Descriptive and Epistemic Habituality in Polish
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In Polish there are two aspectual manifestations of habituality: imperfective and perfective habituals exemplified in (1) and (2) respectively.

(1) Xiu pije mleko sojowe na śniadanie.
   Xiu drink-imp-pres-3sg milk soya for breakfast.
   ‘Xiu drinks soya milk for breakfast.’

(2) Xiu nie wypije taniego wina.
   Xiu not drink-prfv-pres-3sg cheap wine.
   ‘Xiu will not drink cheap wine.’

The goal of this paper is to explain the syntactic and semantic distinction between imperfective and perfective habituals in Polish. We claim that habitual contexts of the type presented in (1) express a descriptive situation-oriented modality (they are headed by a modal operator Hab\textsubscript{descr}) whereas the latter express an epistemic speaker-oriented habituality (they are headed by a modal operator Hab\textsubscript{epist}). We assume that descriptive habituals generalize over events on the basis of several actual instances of eventualities which form a non-accidental pattern (see Greenberg 2003). We provide evidence for a hypothesis that Hab\textsubscript{descr} is merged as a head of Hab\textsubscript{descr}P below TP, more precisely between the Mod\textsubscript{root}P (typically occupied by root modals in Polish) and AspP. This claim is supported by the observation that a morpheme instantiating descriptive habituality can be found in the scope of root modals, as shown in (3):

(3) Xiu musiała grywać na skrzypcach dla cesarza.
   Xiu must-past play-hab the violin for emperor
   ‘Xiu had to habitually play the violin for the emperor’

We assume that the habitual morpheme is independent of aspect (see Filip and Carlson 1997). Moreover, we assume that AspP is projected lower than Mod\textsubscript{root}P since in Polish unlike in Spanish and French modals do not carry aspectual morphology. In the spirit of Hacquard (2006) and Zagona (2008), we show that descriptive habitual contexts are situation-oriented in that they modify the situation predicated of the subject. Similarly to Boneh and Doron (2008, 2009) we assume that the semantics of Hab\textsubscript{descr} comprises event iteration and modality, where iteration is understood as in Kratzer (2005) as a property of V, not of the VP. Boneh and Doron represent iteration formally as the operator \textsc{ITER} which derives from P an iterative process \textsc{ITER}(P) through Link’s (1983) sum operator \(\sigma\): \(\textsc{ITER} \rightarrow \lambda P \lambda e \lambda w [P(e,w) & e=\sigma e’[P(e’,w) & e’\subset e]].\) The definition requires of each event e which satisfies \textsc{ITER}(P), first, that it satisfies P, and second, that it consists of a sum of proper subevents which satisfy P in the actual world w. The second essential component of Hab\textsubscript{descr} is a descriptive modal base. Following Hacquard (2006), we assume that the modal base is relative to an event of evaluation and not relative to the world of evaluation. We propose that the descriptive modal base picks out the worlds compatible with circumstances of an iterated event. The descriptive modal base is formulated as \(f_{\text{descr}}(e) = \lambda w’.w’\) is compatible with the circumstances of \textsc{ITER}(P), where circumstances of the iterated event are the properties of the event's participants at the event's location and time. On the other hand, we claim that Hab\textsubscript{epist} is projected in the same position in which other epistemic modals are projected in Polish, that is above TP. Our prerequisite assumption is that epistemic modals and root modals occupy a different syntactic position. The former are projected above TP and the latter below it (see Cinque 1999). This assumption is justified in Polish since in a configuration in which a modal is used together with a future tense auxiliary \textit{będzie} ‘will’ only the root and not the epistemic interpretation of the modal is available, as shown in (5):

(5) Xiu będzie musiała zagrać dla cesarza. będzie > must deontic
   Xiu will must play-perf for emperor.
   ‘Xiu will have to play for the emperor’

Moreover, epistemics scope over root modals while the reverse pattern in unobtainable, as shown in (6):

(6) Xiu mogła musieć do zrobić. (epist>root) *(root>epist)
   Xiu can-past must this do
   ‘It is possible that Xiu had to do this.’

