

TENSE SEQUENCE IN FRENCH TEMPORAL CLAUSES

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It has been more or less recognized for some time that there is a certain sort of relationship existing between the tense of the verb in a dependent clause and that of the verb found in the main clause of a sentence. In temporal sentences, the tense of the verb of the temporal clause may exhibit simultaneity, anteriority, or posteriority with respect to the main clause, as seen in the French sentences (1) through (3).

(1) *Quand il arrivera, tout le monde sera content.*

When he arrives, everyone will be happy.

(2) *Quand il a eu envoyé sa lettre, il est entré chez lui.*

When he had sent his letter, he went home.

(3) *Après que vous aurez parlé, il partira.*

After you have spoken, he will leave.

Temporal sentences using *quand* are of particular interest in that they may normally show either simultaneity of the two clauses or anteriority of the *quand* clause, while most other temporal conjunctions are limited to only one time relationship with respect to the main clause. In sentence (1) above the *quand* clause exhibits simultaneity with respect to the main clause, while in (2) the *quand* clause is anterior to the main clause. This may be illustrated even more clearly by sentences (4) and (5) in which the only difference is the tense of the verb in the *quand* clause.

(4) *Quand Etienne quittera l'université, il rentrera chez ses parents.*

When Steven leaves the university, he will go home to his parents.

(5) *Quand Etienne aura quitté l'université, il rentrera chez ses parents.*

When Steven has left the university, he will go home to his parents.

A simultaneity existing between the main clause and the temporal clause is usually exemplified by a total identity of the tense between the two clauses as shown in sentences (6) and (7).

- (6) *Je lirai quand vous écrirez.*

I'll read when you write. (Future/Future)

- (7) *Quand elle me regarde, je me sens toujours un peu coupable.*

When she looks at me, I feel a little guilty. (Present Indicative/Present Indicative)

In past sentences, however, the simultaneity may be shown by the use of a combination of tenses such as the compound past and the imperfect together, rather than by a total identity of tenses. Thus in sentence (8) the compound past is used together with the imperfect, while in (9) both verbs are in the imperfect.

- (8) *Quand le rideau s'est levé, les deux femmes parlaient avec animation.*

When the curtain went up, the two women were speaking with animation.

- (9) *Quand les deux femmes parlaient avec animation, elles semblaient si contentes.*

When the two women spoke with animation, they seemed so happy.

Since simultaneity is usually indicated by an identity of tenses, we will here regard these as identical forms altered by a late transformation.

Anteriority is normally represented by the presence in the *quand* clause of the perfect equivalent of the tense in the main clause, as can be seen in sentences (10) through (12).

- (10) *Quand il sera arrivé, tout le monde le saluera.*

When he arrives, everyone will greet him. (Future Anterior/Future)

- (11) *Quand il a terminé son travail, il rentre chez lui.*

When he finished his work, he went home. (Compound Past/Present Indicative)

- (12) *Quand il a eu lu la lettre, il l'a donnée à son ami.*

When he had read the letter, he gave it to his friend. (Past Surcomposé/Compound Past)

The problem of the selection of the proper tenses in French temporal clauses can be handled adequately within a transformational grammar. The rules in (13) are assumed in the description of auxiliaries.

- (13) (a) $S \rightarrow NP + PredPh$
- (b) $PredPh \rightarrow AUX + \left\{ \begin{array}{l} VP + \left\{ \begin{array}{l} (Place) \\ (Time) \end{array} \right\} \\ \text{\textit{\textit{être}}} + Attr \end{array} \right\}$
- (c) $VP \rightarrow V + (NP)$
- (d) $AUX \rightarrow TPS + (PRFT)$
- (e) $TPS \rightarrow (R) + \left\{ \begin{array}{l} PRST \\ IMPFT \end{array} \right\}$
- (f) $Time \rightarrow \begin{array}{l} Conj \\ [+T] \end{array} + S$
- (g) $Conj \begin{array}{l} [+T] \\ \rightarrow \left[\begin{array}{l} \pm Simultaneous \\ \pm Indicative \end{array} \right] \end{array}$
- (h) $[-Simultaneous] \rightarrow [\pm Anterior]$

These rules provide a complete description of all of the basic verb tenses, that is, all of the indicative tenses with the exception of the simple past and its compound, the past anterior, which will be here disregarded since they are characteristic of only the written language. Subjunctive, imperative, and surcomposé forms are not considered basic verb forms and are to be introduced by transformation. The segment R in these phrase structure rules represents the verb forms which traditionally are considered to be formed on the infinitive stem, namely the future and conditional forms. The possibilities for the tenses under rule (e) are enumerated in (14).

