52) = -4.36$ ,  $p < .000$ .



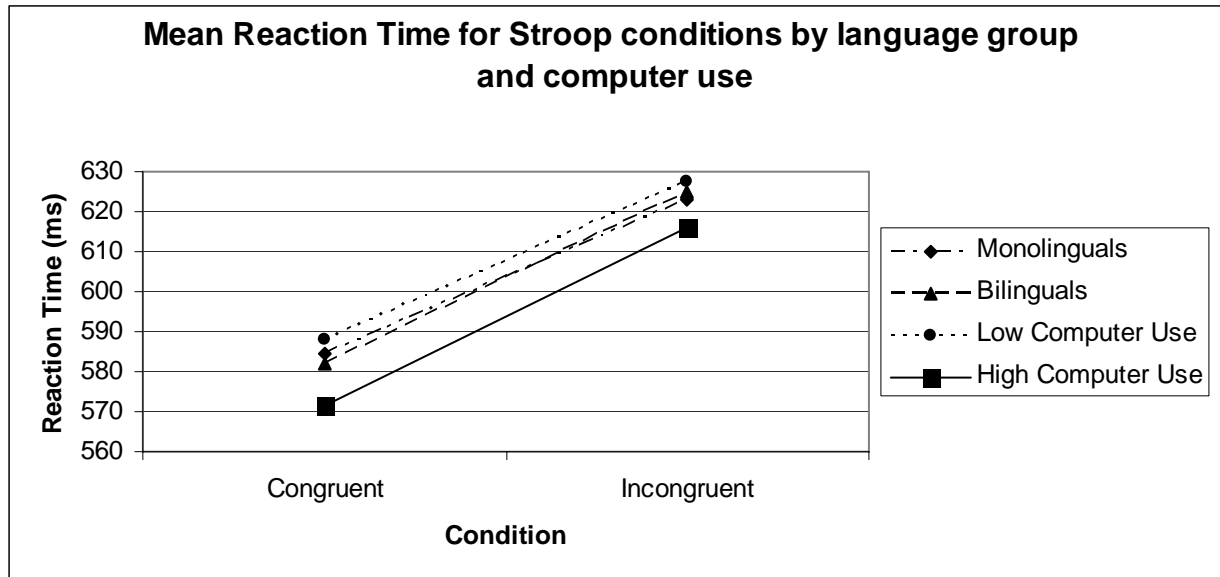


FIGURE 3. MEAN RT FOR STROOP CONDITIONS.

## 5. DISCUSSION.

Overall, the results of the current study supported those reported in Bialystok, Martin, and Viswanathan (2005). As in that previous study, the bilingual group did not perform better than the monolingual group, in that there were no significant differences between them. Regarding computer use, again the results supported those of Bialystok, Martin, and Viswanathan, with the minor difference that in the current study, high computer users were faster on all the conditions, rather than just congruent and incongruent. These results imply that what the original study found for the young adult age group as compared to younger and older age groups was not an anomaly or a coincidence; rather, it seems to be that on this Simon task, young adult bilinguals do not show an advantage in superior inhibitory control.

Because this result was anticipated, a Stroop task was added in order to contrast two tests of inhibitory control, as well as remove the variable of computer use from the list of complicating factors. Interestingly, the results from the Stroop task seemed to corroborate those that Martin-Rhee and Bialystok (2008) found for children, in which bilinguals and monolinguals performed the same. However in addition, the results of the current study showed that, unlike in the Simon task, computer use and age were not significant predictors of reaction time on either the congruent or incongruent condition of the Stroop. This seems to call into question the possible explanation offered by Bialystok, Martin, and Viswanathan, which was that perhaps high computer use in this age group overrides any bilingual advantage that could be observed with the Simon task. The results of the Stroop task imply that just as bilinguals and monolinguals did not perform differently on the Simon, neither did they on the Stroop task, where there was no possibility that computer use might have masked a bilingual advantage. Aside from the consideration of the computer use variable, the results show that in this age group, bilinguals perform the same as monolinguals on measures of inhibition of attention

(Simon) and inhibition of habitual response (Stroop), and the fact that language experience was not a significant predictor remains to be explained in its own right. The results suggest that perhaps tasks that require various types of inhibitory control would be useful, informative tasks to perform with a wide range of people and background experiences, to give the fullest account possible of the role of inhibitory control.

Some of the current results, such as the age effect that was observed, have methodological implications for similar studies. When age was included as a variable and the other variables measured were controlled for, we observed that, for example, each additional year of age was a significant predictor of an increase of about 7.46 ms in reaction time in the Simon task incongruent condition. This shows that it is necessary to control for age, including in a restricted age range of participants. It is a question, therefore, what the age effect might be in some of the studies in which participants are divided into age groups that cover multiple decades, such as the studies of middle-aged and older adults reported in Bialystok, Martin, and Viswanathan (2005); age must be controlled for in any analysis. Also, as computer use was salient for both the current results and those reported by Bialystok, Martin, and Viswanathan (2005), all participants who perform the Simon task and other speeded and keyboard-related tasks should be surveyed about their computer use and other similar activities that tap similar skills. Surely there are a number of participants in the age 30-40 group, or older, who have experience playing speeded games.

Some reviewers of the current study have pointed out issues to address in further research. First, though the current study looked at language experience, age, computer use, and gender, given the assumption that cognition is organized around central processing skills and experience in one domain may affect performance in another, there are many additional variables that could be relevant (e.g., a participant's fatigue at the beginning of testing). Second, a larger sample size would be beneficial, as would usually be the case in a study in this field. This would make it possible to examine the effects and interactions of language experience, computer use, age, and other variables more accurately. That said, the results of the Stroop task taken together with those of the Simon task suggest that the computer use variable, for one, is influential only in certain tasks, and in fact computer use does not account for the results observed for bilinguals and monolinguals in this age group; rather, it would be more useful, and in line with the goal of determining the effects of bilingualism on cognition, to examine a variety of tasks of a range of types of inhibitory control.

Another improvement that some reviewers of this study have noted would be to make the requirements for bilinguals and monolinguals more stringent. It might be advantageous to lower the age of language exposure from 12 to perhaps 4 or 6, or even infancy. Though the idea of a specific cut-off age is controversial, age of acquisition has been investigated in the context of cognitive function before (see for example Costa, Santesteban, and Ivanova 2006; Fabbro 2001). In order to investigate whether the age of acquisition of a second language had an effect on the results of the current study, this variable was considered in an analysis of the bilinguals' results of the Simon and Stroop tasks, but MANOVAs with reaction time on each task as the dependent variables and age of acquisition as the fixed factor yielded no significant results, possibly due to the sample size and the range of ages of acquisition (0-12 years). And as for the monolinguals, it would be helpful to refine the definition of monolingual by requiring exposure to two or

fewer languages (including the native language) and requiring responses of no higher than 1 on proficiency and frequency of use. Though these requirements would be difficult to fill, stricter definitions of "bilingual" and "monolingual" would only make the conclusions drawn from the results stronger, so this goal applies to all research in this field.

Finally, returning to the research questions, repeated from above: is it the case that bilinguals and monolinguals aged 18-30 do not show significant differences in reaction time on the Simon task? Do the results of the Stroop test match those of the Simon task? This study has answered them both: there were no differences between bilinguals and monolinguals in terms of reaction time on the Simon task, and there were no differences between those same groups on the Stroop task. In addition, it was observed that age is an important variable to control, and that computer use should be assessed in more age groups than just young adults, because it is a significant predictor of reaction time in all conditions. Lastly, on the Stroop task, which does not require use of the keyboard, the predictive power of age and computer use is erased, making such tasks interesting and possibly more viable options than keyboard response-based tasks.

Results from testing children and older adults show that bilingualism is indeed an advantage when it comes to performing complex cognitive tasks such as those requiring inhibitory control, particularly inhibition of conflicting stimuli. At this point, it would be beneficial to explore other tests of different types of inhibitory control, in addition to revised Simon and Stroop tasks, for use with multiple age groups that may allow for more of a focus on the language experience variable rather than computer use. The fact that no consistent results have been found that the bilingual advantage holds for the young adult age group is intriguing, and it leads one to believe that there are more accurate ways to tap this advantage, perhaps by refining what is meant by inhibitory control and testing different types of inhibitory control in isolation. Another possibility is that no advantage can be found; this result would be the most challenging to explain.

## REFERENCES

- ABUTALEBI, JUBIN, AND DAVID GREEN. 2007. Bilingual language production: The neurocognition of language representation and control. *Journal of Neurolinguistics* 20:242-275.
- BEDARD, ANNE-CLAUDE, ET AL. 2002. The development of selective inhibitory control across the life span. *Developmental Neuropsychology* 21:93-111.
- BIALYSTOK, ELLEN. 2001. *Bilingualism in development: Language, literacy, and cognition*. New York: Cambridge University Press.
- BIALYSTOK, ELLEN, FERGUS I.M. CRAIK, RAYMOND KLEIN, AND MYTHILI VISWANATHAN. 2004. Bilingualism, aging, and cognitive control: evidence from the Simon task. *Psychology and Aging* 19:290-303.
- BIALYSTOK, ELLEN, FERGUS I.M. CRAIK, AND JENNIFER RYAN. 2006. Executive control in a modified antisaccade task: Effects of aging and bilingualism. *Journal of Experimental Psychology: Learning, Memory, and Cognition* 32:1341-1354.

