“Then” in simultaneous readings of present and past under past in Russian.
Ekaterina Vostrikova
UMass Amherst

Introduction In Russian the present tense and the past tense can receive simultaneous readings in complement clauses embedded under the past tense. However, with past-under-past like in (1) “then” is grammatical (and it really enforces the simultaneous reading) and with present-under-past like in (2) it is not, even though (1) and (2) can mean the same thing.

1) V 2009 godu Lynn skazala, četo (togda) Putin byl prezidentom
In 2009 Lynn said—PAST-PRV that (then) Putin be-PAST president-INST
In 2009 Lynn said that Putin was the president of Russia (then).

2) V 2009 godu Lin skazala, četo (*tогда) Putin Ø president.
In 2009 year-PREP Lynn say—PAST-PRV that then Putin be-PRES president.
In 2009 Lynn said that Putin was the president of Russia (*then).

In this paper I will discuss 2 possible explanations for the observed distribution of “then”. The first one is that “then” presupposes that the time it refers to is not equal to evaluation time. The second one is that “then” being anaphoric to an extensional context forces de re construal.

The puzzle The fact in (2) does not follow from the standard assumptions about the semantics of temporal adverbials and relative present (Ogihara & Sharvit (2012))

3) [[[Pres-REL1]]]w1,g,c =g(1); [[[Pres-REL1]]]w2,g,c is defined only if g(1)=t
“Then” is interpreted as a variable of type <i,t> that gets its denotation from the assignment function (4). In (2), “then” anaphorically refers to 2009.

4) [[[then1]]]w1,g,c =g(5)= λt1. t1⊆ 2009
The structure of the embedded clause is given in (5). I will assume subject reconstruction.

5) [IP [t [PRES-REL1] [vP [v′ [Λy then1] [v′ [v′ [v′ Putin is president]]]]]]]
vPs are interpreted as predicates of tense and combine with adverbial modifiers via predicate modification. The resulting predicates of tense take relative present as an argument.

The intensional verb “say” combines with the intension of its complement, that is given in (6).

6) λw2,λt2 [[[Putin PRES-REL1 then5 is president]]]w2,t2 = λw2,λt2. Putin is president in w2 at t2 and t2⊆ 2009
The predicted meaning of (2) is given in (7). This means that in 2009 Dave said that in 2009 Putin was the president of Russia. The ungrammaticality of “then” in (2) is not predicted.

7) [[[2]]]w1,g,c =∃ts. t3 < t & t3⊆ 2009 & ∀w2,t2> ∈Say-Alt (Dave, w, t3). Putin is president in w2 at t2 and t2⊆ 2009

Hypothesis 1: “then” carries a presupposition that the time interval it refers to is disjoined with the evaluation time.

8) [[[then1]]]w1,g,c = λt3. t3≠t1. (g(4)) (t3)
With these assumptions, the following intension for the embedded clause is predicted (1).

9) λw2,λt2 [[[Putin Pres-REL1 then5 be president]]]w2,t2 = λw2,λt2: t2≠t2. Putin is president in w2 at t2 and t2⊆ 2009
This includes the contradictory presupposition, thus the infelicity of “then” is predicted.

Hypothesis 2: “then” being anaphoric to a time interval in an extensional context forces de re construal, which leads to ungrammaticality.

Background: In English, present-under-past (10) gets only the so called “double access” reading. This reading requires that if what Lynn said was true (when she said this), then Putin must be the president of Russia now. “Then” is ungrammatical in (10) in English.

10) In 2009 Lynn said that Putin is the president of Russia (*then).
“Double access” is accounted for by the de re analysis suggested in (Abusch 1997) (I will follow the interpretation in (Heim 1994)). According to Abusch, referential expressions must raise out of attitude complements. The LF for (10) is given in (11). The present tense undergoes movement within the lower clause, leaving a trace t4 and creating the lambda abstraction, indicated by 4. The result of this movement is a predicate of time in the embedded clause. After that it undergoes the res-movement and becomes a sister to “say”. “Say” combines first with the
tense that has been moved from the lower clause. Then it takes the intension of the predicate of times created by the movement. After that it takes an individual (the speaker) and the time argument of the higher clause.