We provide evidence that Hab\textsubscript{epist} found in perfective habituals patterns with epistemic modals in several respects. First, perfective habituals are speaker-oriented in that they describe the speaker's subjective attitude toward the factuality of the proposition. For instance, the perfective habitual statement in (2) is true in virtue of a speaker's conviction that Xiu is a lady and her courtly manners do not allow her to drink cheap wine. When we embed the perfective habitual statement, the subjective conviction is oriented
In order to account for the interaction of aspect with Habit with respect to the evaluation time given by Tense. Perfective aspect locates the time of the event within the predicate P does not consist of a sum of proper sub events which also satisfy P. Habit (cf. Klein 1994). We provide arguments to support our claim that perfective aspect in Slavic, apart from reference time, while imperfective aspect locates the reference time within the temporal trace of an event compatible with the circumstances of the iterated event are universally quantified over. This requirement (2009) Modal and Temporal Aspects of Habituality, in M. Rappaport-Hovav, E. Doron and I. Sichel (eds.) maps a predicate of events onto a predicate of times by locating the temporal trace of the event semantics of perfective and imperfective aspect which existentially quantifies over an event variable and function which picks out the set of propositions consistent with speaker’s beliefs. Along these lines, we relative to the attitude verb. Hacquard proposes that the speech event is associated with a CONTENT(e) function which picks out the set of propositions consistent with speaker’s beliefs. Among these lines, we claim that Habit in perfective habituals has an epistemic modal base which has an event pronoun, which has to be bound by an event binder that has CONTENT. The epistemic modal base is formulated as $f_{\text{epist}}(e) = \lambda w'. w'$ is compatible with CONTENT(e). This account further predicts why only epistemic habitual statements can be expressed by means of both perfective and imperfective aspect whereas descriptive habituals can be expressed by means of imperfective aspect only, as shown in (8) and (9) respectively.

(8) a. Xiū nie wypije taniego wina. (plausible as epistemic habitual)
   Xiū not drink-perf-pres-3sg cheap wine.
   ‘Xiū will not drink cheap wine.’

b. Xiū nie pije taniego wina. (plausible as epistemic habitual)
   Xiū not drink-prfv-pres-3sg cheap wine.
   ‘Xiū will not drink cheap wine.’

(9) a. Xiū pije mleko sojowe na śniadanie. (plausible as descriptive habitual)
   Xiū drink-imp-pres-3sg milk soya for breakfast.

b. #Xiū wypije mleko sojowe na śniadanie.(implausible as descriptive habitual)
   Xiū drink-perf-pres-3sg milk soya for breakfast.
   ‘Xiū drinks soya milk for breakfast.’

In order to account for the interaction of aspect with Habit and Habitual we adopt Kratzer’s (1998) semantics of perfective and imperfective aspect which existentially quantifies over an event variable and maps a predicate of events onto a predicate of times by locating the temporal trace of the event $\tau(e)$ with respect to the evaluation time given by Tense. Perfective aspect locates the time of the event within the reference time, while imperfective aspect locates the reference time within the temporal trace of an event (cf. Klein 1994). We provide arguments to support our claim that perfective aspect in Slavic, apart from locating a temporal trace of an event within a reference time, requires that an event $e$ which satisfies a predicate $P$ does not consist of a sum of proper subevents which also satisfy $P$. Habit takes a proposition as its complement and it requires that it is true in all the worlds provided by the epistemic speaker-oriented modal base without imposing any requirements on the nature of the event expressed in the proposition. By contrast Habit requires that the input event is iterated and only these worlds which are compatible with the circumstances of the iterated event are universally quantified over. This requirement of Habit for the iterated event makes it incompatible with the semantics of perfective aspect.

References: