1. THEORETICAL ISSUE OF THE TALK. Formal semantics introduced the idea of compositionality, first suggested in (Frege 1892), into research on the aspectual meanings of a clause. The theories of aspectual composition (Krifka 1986, 1992, 1998; Verkuyl 1999, 2001, 2002; Filip 1999; Partee 1995; Dowty 1988, 1991) have shown that the telicity feature of a clause is derived from the similar features of its constituents. These appear to be the feature of the quantification of the internal object, and of the event type of the verb (dynamic or stative). The classic approach in (Vendler 1967) suggests that the entire set of aspectual features is pre-determined for each verb in the lexicon; in more modern approaches, by contrast, the idea of compositionality constitutes a significant difference vis-à-vis the Vendlerian conception.

Predication (1a) is atelic, and (1b) is telic, as is proved by the tests with durative adverbials.

(1) English
   a. John ate [apples]_{–QUANT} {for three hours/*in three hours}.
   b. John ate [the apples]_{+QUANT} {*for three hours/in three hours}.

The change of telicity features seen in (1) seems unexplainable in terms of Vendler’s aspectual classes. In the compositional framework it is argued that this change takes place because of the difference between the quantificational features of the internal objects in (1a) and (1b). Nowadays there are two main theories that address this issue: the PLUG theory developed by Henk Verkuyl and the mereological approach of Manfred Krifka. These theories analyze the quantificational properties of the internal object in different ways. I now present the main ideas of the two theories.

1.1. THE PLUG THEORY, HENK J. FERKUYL (1999, 2001, 2002). The main assumption of this theory is that every constituent of the predication is provided with a feature that is able to change its value and may be either positive or negative.

   Thus each of the predicate’s arguments is provided with the $[\alpha\text{SQA}]$ feature opposition, ‘Specified Quantity of A’, where A is the denotation of the head noun. Such NPs as a house, two houses, the houses are $[+\text{SQA}]$, while NPs like houses, milk are $[-\text{SQA}]$.

   The verb is provided with the $[\alpha\text{ADDTO}]$ feature opposition, ADDitivity of the situation described by the verb; normally, non-stative (dynamic) verbs are specified as $[+\text{ADDTO}]$, while dynamic verbs are $[-\text{ADDTO}]$.

   Finally, on the VP and on the predication as a whole, there is a feature $[\pm \text{T}]$, Terminativity, which in fact provides the telicity of the predication. Thus in Verkuyl’s theory the structure of the predication is as in Figure 1.

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S[±t₆]
   /     \     \
  NP[±sqₐ]  VP[±tᵥₚ]
      /     \        /     \      \
     V[±addto]      NP[±sqₐ]
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Figure 1
The value of \([\pm T]\) is not pre-assigned from the beginning (like the other features in the tree), but rather is calculated from daughter nodes by the Plus Principle (Verkuyl 2001: 23): \textit{the value of }\([\pm T]\) \textit{is positive iff the values of all the other features in the tree are positive.}

1.2. MERELOGICAL APPROACH, MANFRED KRIFKA (1986, 1992, 1998). M. Krifka captures the difference between telic and atelic predicates and predications by means of the notions \textit{cumulativity} and \textit{quantization}. His theory is called the \textit{mereological approach}.

A predicate is termed \textit{cumulative} if it is additive, i.e. if, whenever it applies to the entities \(x\) and \(y\), it also applies to the sum \(x \oplus y\). If the predicate does not possesses this property, it is termed \textit{quantized}.

(i) \textit{additivity}

\[ \text{ADD}(P) \equiv \forall x \forall y[P(x) \land P(y) \rightarrow P(x \oplus y)] \]

Cumulative predicates must also have the property of divisivity: a predicate is divisive iff whenever \(P\) applies to \(x\), then it must also apply to any \(x'\) that is properly included in \(x\).

(ii) \textit{divisivity}

\[ \text{DIV}(P) \equiv \forall x \forall x' \subset x[P(x) \rightarrow P(x')] \]

Some examples of cumulative predicates: \textit{voda} (Russ. ‘water’), \textit{apples, du sucre} (Fr. ‘sugar’), etc. Examples of quantized predicates: \textit{the apples, dom} (Russ. ‘house’), \textit{a cup}.

Events appear to work in the same way. The verbal predicate \textit{speak} is cumulative, because it is true that if the event \(e\) is \textit{speak} and the event \(e'\) is \textit{speak}, then \(e \oplus e'\) is also an event of speaking. On the other hand, the verbal predicate \textit{flash} is quantized, because the event \(\text{flash} \oplus \text{flash}\) is not an event of flashing.

Thus Krifka formulates the following generalization: \textit{a predicate is atelic iff it is cumulative; a predicate is telic iff it is quantized.}

Further research has led to the adoption of the notion \textit{incrementality}. A predicate is incremental if it stands in one-to-one relation with its arguments. Thus, the event \textit{eat apples} is incremental, because when someone eats apples, each part of this situation corresponds to the portion of apples that have been eaten at the moment. When the entire denotation of the argument \textit{apples} disappears, the situation will be naturally terminated. The internal object (\textit{apples}) is called the \textit{gradual patient} (Krifka 1986, 1992), or the \textit{incremental theme} (Dowty 1988, 1991).