(11) LF: [[PAST[2][Lynn [[say PRES]4] [4 [t4 [Putin be president]…].

(12) [[say]]w,t,g,c = λt4: λQ_{x<;<t4} : λy_t4: ∃P & t4= the time z such that P(w)(t4)(z) & ∀<w,t4>_3∈Say-Alt(y,w,t4). Q(w)(t4)(the z such that P(w)(t4)(z)=T].

The resulting semantics for the entire sentence is given in (13).

(13) [[[11]]]w,t,g,c = T iff ∃P & g(4)=the time z such that P(w)(g(4))(z) & ∀<w2,t3>_3∈Say-Alt(y,w2,t3). [Lt4 : (t4=t3). Putin is the president in w2 at t4](the z such that P(w2)(t3)(z)=T)

[[[11]]]w,t,g,c is defined only if g(2)<t and g(4)∉c(time)

The upper limit constraint (the idea that an embedded tense cannot be a future directed concept) is a presupposition in (12) (bolded). Present and the time of pronunciation in the real world should stand in the same relation as the relation between the time of the presidency and the time of pronunciation in say-worlds and this cannot be “a follows b” relation. The remaining option is that the present tense surrounds the time of pronunciation. This is the double-access reading.

Problem: Even if English “then” presupposes that the time it refers to is not equal to the evaluation time, ungrammaticality of “then” in (10) is not predicted. “Then” remains in the embedded clause. The intension of the embedded clause is given in (14). The predicted meaning of (10) is given in (15). This is predicted to be felicitous.

(14) λw,tg: [[then [4 [t4 [Putin be president]…]]]w,t,g,c = λw,t: λt1: (t1>t) & t4∈t1 [Putin is the president in w at t1]

(15) [[[10]]]w,t,g,c = T iff ∃P & g(4)=the time z such that P(w)(g(4))(z) & g(4)∉2009 & ∀<w2,t3>_3∈Say-Alt(y,w2,t3). [Lt4 : (t4=t3) & t4∈t3, t4∉2009 & Putin is the president in w2 at t4](the z such that P(w2)(t3)(z)=T)

Solution: “Then” is anaphoric to an extensional context and must undergo res-movement together with tense. To move “then” together with tense, I will allow tense to take a predicate of tense (like the one denoted by “then”) as its first argument (16).

(16) [[[past2]]]w,t,g,c = λP_{<c;∉t1}. P(t1)=T and t1 = g(2) [[[past2]]]w,t,g,c is defined only if g(2)<t

Since “then” moves together with tense to the matrix clause, even if “then” does not carry any presupposition, the contrast between the acceptability of “then” in (10) and (17) is explained.

(17) In 2009 Lynn said that Putin was the president of Russia then.

The predicted meaning of the present is given (18). Since 2009 is not the context time (which is present), (18) will not pick any time.

(18) [[[press3]]]w,t,g,c = t1, t1∉2009 and t1 = g(4); [[[press4]]]w,t,g,c is defined only if g(4)∉c(time)

(19) [[[past2]]]w,t,g,c = t1, t1∉2009 (t1) and t1 = g(2); [[[past2]]]w,t,g,c is defined only if g(2)<t

Applying this solution to Russian: "togda" ("then") being anaphoric to an extensional context forces de re construal and this leads to ungrammaticality of “then” with embedded present. The unacceptability of “then” with present-under-past has the same source in Russian and in English.

A potential issue with Hypothesis 2: instead of “2009” we can use an adverbial that does refer to the context time, like “this year”. Even though the present tense resists modification by most adverbials (as shown in (20)), it can be modified by “this year” (21). However, (22) is still bad.

(20) #I am running at 5 a.m. #Obama is president in 2016.

(21) Mary is pregnant this year.

(22) #V ètom godu Maša skazala, čto Lena berevemenna togda
In this year Masha said that Lena pregnant then

#This year Masha said that Lena is pregnant then. (infelicitous in English too)

A possible explanation is that “then” does not pick “this year”, but refers the time interval during this year when Masha pronounced those words (which is in the past).