- BIALYSTOK, ELLEN, MICHELLE M. MARTIN, AND MYTHILI VISWANATHAN. 2005. Bilingualism across the lifespan: the rise and fall of inhibitory control. *International Journal of Bilingualism* 9:103-119.
- COLZATO, LORENZA S., ET AL. 2008. How does bilingualism improve executive control? A comparison of active and reactive inhibition mechanisms. *Journal of Experimental Psychology: Learning, Memory, and Cognition* 34:302-312.
- COSTA, ALBERT, MIKEL SANTESTEBAN, AND IVA IVANOVA. 2006. How do highly proficient bilinguals control their lexicalization process? Inhibitory and language-specific selection mechanisms are both functional. *Journal of Experimental Psychology: Learning, Memory, and Cognition* 32:1057-1074.
- DIAMOND, ADELE. (2002). Normal development of prefrontal cortex from birth to young adulthood: Cognitive functions, anatomy, and biochemistry. In *Principles of frontal lobe function*, ed. Donald T. Stuss and Robert T. Knight, 466-503. Cambridge, MA: MIT Press.
- E-Prime (Version 2.0 Beta) [Computer software]. 2008. Pittsburgh, PA: Psychology Software Tools, Inc.
- FABBRO, FRANCO. 2001. The bilingual brain: Cerebral representations of language. *Brain and Language* 79:211-222.
- GREEN, DAVID. W. (1998). Mental control of the bilingual lexico-semantic system. *Bilingualism: Language and Cognition* 1:67-81.
- LU, CHEN-HUI AND ROBERT W. PROCTOR. 1995. The influence of irrelevant location information on performance: a review of the Simon and spatial Stroop effects. *Psychonomic Bulletin & Review* 2:174-207.
- MARTIN-RHEE, MICHELLE M. AND ELLEN BIALYSTOK. 2008. The development of two types of inhibitory control in monolingual and bilingual children. *Bilingualism: Language and Cognition* 11:81-93.
- MEUTER, RENATA F. I. AND ALAN ALLPORT. 1999. Bilingual language switching in naming: Asymmetrical costs of language selection. *Journal of Memory and Language* 40:25-40.
- PERANI, DANIELA, ET AL. 1998. The bilingual brain. Proficiency and age of acquisition of the second language. *Brain* 121:1841-1852.
- PIAGET, JEAN. 1929. *The child's conception of the world*. New York: Harcourt, Brace, Jovanovich.
- Praat: Doing phonetics by computer [Computer software]. 2008. Amsterdam: Institute of Phonetic Sciences, University of Amsterdam.
- SIMON, J. RICHARD AND ALAN P. RUDELL. 1967. Auditory S-R compatibility: The effect of an irrelevant cue on information processing. *Journal of Applied Psychology* 51:300-304.
- STROOP, JOHN R. 1992. [1935]. Studies of interference in serial verbal reactions. *Journal of Experimental Psychology: General* 121:15-23.
- TIPPER, STEVEN P. 1992. Selection for actions: The role of inhibitory mechanisms. *Current Directions in Psychological Science* 1:105-112.
- WILLIAMS, BENJAMIN R., ET AL. 1999. Development of inhibitory control across the life span. *Developmental Psychology* 35:205-213.
- ZIED, KEFI M., ET AL. 2004. Bilingualism and adult differences in inhibitory mechanisms: Evidence from a bilingual stroop task. *Brain and Cognition* 54:254-256.

# HOW CAN COGNITIVE LINGUISTICS HELP US WITH SECOND LANGUAGE ACQUISITION: A CASE STUDY OF THE RUSSIAN VERB *IDTI*\*

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*Polysemy oftentimes poses problems for L2 learners and the traditional pedagogical solution usually resorts to memorization. In Robinson and Ellis (2008), however, many contributors address the advantages of adopting Cognitive Linguistics principles in SLA. Following this line of research, this case study investigates the conceptual motivation of the polysemous Russian motion verb *idti* 'to walk, to go'. Instead of taking a purely lexical semantics approach, I adopt a constructional perspective to polysemy. Based on my current data, five constructional frames are identified, with the spatial meaning "unidirectional linear movement of a self-propelled mover" shared across the board. This study suggests that the same conceptual base, when different components are highlighted, may give rise to diverse scenarios that somewhat guide and license the possibilities of meaning extensions. In addition, encyclopedic and semantic specifications of each motion component are indispensable for language users to "make sense" out of a particular constructional frame.*

## 1. INTRODUCTION.

According to one of its working definitions, polysemy is "the association of two or more related senses with a single linguistic form." (Taylor 1995 [1989]: 99) Polysemy thus follows the economy principle of language use in the sense that the least number of forms are used to convey the greatest number of meanings. Even though polysemy is endemic in language, it never seems to cause communication problems for native speakers. From second language learners' point of view, however, polysemy oftentimes breeds frustrating (and sometimes embarrassing) pitfalls that keep them from acquiring excellent command of the target language.

The traditional pedagogical solution to polysemy usually resorts to memorization. In a recent volume coedited by Robinson and Ellis (2008), however, a great number of contributors address the advantages of adopting Cognitive Linguistics (hereafter CL) principles (e.g. conceptual metaphors and metonymies) in Second Language Acquisition (hereafter SLA). Among many others, one aspect where SLA could benefit from CL lies in the fact that CL emphasizes the conceptual motivation of conventional usage. As Langacker (2008: 72-73) puts it, "though it [conceptual motivation] has to be learned, it represents a particular way of construing the situation described. With proper instruction,

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the learning of a usage is thus a matter of grasping the semantic ‘spin’ it imposes, a far more natural and enjoyable process than sheer memorization.”

Inspired by such insight, this present case study is intended to investigate the conceptual motivation behind the multiple meanings traditionally associated with the Russian motion verb *idti* ‘to walk, to go’, in the hope of reducing the strain of memorization on the part of L2 learners. In addition, since the basic units of linguistic representation recognized in CL are constructions (Robinson and Ellis 2008: 4), or form-meaning mappings, I shall adopt a constructional perspective to polysemy, instead of taking a purely lexical semantics approach. By grouping the uses of *idti* into different constructional frames (cf. *behavioral profile* in Gries and Divjak’s (forthcoming) use of the term, see below), I will show how its various senses are motivated and the verbal meaning coerced in each frame.

In addition to this introduction, the organization of this paper is as follows: Section 2 briefly reviews some fundamental principles of CL that are relevant to SLA as well as previous studies on polysemy; Section 3 outlines the state of affairs pertaining to Russian motion verbs in general; Section 4 examines the various senses of *idti* in terms of constructional frames; finally Section 5 summarizes this study and puts forward some suggestions for future research.

## 2. LITERATURE REVIEW.

### 2.1 COGNITIVE LINGUISTICS AND SECOND LANGUAGE ACQUISITION.

Cognitive Linguistics, which emerged in the early 1970s, holds that linguistic structure is a reflection of conceptual structure, and that language is a perfect locus to study “patterns of conceptualization” (Evans and Green 2006: 5). As opposed to other theories of language, moreover, CL has two important distinguishing tenets, which are discussed in Tyler and Evans (2001: 725). The first one is that meaning is EMBODIED in the sense that representations of meanings are reified in the form of schematic image schemas that arise from “perceptual reanalysis” of recurring bodily experiences in the physical world. The other tenet is that meaning is NON-DISCRETE in the sense that categorizations of meanings are structured in an array of continuums, with some of the members being more prototypical than others.

As is clear from above, Cognitive Linguistics lays strong emphasis on the role meaning plays in language. In fact, when discussing the potential utility of Cognitive Grammar for language instruction, Langacker (2008) points out three features of CL and two of them are related to meaning. The first one is what he calls “the centrality of meaning”, that is, meaning, rather than syntax, is central to language since syntax merely serves to the purpose of conveying meaning from the perspective of language users. The second feature is termed “the meaningfulness of grammar”, by which he means that grammar also has semantic import, however schematic it may be, since grammar and lexicon are simply gradations on a continuum of symbolic structure.

The utility of CL principles in SLA not only remains on the theoretical level, but also finds support in some empirical studies. Langacker (2008), for instance, cites two such examples. According to Kövecses (2001), apprehension of the metaphorical motivation of idioms yields a more effective learning result. The second example comes

from Kurtyka (2001), which shows that teaching phrasal verbs using cognitive semantic descriptions helps language learners understand their semantic rationale and thus acquire a better grasp of the combinations between verbs and particles.

## 2.2 STUDIES OF POLYSEMY.

As reviewed in Gries (2006), there are generally two types of approaches to the investigation of polysemy. One is called the “cognitive-linguistic approaches”. In this tradition, it is shown that the multiple senses associated with a polysemous form are structured in a radial category, and that for every polysemous form there is usually a prototypical sense to which all the other senses are closely or remotely related. An early example of such an approach is analysis of the English preposition *over* done by Brugman (1981), Lakoff (1987), and then Brugman and Lakoff (1988). To them, almost every minimally distinct image schema is considered a separate sense, such as the examples in (1) (taken from Lakoff 1987: 421). Since the hill in (1)a is both horizontally and vertically extended while the wall in (1)b is only vertically extended, they are believed to illustrate different image schemas and count as separate senses.

- (1) a. *The plane flew over the hill.*  
b. *The plane flew over the wall.*

Lakoff’s model is often called the “full-specification approach” since it proliferates the number of senses without constraints, and that many of the proposed senses are merely situation-specific in nature, rather than generalizations over usage situations. Unsatisfied with this model, Tyler and Evans (2001) (and also Evans and Green 2006) argue for the “principled-polysemy approach” by suggesting two criteria for determining distinct senses. Given the general assumption that an adposition (such as *over*) code a spatial configuration between two entities, a sense is considered separate only when the event it describes is not purely spatial and/or when the spatial configuration it codes is different. The other criterion is that instances of a separate sense ought to be context-independent, that is, a separate sense cannot be inferred from another sense and its contextual information.

On the other hand, the second line of research on polysemy is called “corpus-based lexicographic approaches”. Gries (2006) mentions two forerunning studies of this type. First, Atkins (1987) investigates polysemy in terms of what she calls “ID tags”, which are semantic and morphosyntactical specifications of the constituents that co-occur with a polysemous form in the same clause. ID tags of a polysemous verb may include verb forms, transitivity, the clause types in which it occurs, the semantic properties of the subject, and collocational prepositions, as shown in Table 1.

		‘fast pedestrian motion’	‘to manage’
verb form	+	<i>ran</i>	<i>run</i> (past part.)
	-	<i>runs</i>	<i>ran</i>
transitivity	+	intransitive	transitive
	-	transitive	intransitive
clause type	+	main clause, imperative clause	zero relative clause, zero subordinate clause
	-	(zero) relative clause interrogative clause	main clause
subject	+	human, animate	organization/institution
	-	concrete objects, organization/institution	-
preposition of following PP	+	towards, for, down, after, up	0
	-	-	-

TABLE 1. SELECTED ID TAGS FOR THE TWO MOST FREQUENT SENSES OF TO RUN (GRIES 2006: 86).

Second, Hanks (1996) suggests analyzing the multiple uses of a verb with respect to its “behavioral profile”, by which he refers to the verb’s complementation patterns as well as the semantic role generalizations of its co-occurring elements. Gries and Divjak (forthcoming) later on extend the notion of behavioral profile to include a complete inventory of elements that co-occur with a particular word within a clause.

In light of previous research on polysemy, I shall analyze the polysemous Russian verb *idti* ‘to walk, to go’ by not only focusing on the conceptual motivation of its multiple senses but also on the holistic constructional frames in which each sense of the verb is coerced. Before that, an overview of motion verbs in Russian is necessary in order to appreciate the verb *idti* in a broader context of the Russian language.

### 3. MOTION VERBS IN RUSSIAN.

As in other Slavic languages, aspect in Russian is marked morphologically on the verb. Accordingly, most Russian verbs have two aspectual forms, one for imperfective and the other for perfective, and in most cases the imperfective stem expresses both progressive and iterative aspect. Take the verb “write” for example. The imperfective stem is *pisa-* while the perfective stem is *napisa-*, as shown in (2)a and (2)b respectively.<sup>1</sup>

<sup>1</sup> The Russian transliteration system adopted here follows ISO-9: 1995, established by International Organization for Standardization. Abbreviations for the glosses used here are as follows: 1 ‘first person’, 2 ‘second person’, 3 ‘third person’, ACC ‘accusative’, DAT ‘dative’, F ‘feminine’, GEN ‘genitive’, IMP ‘imperative’, INF ‘infinitive’, INS ‘instrumental’, IPFV ‘imperfective’, ITE ‘iterative’, M ‘masculine’, NEG ‘negation’, NOM ‘nominative’, NPST ‘non-past’, PFV ‘perfective’, PL ‘plural’, POSS ‘possessive’, PROG ‘progressive’, PST ‘past’, and SG ‘singular’.



- (2) a.  $\hat{A}$  pisa-l pis'mo.  
 1SG.NOM write.IPFV-PST.M letter.ACC  
 'I was writing the letter.' [Progressive Imperfective]  
 'I wrote on the letter several times. [Iterative Imperfective]
- b.  $\hat{A}$  napisa-l pis'mo.  
 1SG.NOM write.PFV-PST.M letter.ACC  
 'I wrote the letter.' [Perfective]

However, motion verbs in Russian have two separate stems for the imperfective aspect, one for progressive and the other for iterative. In the literature of Slavic linguistics, the dichotomy of progressive versus iterative motion verbs is sometimes termed as determined versus non-determined or unidirectional versus multidirectional. Wade (1992), for instance, adopts the last pair of terms and summarizes the distinction between these two aspectual stems in terms of whether the denoted movement involves one or multiple directions, as in (3).

- (3) *Dichotomy of imperfective motion verbs in Russian* (Wade 1992: 339)  
 a. Unidirectional: denotes movement in one direction  
 b. Multidirectional: denotes movement in more than one direction, movement in general, habitual action, and return journeys

The contrast between unidirectional and multidirectional motion is illustrated in (4). While (4)a depicts a one-way journey to the factory on foot (thus unidirectional), (4)b portrays a to-and-fro walking movement in the room (thus multidirectional).

- (4) a.  $\hat{A}$  id-u na zavod.  
 1SG.NOM walk.PROG-1SG.NPST to factory.ACC  
 'I am walking to the factory.' (Wade 1992: 339) [Unidirectional]
- b. Ona hodi-t po komnate.  
 3SG.NOM.F walk.ITE-3SG.NPST round room.DAT  
 'She is walking round the room.' (Wade 1992: 339) [Multidirectional]

Furthermore, motion verbs in Russian lexically distinguish between different means of motion (e.g. on foot, by vehicle, in the air, in water, etc.), but not moving directions with respect to a certain reference (e.g. go versus come). As Table 2 below shows, two types of imperfective verbs along with four kinds of means of motion give rise to eight different verbs. Notice that the meanings of these verbs are in fact more general than what their English glosses suggest. For instance, since *plyt'* denotes unidirectional movement in water, it could mean "swim", "float", "sail", or any other kinds of one-way motion that takes place in water.

	On foot	By vehicle	In the air	In water
Unidirectional	<i>idti</i> ‘walk’	<i>ehat</i> ‘ride’	<i>letet</i> ‘fly’	<i>plyt</i> ‘swim’
Multidirectional	<i>hodit</i> ‘walk’	<i>ezdit</i> ‘ride’	<i>letat</i> ‘fly’	<i>plavat</i> ‘swim’

TABLE 2. SOME PAIRS OF IMPERFECTIVE MOTION VERBS IN RUSSIAN.

In spite of its status within the paradigm of Table 2, that is, denoting unidirectional movement on foot, the verb *idti* ‘to walk’ is conventionally associated with a great number of physical and metaphorical senses of motion that do not involve feet at all, including “to fall”, “to be delivered”, “to suit”, “to play”, “to operate”, just to name a few. Nettet (2007) argues that *idti* is used as a generalized motion verb because it represents a prototypical anthropocentric motion event, which involves no vehicle (as opposed to “drive”), no impediments (as opposed to “climb”), normal speed (as opposed to “run”), erect posture (as opposed to “crawl”), and movement on the ground (as opposed to “swim”).

Given this polysemous nature of *idti*, the aim in next section would be to search for conceptual motivation of the multiple meanings traditionally associated with *idti*, in the hope of reducing the strain of memorization on the part of L2 learners. Instead of taking a purely lexical semantics approach, I shall adopt a constructional perspective to polysemy by grouping the senses of *idti* into five constructional frames, and then looking into how its “senses” are motivated and the verb coerced in each frame.

#### 4. CONSTRUCTIONAL FRAMES OF *IDTI*.

Just like its English equivalent (or strictly speaking, approximation) “to walk”, or more generally “to go”, the Russian motion verb *idti* has a great number of conventional meanings of its own. In order to find them out, four dictionaries are cross-referenced, including Russian-English Dictionary, Collins Reverso Online (hereafter CRO), Russian-English Dictionary, Happer Collins (1994; hereafter HC), New Russian-Chinese Dictionary (1992; hereafter NRC), and Central Russian-Chinese Dictionary (1995; hereafter CRC).<sup>2</sup> On a maximum consensus of these dictionaries, thirteen senses are identified (which are by no means exhaustive), as given in (5).

(5) *Thirteen senses of the Russian motion verb IDTI*

1. to walk, to go;
2. to come;
3. to be forthcoming, to be approaching;
4. to be delivered or transferred;
5. to fall;
6. to range, to stretch;
7. to be necessary or required for something;
8. to suit, to be appropriate;

<sup>2</sup> The Collins Reverso Online Dictionary is available at <http://dictionary.reverso.net/russian-english>.

9. to carry out, to perform;
10. to sell;
11. to be in progress, to be on;
12. to operate, to be running;
13. to play.

Meanings as diverse as those listed above which are expressed by the same linguistic form can be very frustrating to second language learners. However, if we focus on the conceptualizations of the target language, rather than on translations of the source language, the relations between senses will become more transparent, as we will see later on.

Syntactically, *idti* is an intransitive verb that takes only one core argument, which is for sure the subject of a clause. Conceptually, the spatial meaning of *idti* denotes a motion event, whereby a Figure, or the focal entity, moves unidirectionally with respect to some kind of Ground, or the reference entity, be it a Departure, Traversal, or Arrival (see Talmy 2000). In addition to Figure and Ground, other common spatial semantic components include Path (i.e. the holistic trajectory along which Figure moves), Deixis (i.e. the moving direction of Figure with respect to some conceptualizer, usually the speaker), Manner (i.e. the way Figure moves), Medium (i.e. the entity by means of which Figure moves), and Time (i.e. the temporal span within which Figure moves). Thus, the conceptualizations of a motion event can be schematically represented as in Figure 1.

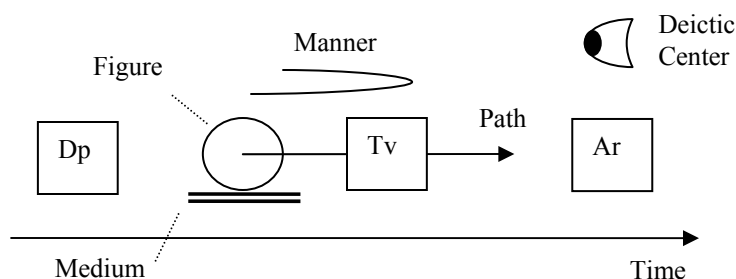


FIGURE 1. CONCEPTUALIZATIONS OF A MOTION EVENT.

Based on my current data, which are drawn from the four dictionaries mentioned above and to a lesser degree Russian National Corpus (hereafter RNC), five constructional frames of *idti* are identified, including Motion plus Path and Ground, Motion plus Manner, Motion plus Time, Motion plus Medium, and finally Motion conflated with Deixis.<sup>3</sup> Among them, the spatial meaning “unidirectional linear movement of a self-propelled mover” is shared across the board, and thus constitutes the basis of meaning extensions in each construction. In what follows, I discuss how each extended sense of *idti* is motivated in light of constructions and the semantic specifications of motion components.

<sup>3</sup> Russian National Corpus is originally called Национальный корпус русского языка ‘National Corpus of the Russian Language’, which is open to public access at <http://www.ruscorpora.ru/search-main.html>.

#### 4.1. MOTION-PATH-GROUND.

The first constructional frame involves Motion plus Path and Ground, and the correspondence between semantic and syntactic components of this frame is summarized in Table 3. Since Path and Ground are foregrounded and other semantic components backgrounded, the conceptualizations of this construction can be represented as in Figure 2.

Semantic components	Figure	Motion	Path	Ground
Syntactic components	Subject NP	Verb	Preposition	Oblique NP

TABLE 3. THE MOTION-PATH-GROUND CONSTRUCTION.

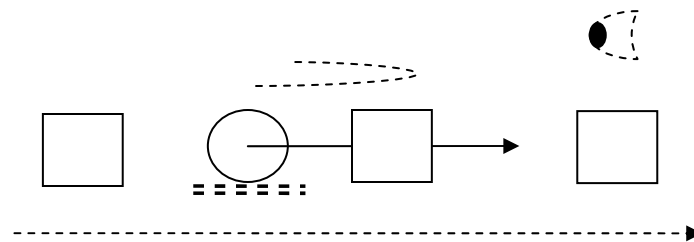


FIGURE 2. CONCEPTUALIZATIONS OF THE MOTION-PATH-GROUND CONSTRUCTION.

First of all, if the Figure has, or at least is perceived to have, self-locomotion, the construction describes a unidirectional linear movement of the Figure. For instance, Natasha in (6)a and the train in (6)b has self-locomotion while the cloud in (6)c and the smoke in (6)d do not, but are instead perceived as having self-locomotion.