Finally, the principle of aspectual composition is formulated: An episodic verb (in sentences denoting single eventualities) combined with a quantized Gradual Patient argument yields a quantized complex verbal predicate, while with a cumulative Gradual Patient argument it yields a cumulative complex verbal predicate (Filip 1991: 94).

2. DATA. Aspectual composition in French, German and most Turkic and Nakh-Daghestanian languages is similar to aspectual composition in English; this is illustrated in (1).\(^1\)

(2) French

\begin{verbatim}
 a. Jean a=mangé [les pomme-s] {*pendant 3 heures / en 3 heures}.
 Jean AUX=eat DEF apple-PL {*for 3 hours / in 3 hours}.
 ‘Jean ate the apples.’
\end{verbatim}

\(^1\) GLOSSES AND ABBREVIATIONS. ACC = accusative, ATI = atelic interpretation, AUX = auxiliary verb, DEF = definite article, DUR = durative, \(f\) = finite stem, INDEF = indefinite article, IPFV = imperfective, \(o\) = objective conjugation, PF = perfective, PL = plural, PLo = plural of the object, PST = past, \(s\) = subjective conjugation, TI = telic interpretation.
b. Jean a=mangé [des pomme-s] {pendant 3 heures/*en 3 heures}.
Jean AUX=eat INDEF apple-PL {for 3 hours/* in 3 hours}.
   ‘Jean ate apples.’

However, there are languages where the data cannot be analyzed in terms of the theories presented in section 1 and which thus require further theoretical elaboration. In Russian the interaction of the telicity and quantization features is not the same as in English: if a Russian predication is quantized, its internal object is subject to universal quantification. Thus, in (3) the reference of the NP jawloki ‘(the) apples’ is specified “by context” (SQA = Specified Quantity of A (Verkuyl 1999)).

(3)  on s-je-l [jablok-i] [+SQA].
   he PF-eat-PST apple-PL
   ‘He ate the apples.’

An upgrade of the theory was suggested by H. Verkuyl. He posits that in Russian the scope of the perfective prefix is the whole VP, including the internal object. M. Krifka offers another solution: the prefix is analyzed as a lexical quantifier whose scope is the incremental theme. But neither approach seems able to explain the data in (4).

(4) Russian
      Boris PF-draw-PST square-PL
      ‘Boris drew squares.’
   b. Boris pro-pe-l pes’n-i vesj den’.
      Boris PF-song-PST song-PL all day
      ‘Boris sang songs all day.’
   c. Boris s-jed-a-l každij d’en’ tarelk-u fasol’-i. ATI
      Boris PF-eat-IPFV-PST every day plate-ACC bean-GEN
      ‘Every day Boris ate a plate of beans.’

   In (4a) there is a prefix po on the VP; however, it does not provide telicity, but seems to be expressing the function of singling out a part of an event.
   In (4b) the situation is about the same as in (4a), but pro with scope over the VP requires the object all day.
   In (4c) we have a set of subevents eat a plate of beans, which is interpreted as atelic.

   These problems were discussed by S. Tatevosov (2002 and 2003).

   In Hungarian the verbal prefix applies to the incremental theme and subjects it to universal quantification, as illustrated in (5d), where the NP of the internal object is not definite and so is not quantized.

(5) Hungarian
   a. almá-k-at evett.
      apple-PL-ACC eat.PST.s
      ‘He ate apples.’
   b. az almá-k-at ette.
      DEF apple-PL-ACC eat.PST.o
      ‘He was eating the apples.’
   c. az almá-k-at meg-ette. TI
      DEF apple-PL-ACC PF-eat.PST.o
      ‘He ate the apples.’
   d. *almá-k-at meg-evett.
      apple-PL-ACC PF-eat.PST.s
In Nenets the interaction between the properties of the predicate and its arguments is the same as in Russian and Hungarian; the internal object is also universally quantified. However, telicity is not triggered by a prefix as in Russian, but rather it is atelicity that is triggered by the durative marker, as illustrated in (6b). Here there is neither operator nor quantifier with scope over the VP, so neither Verkuyl’s nor Krifka’s theory seems able to explain why a Nenets predication should be (a)telic.

(6) Nenets
   a. pida knJiga tolej-da(-sJ)
      he book.ACC.PL read.PLo-3SG(-PST)
      ‘He read the books.’
   b. pida knJiga tola-imbJi-da(-sJ)
      he book.ACC.PL read-DUR.f-3SG(-PST)
      ‘He read books.’

3. CONCLUSION. The theories discussed in this talk seem to predict a great many facts in different languages. It appears, however, that there is some data that cannot be analyzed by the theories of aspectual composition. It seems that these theories must be modified significantly if they are to predict correctly the telicity of predications in languages such as Nenets.

REFERENCES