- (6) a. Nataša id-ët k stoly.  
 Natasha.NOM walk-3SG.NPST towards table.DAT  
 ‘Natasha is walking toward the table.’ (CRC: 373)
- b. Poezd id-ët do moskvy.  
 train.NOM walk-3SG.NPST Till Moscow.GEN  
 ‘The train goes as far as Moscow.’ (CRO)
- c. Oblaka id-ut po nebu.  
 cloud.NOM walk-3PL.NPST along sky.DAT  
 ‘The cloud is moving in the sky.’ (CRC: 373)

- d. Iz truby id-ët dym.  
 out.of chimney.GEN walk-3SG.NPST smoke.NOM  
 ‘There is smoke coming out of the chimney.’ (CRO)

Since the most salient feature of a motion event is the perceptually continuous displacement across space, rather than physical properties of the moving entity, the Figures in (6) are equally compatible with the verb *idti*, regardless of their apparent differences in size and shape, since they are all perceived to move in one direction.

If the Figure lacks self-locomotion, and is inanimate but mobile, it is inferred that the Figure is a transported theme that is delivered from one location to another, such as the documents and wood in (7). Since the Figures here cannot move by themselves, they must be transferred or delivered by some unspecified agent, which is backgrounded in this case.

- (7) a. Dokumenty id-ut na podpis’ k direktoru.  
 documents.NOM walk-3PL.NPST for signature.ACC towards director.DAT  
 ‘Documents are delivered to the director for (his) signature.’ (NRC: 302)
- b. Na fabriku drevesina id-ët iz lesnuh raionov.  
 to factory.ACC wood.NOM walk-3SG.NPST out.of forest.GEN regions.GEN  
 ‘Wood is delivered from the forest to the factory.’ (NRC: 302)

Similarly, the Figures in (8) also lack self-locomotion and are inanimate. Unlike those in (7), however, the Figures here are immobile and extended in space, such as street and mountain. In this case, there is a mismatch between the semantic properties of the Figure (e.g. its immobility) and the objective motion in the physical world indicated by the verb. As a result, the construction is reinterpreted as subjective motion in the mental world via the process of “subjectification” (Langacker 1991), also known as “fictive motion” (Talmy 1996).

- (8) a. Ulica id-ët čerez ves’ gorod.  
 street.NOM walk-3SG.NPST through all.ACC city.ACC  
 ‘The street runs through all cities.’ (NRC: 302)
- b. Gornaâ grâda id-ët s severa na ûg.  
 mountain.NOM ridge.NOM walk-3SG.NPST from north.GEN to south.ACC  
 ‘The mountain ridge ranges from the north to the south.’ (NRC: 302)

In cases where the Ground is the goal of motion and refers to some sort of action, such as decrease and compromise in (9), the construction means to carry out or perform

the corresponding action denoted by the Ground. This is possibly due to the metaphor “Instigation of Action Is Motion into a Container”, or more generally “Action Is Motion.”

(9) a. *Id-ti na ubyl*  
walk-INF into decrease.ACC  
‘To decrease’ (NRC: 302)

b. *Id-ti na kompromiss*  
walk-INF into compromise.ACC  
‘To compromise’ (HC: 143)

As in (9), the end-point focus preposition *na* ‘into’ is also used in (10). However, both the Figure and Ground are inanimate in this case, and more importantly they are construed as having equivalent value. The general meaning of this construction can be described as “the consumption of Figure is necessary in order to obtain Ground”, which I dub “loss and gain”. Once again, the container schema is involved. In (10)b, for instance, when the Figure (i.e. money) goes into the container, it is consumed, or lost, and out of the container comes something new, which is the Ground (i.e. books).

(10) a. *Na kostûm id-ët tri metra tkani.*  
into suit.ACC walk-3SG.NPST three meter.GEN cloth.GEN  
‘Three meters of cloth are required to make a suit.’ (NRC: 302)

b. *Na kniki id-ët mnogo deneg.*  
into books.ACC walk-3SG.NPST much money.GEN  
‘Lots of money is required to buy books.’ (CRC: 374)

Finally, the idea of Figure moving towards Ground can also be reinterpreted as a subjective evaluation of the appropriateness between them. In (11), for example, appropriateness of the Figure is evaluated with respect to the Ground. Due to “profile restriction” (Langacker 1991), what is highlighted in this construction is not the process whereby Figure moves towards Ground as the linguistic structure would suggest, but the final state of motion wherein Figure stays close to Ground. Moreover, the semantic profile is “subjectified” in the sense that it shifts from an objective description of state to a subjective evaluation of state, that is, the appropriateness between entities.

(11) a. *Vam id-ët èta šlâpa.*  
2PL.DAT walk-3SG.NPST this hat.NOM  
‘The hat suits you.’ (HC: 143)

- b. Èti            razgovory            k            gelu            ne id-ut.  
 these.NOM conversations.NOM towards business.DAT NEG walk-3SG.NPST  
 ‘These conversations are not appropriate in business.’ (CRO)

4.2. MOTION-MANNER.

The next constructional frame involves Motion plus Manner, and the correspondence between semantic and syntactic components of this frame is summarized in Table 4. Since only Manner is foregrounded, the conceptualizations of this construction can be represented as in Figure 3.

Semantic components	Figure	Motion	Manner
Syntactic components	Subject NP	Verb	Adverb; Adverbials

Table 4. THE MOTION-MANNER CONSTRUCTION.

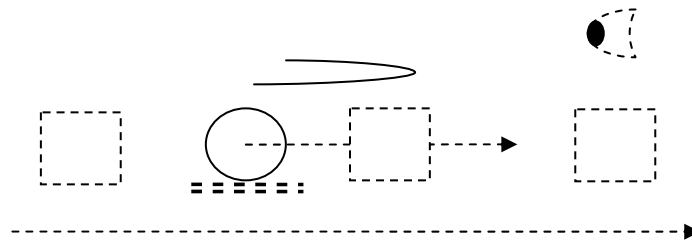


FIGURE 3. CONCEPTUALIZATIONS OF THE MOTION-MANNER CONSTRUCTION.

Like those in (6), the examples in (12) also describe a unidirectional linear movement of the Figure, which has, or at least is perceived to have, self-locomotion. The only difference is that this construction highlights Manner, and leaves Path and Ground backgrounded.

- (12) a. On            ne slyš-it,            id-ět            bystro.  
 3SG.NOM.M NEG hear-3SG.NPST walk-3SG.NPST quickly  
 ‘He does not hear, (and) goes quickly.’ (RNC)

- b. Mašina id-ět so skorost'û 100km v čas.  
 car.NOM walk-3SG.NPST at speed.INS 100km in hour.ACC  
 'The car is going at 100km per hour.' (CRO)

If the Figure is some kind of machinery that does not have self-locomotion, such as the watch in (13), the construction is reinterpreted as describing an internal movement, that is, operation of the machinery, since external movement is unlikely in this case.

- (13) Moi časý id-ut medlenno.  
 1SG.POSS.NOM watch.NOM walk-3PL.NPST slowly  
 'My watch runs slowly.' (CRO)

When the Figure is some article of trade, such as goods and dresses in (14), the unidirectional movement of Figure is extended to express transaction of goods via the metaphor "Transaction Is Motion". This meaning extension is motivated since commodities are normally sold from the seller to the buyer, which is unidirectional in nature.

- (14) a. Tovar horošo id-ět.  
 commodity.NOM well walk-3SG.NPST  
 'The goods sell well.' (NRC: 302)
- b. Plat'â ustareluh fasonov id-ut po snižennym cenam.  
 dresses.NOM outdated.GEN styles.GEN walk-3PL.NPST at reduced.DAT prices.DAT  
 'Dresses of outdated styles are sold at reduced prices.' (NRC: 302)

#### 4.3. MOTION-TIME.

The third constructional frame involves Motion plus Time, and the correspondence between semantic and syntactic components of this frame is summarized in Table 5. In this case, what is foregrounded is the time during which the movement of Figure takes place, so the conceptualizations of this construction can be represented as in Figure 4.

Semantic components	Figure	Motion	Time
Syntactic components	Subject NP	Verb	Adverb; Adverbials

TABLE 5. THE MOTION-TIME CONSTRUCTION.



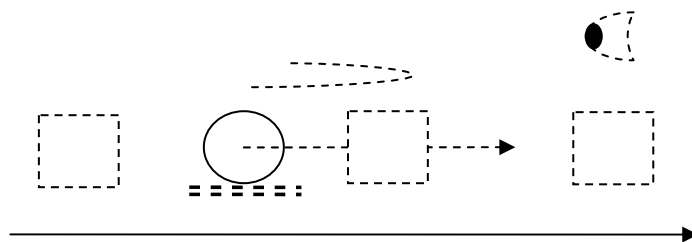


FIGURE 4. CONCEPTUALIZATIONS OF THE MOTION-TIME CONSTRUCTION.

Like the last two constructions, this construction also describes a unidirectional movement when the Figure has, or at least is perceived to have, self-locomotion, as shown in (15).<sup>4</sup>

- (15) *Ā šel tri časa.*  
 1SG.NOM walk.PST.SG.M three hour.GEN  
 ‘I walked for three hours.’ (CRO)

If the Figure lacks self-locomotion, and it is inanimate and sequential, such as the exams and play in (16), the construction is then reinterpreted as describing the progress of Figure along a timeline. This extension is motivated by the metaphor “Progress Is Motion”, whereby progress in the temporal domain is conceptualized as motion in the spatial domain.

- (16) a. *Sejčas id-ut èkzameny.*  
 now walk-3PL.NPST exams.NOM  
 ‘The exams are in progress.’ (CRO)
- b. *Spektakl’ id-ët dva časa.*  
 play.NOM walk-3SG.NPST two hour.GEN  
 ‘The play goes on for two hours.’ (HC: 143)

#### 4.4. MOTION-MEDIUM.

The fourth constructional frame involves Motion plus Medium, and the correspondence between semantic and syntactic components of this frame is summarized in Table 6. Since the only foregrounded component is Medium in this case, the conceptualizations of this construction can be represented as in Figure 5.

<sup>4</sup> The verb *šel* is a suppletive past tense form of *idti*. Other forms in the same paradigm include *šla* for a singular feminine subject, *šlo* for a singular neuter subject, and *šli* for a plural subject regardless of gender.

Semantic components	Figure	Motion	Medium
Syntactic components	Subject NP	Verb	Oblique NP

TABLE 6. THE MOTION-MEDIUM CONSTRUCTION.

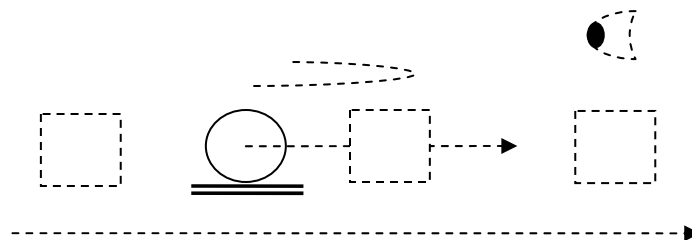


FIGURE 5. CONCEPTUALIZATIONS OF THE MOTION-MEDIUM CONSTRUCTION.

When the Figure has self-locomotion, and the Medium is some means of motion, such as the foot in (17), the construction describes unidirectional movement of the Figure.

- (17) A dal'še id-ěš' peškom.  
 and further walk-2SG.NPST on.foot.INS  
 'And you walk further on foot.' (RNC)

But if the Medium is some piece in a game, such as the knight and ace in (18), then the construction describes players' moves in the game. In this case, the Figure is the player that does not move in real world, but it causes the pieces in game to move. This is inferable from our experiences in chess or a card game where players remain stationary while making their moves in game by use of gaming strategies.

- (18) a. Id-ti koněm  
 walk-INF knight.INS  
 'To play the knight (lit. to go by means of the knight)' (CRO)
- b. Id-ti tuzom  
 walk- INF ace.INS  
 'To play an ace (lit. to go by means of an ace)' (CRO)

#### 4.5. MOTION-DEIXIS.

Finally, the last construction frame involves Motion and Deixis, both of which are conflated together in the verb. Usually, only the subject and verb are present, as shown in Table 7. Since deictic center is the only spatial component that is foregrounded in this case, the conceptualizations of this construction can be represented as in Figure 6.

Semantic components	Figure	Motion and Deixis
Syntactic components	Subject NP	Verb

TABLE 7. THE MOTION-DEIXIS CONSTRUCTION.

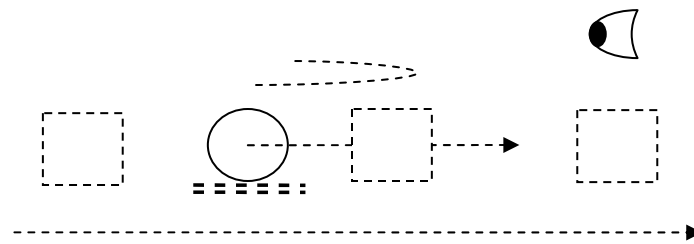


FIGURE 6. CONCEPTUALIZATIONS OF THE MOTION-DEIXIS CONSTRUCTION.

Once again, when the Figure has or is perceived to have self-locomotion, the construction describes self-propelled unidirectional movement of the Figure. However, unlike previous constructions, the Figure in this case always moves towards some deictic center, which is usually the speaker.<sup>5</sup> For example, the speaker in (19)a asks the Figure, or the addressee, to move towards him or her. Notice that the meaning of “moving towards the deictic center” is not due to the spatial deixis *sûda* ‘here’ in (19)a, but should be more generally attributed to the constructional components as a whole. In (19)b, where no spatial deixis is present, the construction still describes the Figure (i.e. the bus) as moving towards, rather than away from, the speaker.<sup>6</sup>

<sup>5</sup> When the Figure is the speaker, the deictic center is shifted to the addressee since it is pragmatically implausible to say something is moving towards itself. Thus, *Id-u* ‘walk-1SG.NPRS’ means “I am coming”, that is, “coming” from the perspective of the addressee.

<sup>6</sup> Motion away from the deictic center is expressed by the verb *ujti* ‘to go away’, as shown in the following example, where *ušël* is a suppletive past tense form of *ujti*:

*Ušël*                      *avtobus.*  
 leave.PST.SG.M    bus.NOM  
 ‘The bus has left.’

(19) a. Id-i        sūda!  
walk-IMP here  
'Come here!' (CRO)

b. Id-ēt        avtobus.  
walk-3SG.NPST bus.NOM  
'The bus is coming.' (CRO)

If the Figure is some sort of precipitation, such as rain and snow in (20), then the construction is understood as describing the falling of precipitation, which is conceptualized as motion towards the ground, the generic deictic center.

(20) Id-ēt        sneg/dožd'.  
walk-3SG.NPST snow/rain.NOM  
'It is snowing/raining.' (HC: 143)

In addition to spatial domain, the construction is also applicable to temporal domain. If the Figure is a temporal term, such as winter in (21), the construction is reinterpreted as the approach of the temporal event to which the Figure noun refers. This is motivated by the conceptual metaphor "Imminence of a Temporal Event Is Motion towards Deictic Center", or more generally "Time Is Motion."

(21) Id-ēt        zima.  
walk-3SG.NPST winter.NOM  
'Winter is coming.' (HC: 143)

As a last point, Table 8 below summarizes the five constructional frames of *idti* and the senses motivated therein across the spatial, temporal, and abstract domain (which is basically non-spatial and non-temporal), with the corresponding example numbers shown in parenthesis.

Constructional Frames	Domains		
	Spatial	Temporal	Abstract
Motion-Path-Ground	to walk; to go (6) to be delivered (7) to range (8)		to perform (9) to be necessary for sth. (10) to suit (11)
Motion-Manner	to walk; to go (12)		to operate (13) to sell (14)
Motion-Time	to walk; to go (15)	to be in progress (16)	
Motion-Medium	to walk; to go (17)		to play (18)
Motion-Deixis	to come (19)	to be approaching (21)	to fall (20)

TABLE 8. SUMMARY OF THE FIVE CONSTRUCTIONAL FRAMES OF IDTI AND THE SENSES MOTIVATED THEREIN.

In addition, Table 9 recapitulates the cognitive semantic descriptions of the thirteen senses of *idti* listed in (5) (with the corresponding sense number indicated; e.g. S1 stands for the first sense in (5), S2 for the second, etc.), along with the encyclopedic and semantic specifications that are necessary in each motion semantic component so as for the verb to be coerced into the intended meaning.

Senses	Motion Semantic Components						
	Figure	Path	Ground	Manner	Time	Medium	Deixis
unidirectional movement (S1)	Self-propelled	√	√	X	X	X	X
delivery (S4)	Inanimate Mobile	√	√	X	X	X	X
extension (S6)	Inanimate Immobile Extended	√	√	X	X	X	X
instigation of action (S9)	Animate	<i>na</i>	Abstract	X	X	X	X
loss and gain (S7)	Inanimate (Material or Price)	<i>na</i>	Inanimate (= Figure in value)	X	X	X	X
appropriateness (S8)	Inanimate	∅ <i>k</i>	Animate Inanimate	X	X	X	X
unidirectional movement (S1)	Self-propelled	X	X	√	X	X	X
operation (S12)	Machinery Immobile	X	X	√	X	X	X
transaction (S10)	Commodity	X	X	√	X	X	X
unidirectional movement (S1)	Self-propelled	X	X	X	√	X	X
progress (S11)	Inanimate Sequential	X	X	X	√	X	X
unidirectional movement (S1)	Self-propelled	X	X	X	X	√	X
move of pieces (S13)	Player In Game	X	X	X	X	Pieces	X
unidirectional movement towards the deictic center (S2)	Self-propelled	X	X	X	X	X	√
falling (S5)	Precipitation	X	X	X	X	X	√
imminence (S3)	Temporal Event	X	X	X	X	X	√

TABLE 9. SUMMARY OF THE THIRTEEN SENSES OF IDTI AND SPECIFICATIONS OF THEIR CORRESPONDING MOTION SEMANTIC COMPONENTS.

## 5. CONCLUSION.

The starting point of this study is a recent volume coedited by Robinson and Ellis (2008), where numerous contributors address the utility of Cognitive Linguistics principles in Second Language Acquisition. One of the major difficulties of acquiring a second language is the problem of polysemy. Even though polysemy never seems to a problem for native speakers, it oftentimes causes second language learners' to fall into a trap. Thus, to reduce the strain of memorization on the part of L2 learners, this case study investigates the conceptual motivation of the various senses of the Russian motion verb *idti* 'to walk, to go'. Instead of taking a purely lexical semantics approach, I adopt a constructional perspective to polysemy by analyzing the uses of *idti* in view of constructional frames, and then examining how its senses are motivated and the verb coerced in each frame. In this paper, five constructional frames of *idti* are identified, with the spatial meaning "unidirectional linear movement of a self-propelled mover" shared across the board. Aside from that, the cognitive semantic descriptions of other senses of *idti* in each constructional frame are summarized as follows: (i) Motion-Path-Ground: a. delivery of a transported theme, b. elongation of an extended entity, c. initiation of action, d. loss and gain, e. appropriateness between entities; (ii) Motion-Manner: a. operation of machinery, b. transaction of commodity; (iii) Motion-Time: progress of sequential events; (vi.) Motion-Medium: move of the pieces in game; and finally (v) Motion-Deixis: a. the falling of precipitation, b. the imminence of temporal events.

This study suggests that the same conceptual base, when different components are highlighted, may give rise to diverse scenarios that somewhat guide and license the possibilities of meaning extensions, as has been shown in Table 9. Moreover, we may extrapolate from this study to state that meanings of motion verbs are distributed over the motion components they co-occur with, rather than confined to particular lexical items, which is in line with Gries and Divjak's (forthcoming) belief that patterns within a "behavioral profile" of a word determine its different senses. Last but not least, encyclopedic and semantic specifications of each motion component (such as animacy, mobility, etc.) are indispensable for language users to "make sense" out of a particular constructional frame.

Admittedly, this study is preliminary, and some further studies still need to be done in order to testify the validity of my current analysis and its utility in Second Language Acquisition. For example, Gries (2006) conducts a corpus-based behavioral profile analysis of the English verb *to run*, and finds some statistical support regarding the issue of identifying prototypical meaning and separating distinct senses. A similar study could be done to the Russian verb *idti* by using the Russian National Corpus, a well-balanced corpus of spoken and written Russian. Since this corpus is grammatically and semantically tagged, it would be possible to find out the statistical correlations between the different senses of *idti* and the semantic specifications of its co-occurring elements as well as the constructional frames in which it occurs.

Moreover, it would be valuable to actually teach L2 learners of Russian the gist in Table 9 in a comprehensible manner (such as avoiding the use of jargons in CL), and then evaluate whether the learning process is aided by apprehension of the cognitive underpinnings.

Although individual variations among students (e.g. their native languages, learning motivation, memory, etc.) will surely interfere with the result, the more successful case studies we have, the more confident we can be of promoting the integration CL principles into the pedagogical design of L2 instruction.

## REFERENCES

- ATKINS, B. T. 1987. Semantic ID Tags: Corpus Evidence for Dictionary Senses. In *Proceedings of the Third Annual Conference of the UW Centre for the New Oxford English Dictionary*, University of Waterloo, Canada, pp.17-36.
- BRUGMAN, C. 1981. *The Story of Over*. MA thesis. University of California at Berkeley.
- BRUGMAN, C. AND G. LAKOFF. 1988. Cognitive topology and lexical networks. In *Lexical Ambiguity Resolution: Perspectives from Psycholinguistics, Neuropsychology and Artificial Intelligence*, ed. by S. Small, G. Cottrell and M. Tannenhaus, 407-508.
- EVANS, V. AND M. GREEN. 2006. *Cognitive Linguistics: An Introduction*. Edinburgh: Edinburgh University Press.
- GRIES, S. T. 2006. Corpus-based methods and cognitive semantics: The many senses of to run. In *Corpora in Cognitive Linguistics: Corpus-Based Approaches to Syntax and Lexis*, ed. by Stefan Gries and Anatol Stefanowitsch, 57-99. Berlin; New York: Mouton de Gruyter.
- GRIES, S. T. AND D. S. DIVJAK. Forthcoming. Behavioral profiles: a corpus-based approach to cognitive semantic analysis. In *New Directions in Cognitive Linguistics*, ed. by Vyvyan Evans and Stephanie S. Pourcel. Amsterdam; Philadelphia: John Benjamins.
- HANKS, P. 1996. Contextual dependency and lexical sets. *International journal of corpus linguistics* 1, no. 1: 75-98.
- KÖVECSES, Z. 2001. A cognitive linguistic view of learning idioms in an FLT context. *Applied cognitive linguistics* 2: 87-115.
- KURTYKA, A. 2001. Teaching English phrasal verbs: A cognitive approach. In M. Pütz, S. Niemeier, and R. Dirven (eds.), *Applied Cognitive Linguistics II: Language Pedagogy*. Cognitive Linguistics Research 19.2. Berlin; New York: Mouton de Gruyter.
- LAKOFF, G. 1987. *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind*. Chicago: University of Chicago Press.
- LANGACKER, R. W. 2008. Cognitive Grammar as a basis for language instruction. In *Handbook of Cognitive Linguistics and Second Language Acquisition*, ed. by P. Robinson and N. Ellis, 66-88. New York; London: Routledge.
- LANGACKER, R. W. 1991. Foundations of Cognitive Grammar II. *Foundations of Cognitive Grammar II* 40, no. 64.
- NESSET, TORE. 2007. Metaphorical walking: Russian идти as a generalized motion verb, presented at the 2007 Slavic Cognitive Linguistics Conference, University of Chicago.
- ROBINSON, PETER AND NICK ELLIS. 2008. *Handbook of Cognitive Linguistics and Second Language Acquisition*. New York; London: Routledge.
- TALMY, L. 2000. *Toward a Cognitive Semantics, Volume II: Typology and Process in Concept Structuring*. Cambridge, Mass.: The MIT Press.



- TALMY, L. 1996. Fictive motion in language and "ception". In *Language and Space*, ed. by P. Bloom, M. Peterson, L. Nadel, and M. Garrett, 211-276. Cambridge, Mass.: MIT Press.
- TAYLOR, J. R. 1995. *Linguistic Categorization: Prototypes in Linguistic Theory*. Oxford: Oxford University Press.
- TYLER, A. AND V. EVANS. 2001. Reconsidering prepositional polysemy networks: The case of over. *Language* 77, no. 4: 724-65.
- WADE, T. 1992. *A Comprehensive Russian Grammar*. Oxford: Blackwell.

## DIFFUSION OF A WORD FOR ‘CAT’ IN INDIGENOUS LANGUAGES OF NORTH AMERICA\*

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*This paper examines the diffusion of a word for ‘cat’ in indigenous languages of North America, primarily those in the northern United States and southern Canada, and proposes that the similarities among these forms are too great to be due to common heritage or separate individual borrowings. Instead, I propose that these similarities are the result of the diffusion of three discrete borrowings across large stretches of geographic and linguistic territory. Borrowings for the word ‘cat’ are well-studied in several areas of the Americas, but not much attention has been paid to northern languages. Like their southern neighbors, these languages appear to have diffused a single borrowing throughout many disparate language families and across most of the continent. Similarities between forms for ‘cat’ exist among languages from disparate linguistic families. Even among a single family (e.g., Salish) the words seem too similar to be due to anything but areal diffusion.*

### 1. INTRODUCTION.

This paper examines the diffusion of a word for ‘cat’ in indigenous languages of North America, primarily those in the northern United States and southern Canada, and proposes that the similarities among these forms are too great to be due to common heritage or separate individual borrowings. Instead, I propose that these similarities are the result of the diffusion of three discrete borrowings across large stretches of geographic and linguistic territory. In § 2 I begin by considering possible explanations for similarities between forms in two distinct languages. I then give some background information on lexical acculturation in American languages, which began with European contact five hundred years ago and continues today. In § 3 I give the forms for ‘cat’ in several different languages and families in the United States and Canada, including Algonquian, Salishan, and Athabaskan, and show how all of these forms can be traced back to Dutch *poes*, English *puss*, and the sound used to call a cat in English: *psps*. I also give evidence of why at least some of these borrowings cannot be directly borrowed from English. § 4 offers a summary and discussion of the reasons set forth herein for why the convergence of these forms cannot be attributed to genetic affiliation or separate borrowings. I also give forms for ‘cat’ from different areas with different borrowings,

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showing that even though other areas of the continent have different forms, in each case the forms have diffused across long distances and disparate language families. I conclude with § 5, which summarizes the points laid out in this paper and details some implications and remaining questions for the future.

## 2. BACKGROUND.

When confronted with words similar in both sound and meaning in two languages, the researcher has four possibilities to consider: (i) the similarity is due to chance, (ii) the languages are genetically related, (iii) the form is borrowed, either from one language to the other or both from the same external source, or (iv) the words are similar due to some language universal. Premise (i) will usually only be considered if the languages are not known to be related and have not been in contact, or were not at the time when the forms would have developed. To illustrate the possibility of chance correspondences, Campbell (1999) offers English *mess* and Kaqchikel *mes*, ‘mess, disorder, garbage’. Since English and Kaqchikel are unrelated and have only recently come into contact, it seems most likely that these forms are similar due to random chance. Premise (ii) is typically the explanation of choice only if the languages in question have already been proven to be related, e.g., English *father* and Latin *pater*. Lexical items are perhaps the most common borrowing, and thus basing a claim of genetic affiliation solely on lexical similarity is likely to be met with skepticism.

Premise (iii) is usually invoked when two unrelated or distantly related languages exhibit striking similarity in lexical items, especially ones that are considered resistant to borrowing, e.g., words contained on the Swadesh list. While numerals are often used in claims of genetic affiliation because of their supposed resistance to borrowing, the Plateau linguistic area in the northwestern United States exhibits exactly this kind of lexical convergence, e.g., Columbian (Salishan) *naqs* and Nez Perce (Sahaptian) *naaqc*, ‘one’. Borrowings are especially likely when the form in question is widely represented throughout one of the languages families but not the other. In the Plateau area example, Nez Perce *naaqc* has cognates throughout the Sahaptian languages, while Columbian *naqs* has cognates in only two other Salishan languages, which points to the conclusion that the numeral is a borrowing from Sahaptian into Salishan. Borrowings can also be identified by failing to undergo regular sound changes. This will be shown to be relevant in § 4 for Salishan words for cat. Premise (iv), language universals, is perhaps the rarest explanation for similarities between languages, because of *l'arbitraire du signe*, the arbitrariness of sign. However, in certain cases it seems relevant. In many, and likely most, languages of the world, the word for ‘mother’ contains the phoneme /m/. The similarities among languages are far too great to be attributed to chance, and even if a Proto-World language existed, the extreme diversity of languages precludes invoking genetic affiliation. Rather than positing worldwide lexical borrowing, the likely explanation is the articulatory ease of this phoneme and its early acquisition in child language development. This is supported by the fact that vocatives are much more likely to abide by this pattern than more formal, objective terms for mother. While this paper will be dealing with borrowing, it is important to discount other possibilities to make a strong case for this type of diffusion.

European contact resulted in numerous linguistic changes in both directions. While many European languages directly borrowed new words from North American languages (e.g., raccoon, moccasin, tomahawk), many Native American languages were less prone to borrowing, instead choosing to create neologisms from their own languages (e.g. Navajo *tsésikaad*, ‘pavement,’ lit. ‘rock lies spread,’ see Neundorf 1982). Even so, European languages, including English, Spanish, French, and Dutch, left their mark on indigenous languages (e.g., Navajo *béso* ‘dollar’ from Spanish *peso*, see Kiddle 1952 for more). Denzer-King (to appear) shows that American indigenous languages used different strategies for neologisms depending on the semantic field of the item. For the purposes of this paper, it is most relevant that words for animals were more likely to be borrowed than words for man-made items. Because of this tendency, it is not necessarily unexpected to find that many languages borrowed a European word for ‘cat’. What is surprising is the extent of this borrowing, which will be discussed in detail in the next section. While some languages simply expanded the semantic scope of one of their words for a feline animal (e.g., Miami *pinšiwá*, ‘lynx’ (Costa 1991)), a good many ended up with something approaching the original Dutch.

### 3. DATA.

This section provides forms for ‘cat’ in indigenous languages of America, and gives brief explanations of noteworthy phonological aspects of the forms. The next section provides a more detailed analysis and discusses how these forms support my thesis that the words for ‘cat’ in the northern United States represent areal diffusion rather than many separate borrowings from European languages. Borrowings for the word ‘cat’ are well-studied in several areas of the Americas (see Bright 1960 for the southwest U.S., Brown 1998 for the southeast U.S., and Kiddle 1964 for Central and South America), but not much attention has been paid to northern languages. Like their southern neighbors, these languages appear to have diffused a single borrowing throughout many disparate language families and across most of the continent. Similarities between forms for ‘cat’ exist among languages from disparate linguistic families. Even among a single family (e.g., Salish) the words seem too similar to be due to anything but areal diffusion; even something as basic as the numeral ‘one’ varies much more. Table 1 shows forms for ‘cat’ in languages of the northern United States. Salishan forms are presented in their own table later in the text for two reasons: (i) all the Salishan languages are spoken in the area investigated in this paper, and thus more forms are relevant than for other language families, and (ii) the Salishan languages are generally speaking well-documented, and thus more forms are available than for other language families.

Language	Genetic Affiliation	Word for ‘cat’	Source
Mohawk	Iroquoian	<b>takóós</b>	Mithun (1999)
Munsee Delaware	Algonquian	<b>póóšiĩš</b>	Swiggers (1985)
Mahican	Algonquian	<b>póschees</b>	Mithun (1999)
Blackfoot	Algonquian	<b>póós</b>	Frantz (1995)
Kootenai	isolate	<b>pus</b>	KCC (1999)
Chinook Jargon	Chinookan	<b>pús(h)</b>	James Crippen (p.c.)
Hanis	Coosan	<b>puus</b>	Grant (1997)
Klamath	isolate	<b>p’oos</b>	Barker (1963)
Umatilla Sahaptin	Sahaptian	<b>p’uus</b>	Thomas Morningowl (p.c.)
Walla Walla Sahaptin	Sahaptian	<b>p’uus, pišpiš</b>	Thomas Morningowl (p.c.)
Nez Perce	Sahaptian	<b>pic</b>	Aoki (1994)
Cayuse	isolate	<b>picpic</b>	Thomas Morningowl (p.c.)
Tlingit	Na-Dene	<b>dóosh</b>	James Crippen (p.c.)
Haida	isolate	<b>dúus</b>	Enrico (2004)
Coast Tsimshian	Tsimshianic	<b>dúus</b>	Dunn (1979)

TABLE 1. WORDS FOR ‘CAT’.

Table 1 shows that though there is some variation, for the most part northern languages show remarkable convergence in the word for ‘cat’. Mithun (1999) suggests that at least some of these forms are from the Dutch word *poes*, the vocative form for ‘cat’. The Munsee Delaware form, in particular, is almost certainly a borrowing from Dutch (Swiggers 1985). This also seems likely for the other two eastern languages in Table 1, Mahican and Mohawk. The Mohawk form differs from most because Mohawk lacks labials, and thus the initial /p/ was mapped onto /k/. The initial *ta-* is presumably from a preceding definite article. Borrowings prefixed by definite articles are well-documented in several languages, e.g., Shuswap *leputéy*, ‘bottle’, from French *la bouteille* (Kuipers 1983). Since these eastern forms differ in several respects from the western forms, it seems warranted to posit two separate origins for these borrowings – Dutch in the east, and English in the west.

The western forms all bear a remarkable similarity to each other given the breadth of geography and genetic affiliation. At first it may be tempting to suggest that Blackfoot, too, borrowed from Dutch *poes* rather than English “puss”. However, since to my knowledge the Blackfeet never had contact with Dutch traders, and because Blackfoot lacks a phonemic /u/, it seems more likely that the borrowing is from English “puss”. The Chinook Jargon form may have come directly from English, and it was this Chinook Jargon form which was borrowed into many languages in the area, including Hanis

(Grant 1997). The glottalization in the Klamath and Sahaptin forms is likely an imitation of the aspiration of /p/ in English. This same kind of language transfer is documented in Tlingit, where aspirated stops are often borrowed as glottalized stops (Crippen 2007). The Nez Perce, Cayuse, and secondary Walla Walla forms present two possibilities, either fronting of the high vowel /u/, or, perhaps more likely, an imitation of an English speaker calling to a cat: *pspsps*. Tlingit, like Mohawk, lacks labials, and thus maps /p/ onto /d/. James Crippen (p.c.) notes that the Tlingit borrowing is from Chinook Jargon, rather than directly from English. Haida and Coast Tsimshian, on the other hand, do have labials, and thus it would be odd to find these forms beginning with /d/ if they were borrowed directly from English or Chinook Jargon, as Boas (1891) suggests. If this were the case, we would expect the borrowing to begin with a /p/. Instead, both of these borrowings must be from the Tlingit form. This provides evidence that these forms for ‘cat’ were borrowed among and between indigenous languages, rather than constituting separate borrowings from English or Dutch. Table 2 shows forms for ‘cat’ in Salishan languages.

Language	Genetic Affiliation	Word for ‘cat’	Source
Bella Coola	Bella Coola	<b>pús</b>	Nater (1990)
Lushootseed	Twana	<b>píšpiš</b>	Bates (1994)
Saanich	Central – Straits	<b>pus; piš</b>	Montler (1991)
Samish	Central – Straits	<b>píšpiš</b>	Galloway (1990)
Squamish	Central	<b>puš</b>	Leora Bar-el (p.c.)
Thompson	Interior – Northern	<b>pós(i), pús</b>	Thompson & Thompson (1996)
Shuswap	Interior – Northern	<b>pus</b>	Kuipers (1983)
Columbian	Interior – Southern	<b>pús</b>	Kinkade (1981)
Okanagan	Interior – Southern	<b>pus</b>	Mattina (1987)
Spokane	Interior – Southern	<b>pús</b>	Carlson & Flett (1989)
Kalispel	Interior – Southern	<b>pus</b>	Vogt (1940)
Coeur d’Alene	Interior – Southern	<b>pus</b>	Greene (2004)

TABLE 2. SALISHAN WORDS FOR ‘CAT’

As shown in Table 2, the Salishan languages display an even greater degree of convergence than most of the languages in Table 1. Most of the languages have settled on a fairly close approximation of English “puss”. Those which have not seem to have instead converged on a representation of English *psps*, the call given to a cat. The Thompson form *pos* requires some explanation, since it exists alongside the closer approximation of *pus*. It may be that these two forms represent borrowings from different

languages, with *pus* being borrowed from one of the other Salishan languages (or possibly from English), and *pos* coming from Blackfoot *poos*. While this degree of similarity across related languages may not be surprising, it is quite unexpected for the Salishan family, which displays significant lexical dissimilarity even among basic words. Table 3 shows words for ‘one’ in various Salishan languages.

Language	Genetic Affiliation	Word for ‘one’
Bella Coola	Bella Coola	smaw
Lushootseed	Central – Twana	dəč’ú?
Saanich	Central – Straits	nət <sup>θ</sup> ’ə?
Samish	Central – Straits	nác’ə
Squamish	Central	nč’u?
Thompson	Interior – Northern	péye?
Shuswap	Interior – Northern	nk <sup>w</sup> u?
Columbian	Interior – Southern	naqs
Okanagan	Interior – Southern	naqs
Spokane	Interior – Southern	nk <sup>w</sup> u?
Kalispel	Interior – Southern	nk <sup>w</sup> u?
Coeur d’Alene	Interior – Southern	nék <sup>w</sup> ’e?

TABLE 3. SALISHAN WORDS FOR ‘ONE’ (FROM ANDERSON 1999).

The numeral ‘one’ is one of the small group of words held to be resistant to change and borrowing, yet in the Salishan language family, which has a time depth of only about two thousand years (Campbell 1999), we see that even this low numeral is quite divergent across the family. Four completely separate roots are represented (1: Bella Coola, 2: Thompson, 3: Columbian & Okanagan, 4: most others), including at least one borrowing (Columbian & Okanagan, from Sahaptian). Thus in a language family like Salishan it is surprising to see that the words for ‘cat’ display such startling convergence. However, in one key respect ‘cat’ is not comparable to ‘one’ – the word ‘cat’ is a borrowing. Not only is ‘cat’ a borrowing, it is a fairly recent one, certainly within the past four hundred years and most likely within the past two hundred. Casagrande (1954), citing Latham (1862), notes that even by the mid-1800’s Comanche had no word for ‘cat’. Because of this, it is not necessarily telling to compare a borrowing such as this one to a word which has presumably been developing in separate languages for millennia. If ‘cat’ is truly a special case, this should be evident upon comparison to other animal

names. To illustrate this, Table 4 gives the word for ‘chicken’ in many of the languages presented in Table 1 and Table 2.

Language	Genetic Affiliation	Word for ‘chicken’	Source
Mohawk	Iroquoian	kítkít	Huot (1948)
Chinook Jargon	Chinookan	lapool	Powell (1990)
Nez Perce	Sahaptian	waswasno	Nichols (1971)
Saanich	Salishan	čákən	Montler (1997)
Thompson	Salishan	cíkn, cǎkn	Thompson & Thompson (1996)
Shuswap	Salishan	lq <sup>w</sup> uq <sup>w</sup>	van Eijk (1990)
Okanagan	Salishan	skkǎ́kaʔ	Mattina (1987)
Spokane	Salishan	lipúl	Carlson & Flett (1989)
Kalispel	Salishan	lipúl	Greene (2004)
Coeur d’Alene	Salishan	lipúl	Greene (2004)
Tlingit	Na-Dene	kaax’	James Crippen (p.c.)
Haida	isolate	sqaw	Enrico (1986)

TABLE 4. WORDS FOR ‘CHICKEN’.

With the exception of a small group of Salishan languages, the words in Table 4 are so disparate that it may be necessary to assure the reader that no cherry-picking was involved. Even among the Salishan languages, four separate roots are involved. The Thompson and Saanich forms are from English “chicken”, the Spokane, Kalispel, and Coeur d’Alene forms are from French *la poule*, ‘female chicken’, the Shuswap form is from French *le coq*, ‘male chicken’, and the Okanagan form is descriptive, from the root for ‘cackle’. The latter form also raises the point that these words for ‘chicken’ use several different strategies in forming neologisms. Many are borrowings from French or English, but the Okanagan form is a descriptive word coining, while the Mohawk form is presumably onomatopoeic. This is in contrast to the words for ‘cat’ in Table 1, which are all borrowings.

#### 4. DISCUSSION.

The tables in § 3 show that the word for ‘cat’ is in some way different from other borrowings in North American languages. The forms are strikingly similar across large



distances and many language families. Such similarity is unexpected, even in a related group such as Salishan, since forms for other words are so divergent. This was illustrated for the Salishan family with forms for ‘one’, which come from four distinct roots, and for all the languages discussed herein for the word for ‘chicken’. Since domestic cats were introduced to North America so recently, we would not expect that languages would have any semblance of native names for them, a fact which is further supported by the lack of regular sound changes in the Salishan forms. Proto-Salish \*x became š in several subgroups of Salish, and thus for Squamish *puš* we should expect to find Bella Coola and Thompson cognates *pux*, which is not the case.

While an explanation for why ‘cat’ is so different, especially since cats were not an important part of any of the cultures involved, is not forthcoming, it is possible to show that the mechanism of borrowing differed from that in many other cases of borrowing. Rather than individual borrowings, the word for ‘cat’ seems to have spread from language to language, possibly quickly, resulting in an unusual degree of convergence not seen when individual languages each borrow separately. That the form was borrowed from one indigenous language to another, at least in certain cases, is evident from the Tlingit, Haida, and Tsimshian forms. Tlingit lacks labials, and so borrowed the form by replacing the initial labial stop with an alveolar one. This initial /d/ is present in the Haida and Tsimshian forms as well. However, since these languages have labials, it must be the case that they borrowed the form from Tlingit. Since different languages had contact with different European languages, and often multiple European languages, it is often the case that different indigenous languages borrowed words for the same item from different European languages. This is illustrated in Salishan borrowings for ‘chicken’, where Saanich and Thompson borrowed from English while Shuswap and Coeur d’Alene borrowed from French. Thus it would be strange for all the *pus* languages to have borrowed directly from English, especially since French traders and missionaries featured so prominently in the Pacific Northwest.

I propose that the words for cat in these northern American languages are due to three discrete borrowings: in the east, from Dutch *poes*, as claimed in Mithun (1999), and in the west, from English “puss” and *psps*. The Mohawk, Mahican, and Munsee Delaware forms all closely parallel Dutch *poes*, and since these languages would have had contact with Dutch traders in the 17<sup>th</sup> century, this seems a likely source for the borrowing. The mostly widely diffused form, *pus*, seems most likely from English “puss”, which is cognate with Dutch *poes*. This form diffused among the Salishan and western Algonquian languages, as well as several other languages families and isolates in the area. The final form is the *piš* type seen in the Sahaptian and neighboring languages. It seems difficult to explain this as a derivative of “puss”, which is why I propose that this is a borrowing of the sound typically used to call a cat in the English-speaking world. The exceptionality of ‘cat’ borrowings does not seem to be limited to the northern American languages. While languages of the southeastern and southwestern states did not borrow from English, we see the same kind of widespread convergence not typically found in borrowings. Table 5 gives forms from other areas of the Americas.

Language	Genetic Affiliation	Word for 'cat'	Source
Umatilla Sahaptin	Sahaptian	<b>kiitis</b>	Thomas Morningowl (p.c.)
Western Apache	Athapaskan	<b>gidi</b>	Bray (1998)
Biloxi	Siouan	<b>kətu</b>	Brown (1998)
Choctaw	Muskogean	<b>kato, katos</b>	Brown (1998)
Alabama	Muskogean	<b>kati</b>	Brown (1998)
Koasati	Muskogean	<b>kati</b>	Brown (1998)
Creek	Muskogean	<b>kati</b>	Brown (1998)
Mobilian Jargon	pidgin	<b>kati, kato</b>	Brown (1998)
Navajo	Athapaskan	<b>mósi</b>	Young & Morgan (1980)
Hopi	Uto-Aztecan	<b>móosa</b>	Bright (1960)
Tarahumara	Uto-Aztecan	<b>musa</b>	Kiddle (1964)
Zuni	isolate	<b>muusa</b>	Bright (1960)
Keres	Keresan	<b>múús</b>	Bright (1960)
Tewa	Kiowa-Tanoan	<b>múúсах</b>	Bright (1960)
Comecrudo	isolate	<b>mús, móós</b>	Kiddle (1964)
Wayuu	Arawakan	<b>musa</b>	Kiddle (1964)
Quechua	Quechuan	<b>musha</b>	Kiddle (1964)
Caddo	Caddoan	<b>míst'uh</b>	Brown (1998)
Cherokee	Iroquoian	<b>wesa</b>	Brown (1998)

TABLE 5. OTHER WORDS FOR 'CAT'.

As shown in Table 5, forms for 'cat' seem to be similar across large areas in the Americas. Kiddle (1964) lists several dozen more Central and South American languages with forms derived from Spanish *mozo* or *miso*. Kiddle (1964:300) also includes a quote from an early Spanish source on the origins of these borrowings:

Tampoco había gatos de los caseros antes de los españoles, ahora los hay, y los indios los llaman Micitu porque oyeron decir a los españoles, miz, miz cuando los llamaban y tienen ya los indios introducidos [sic] en su lenguaje este nombre micitu para decir gato. Digo esto porque no entienda el español que por darles los indios nombre diferente de gato los tenían antes...

'Nor did they have housecats before the Spaniards; now they have them, and the Indians call them Micitu because they heard the Spaniards say,

*miz*, *miz* when they called them and already the Indians have introduced into their language this name micitu to say cat. I say this because I do not understand the Spanish that gave the Indians a different name for cat than they had before...’

This parallels the *piš* borrowings of some of the Sahaptian languages, where the borrowing is based on the sound the Europeans used to call the cat, rather than their word for the animal.

## 5. CONCLUSIONS.

Given the disparity even within linguistic families in the northern United States and Canada, it seems unlikely that the similarities in the words for ‘cat’ would be due to genetic relatedness or separate borrowings. Like languages of the southern United States and Central and South America, northern languages appear to have the same diffused borrowing over a large geographic area. As shown by phonological mapping of loanwords and the lack of regular sound changes in borrowed words, at least some of the borrowings could not have been directly from English, but rather were borrowed from other indigenous languages. This type of areal diffusion explains why the forms in disparate languages are so similar. The question is still open of why ‘cat’ is so different from other borrowings, but this seems to be the case throughout the Americas, where large geographic areas have very few different forms for this word.

Research into borrowings can be used to demonstrate cultural contact, both with European cultures and other American cultures. The fact that so many languages borrowed the word for ‘cat’ while coining new words for many man-made devices may tell us something about cultural perception or cognitive styles. In addition, the existence of such long-distance diffusion could possibly be used as evidence for the possibility of very large linguistic areas (see Dryer 1989 for the claim that North America should be considered a single linguistic area for purposes of language comparison and typology). While borrowings for the word ‘cat’ have been studied in most areas of North America, no comprehensive study has yet been done. A thorough overview of the entire continent would provide useful data, and could make it possible to determine isoglosses where one term ends and another begins.

## REFERENCES

- ANDERSON, STEPHEN. 1999. “Reduplicated Numerals in Salish.” *International Journal of American Linguistics* 65:407-448.
- AOKI, HARUO. 1994. *Nez Perce Dictionary*. University of California Publications in Linguistics 122.
- BARKER, M. A. R. 1963. *Klamath Dictionary*. University of California Publications in Linguistics 31.
- BATES, DAWN, THOM HESS, & VI HILBERT. 1994. *Lushootseed Dictionary*. University of Washington Press.

- BRIGHT, WILLIAM. 1960. "A Note on the Southwestern Words for Cat." *International Journal of American Linguistics* 26:167-168.
- BROWN, CECIL H. 1998. "Spanish Loanwords in Languages of the Southeastern United States." *International Journal of American Linguistics* 64:148-167.
- CAMPBELL, LYLE. 1999. *Historical Linguistics*. Cambridge: MIT Press.
- CARLSON, BARRY AND PAULINE FLETT. 1989. *Spokane Dictionary*. University of Montana Occasional Publications in Linguistics 6.
- CASAGRANDE, JOSEPH B. 1954. "Comanche Linguistic Acculturation II." *International Journal of American Linguistics* 20:217-237.
- COSTA, DAVID J. 1991. "The Historical Phonology of Miami-Illinois Consonants." *International Journal of American Linguistics* 57:365-393.
- CRIPPEN, JAMES. 2007. "Nontraditional Placenames in Tlingit." MS, University of Hawaii.
- DENZER-KING, RYAN. To appear. "Neologisms in Indigenous Languages of North America." In *Proceedings of the 11<sup>th</sup> Annual Workshop on American Indigenous Languages*.
- DRYER, MATTHEW. 1989. "Large Linguistic Areas and Language Sampling." *Studies in Language* 13: 257-292.
- DUNN, JOHN A. 1979. "Pronominal Concord in Coast Tsimshian." *International Journal of American Linguistics* 45:224-231.
- ENRICO, JOHN. 2004. "Toward Proto-Na-Dene." *Anthropological Linguistics* 46:229-302.
- ENRICO, JOHN. 1986. "Word Order, Focus, and Topic in Haida." *International Journal of American Linguistics* 52:91-123.
- FRANTZ, DONALD G. 1995. *Blackfoot Dictionary*. University of Toronto Press.
- GALLOWAY, BRENT. 1990. *A Phonology, Morphology, and Classified Word List for the Samish Dialect of Straits Salish*. Hull: Canadian Museum of Civilization.
- GRANT, ANTHONY P. 1997. "Coast Oregon Penutian: Problems and Possibilities." *International Journal of American Linguistics* 63:144-156.
- GREENE, REBECCA J. 2004. *An Edition of Snshtsu'umshtsn*. MA Thesis, University of Montana.
- HUOT, MARTHA CHAMPION. 1948. "Some Mohawk Words of Acculturation." *International Journal of American Linguistics* 14:150-154.
- KIDDLE, LAWRENCE B. 1964. "American Indian Reflexes of Two Spanish Words for Cat." *International Journal of American Linguistics* 30:299-305.
- KINKADE, DALE. 1981. *Dictionary of the Moses-Columbia Language*. Nespelem: Colville Confederated Tribes.
- KOOTENAI CULTURE COMMITTEE. 1999. *Kootenai Dictionary*.
- KUIPERS, A. H. 1983. *Shuswap-English Dictionary*. Leuven: Peeters.
- LATHAM, ROBERT G. 1862. *Elements of Comparative Philology*. London: Walton and Maberly.
- MATTINA, ANTHONY. 1987. *Colville-Okanagan Dictionary*. University of Montana Occasional Publications in Linguistics 5.
- MITHUN, MARIANNE. 1999. *The Languages of Native North America*. Cambridge: Cambridge University Press.

- MONTLER, TIMOTHY. 1997. "On the Origins of š in the Straits Salishan Languages." *International Journal of American Linguistics* 63: 289-301.
- MONTLER, TIMOTHY. 1991. *Saanich, North Straits Salish Classified Word List*. Hull: Canadian Museum of Civilization.
- NATER, H. F. 1990. *A Concise Nuxalk-English Dictionary*. Hull: Canadian Museum of Civilization.
- NEUNDORF, ALICE. 1982. "Terminology Development in Navajo." *International Journal of American Linguistics* 48: 271-276.
- NICHOLS, JOHANNA. 1971. "Diminutive Consonant Symbolism in Western North America." *Language* 47: 826-848.
- POWELL, J. V. 1990. "Chinook Jargon Vocabulary and the Lexicographers." *International Journal of American Linguistics* 56:134-151.
- SWIGGERS, PIERRE. 1985. "Munsee Borrowings from Dutch: Some Phonological Remarks." *International Journal of American Linguistics* 51:594-597.
- THOMPSON, LAWRENCE AND M. TERRY THOMPSON. 1996. *Thompson River Salish Dictionary*. University of Montana Occasional Publications in Linguistics 12.
- VAN EIJK, JAN P. 1990. "VC Reduplication in Salish." *Anthropological Linguistics* 32: 228-262.
- VOGT, HANS. 1940. *The Kalispel Language*. Oslo: I kommisjon hos J. Dybwad.