- (14) PRST = Present Indicative
- IMPFT = Imperfect
- R + PRST = Future
- R + IMPFT = Conditional
- PRST + PRFT = Compound Past
- IMPFT + PRFT = Pluperfect
- R + PRST + PRFT = Future Anterior
- R + IMPFT + PRFT = Conditional Anterior

The node PRFT is expanded by a late transformation into either *\textit{\textit{être}}* + PP or *\textit{\textit{avoir}}* + PP. Temporal conjunctions are classified according to whether or not they indicate simultaneity, anteriority or posteriority as well as whether they are followed by the indicative or the subjunctive. Prepositional phrases and adverbs are assumed to be derived from sentences by transformation much as adjectives are derived

from relative clauses.

A number of transformations applying as a unit appear to account for the sequence of tenses in temporal sentences. The first of these transformations is of the form (15)

(15)	W	-	Aux	-	X	-	Conj	-	Y	-	Aux	-	Z
							+T +ind						
	1		2		3		4		5		6		7
SC:	1		2		3		4		5		2		7

and would account for the general similarity of tenses found in all indicative temporal clauses. After application of this transformation, the auxiliaries in both the *quand* clause and in the main clause will be identical. Subjunctive temporal clauses are to be treated by expanding the general subjunctive transformation to include not only

QU but $\begin{matrix} \text{Conj} \\ [+T] \\ [-ind] \end{matrix}$ as well. If there is a simultaneity existing between

the verbs in both clauses, no other transformations in this group need apply. In instances in which the temporal clause is anterior to the main clause, as in many *quand* sentences including (2), (5) and (6) above, a transformational rule of the form (16) would apply to the output of (15).

(16)	W	-	Conj	-	Y	-	Aux	-	(Av)	-	V	-	Z
			+T +ant								[ant]		
	1		2		3		4		5		6		7
SC:	1		2		3		4+PRFT		5		6		7

Finally, instances in which the temporal clause is posterior to the main clause, as in sentence (3) above, would be described by rule (17).

(17)	W	-	Aux	-	X	-	Conj	-	Y	-	Aux	-	Z
							+T -ant +ind						
	1		2		3		4		5		6		7
SC:	1		2+PRFT		3		4		5		6		7

Since the distinction between simultaneity and posteriority is neutralized in the subjunctive, rule (17) applies only to indicative temporal clauses.

A temporal sentence might contain a sentence embedded between

the main clause and the temporal clause under study, as shown in sentences (18) through (21).

- (18) *Je savais qu'il avait raison quand il avait répondu à la question si nettement.*

I knew he was right when he answered the question so clearly.

- (19) *J'enverrai la lettre que mes parents attendent quand je l'aurai écrite.*

I'll send the letter that my parents are waiting for when I have written it.

- (20) *Quand j'aurai le temps, je lirai encore un livre qui m'intéressait quand j'étudiais à l'université.*

When I have the time, I will reread a book that interested me when I was studying at the university.

- (21) *Quand on l'a interrogé, il a dit qu'il avait eu peur quand son ennemi avait tiré.*

When they questioned him, he said that he was afraid when his enemy fired.

In order to account for this phenomenon, some conditions must be placed upon the contents of X and Y. It was found that embedded sentences in X and Y are always commanded by the conjunction QU. Consequently a condition can be placed upon the operation of these transformations so that the X and Y may contain either an S or a temporal conjunction if and only if the S or temporal conjunction involved is commanded by QU.

Since a definite relationship exists between the choice of the temporal conjunction and choice of the verb, these rules must have the additional ability to discard any sentences containing temporal clauses in which the temporal conjunction and the verb do not show an identity of values for the feature [anterior]. This will prevent generation of sentences such as (22).

- * (22) *Pendant qu'il avait mangé, l'étranger l'examinait d'un oeil menaçant.*

Due to the nature of the sequence of tenses, the rules above must be obligatory rather than optional.

It is essential to locate this series of transformations hereafter called the tense sequence transformations in the order of application of transformations. The most obvious example of ordering involves their application before the morphological rules for verbs. Since the transformations involve a substitution of tense forms found in the main clause for those present in the temporal clause, they must

apply before the morphological rules. The order of the tense sequence transformations with respect to other transformations, particularly the subjunctive transformation is of more interest.

It can be shown that the tense sequence transformations must apply before the subjunctive transformation in that if the subjunctive transformation were ordered before the tense sequence transformations, the following difficulty would result in the generation of the sentence (23).

(23) *Pierre désire que Jean pleure quand Marie aura bu.*

Peter wants John to cry when Mary has drunk.

After the subjunctive transformation, the structure would be represented by (24). If the tense sequence transformations were now applied to this structure, the node SUBJ would replace AUX in the *quand* clause yielding eventually the incorrect (25).

* (25) *Pierre désire que Jean pleure quand Marie boive.*

Further, if the tense sequence transformations were somehow blocked and did not apply, sentence (26), which is grammatical, would result.

(26) *Pierre désire que Jean pleure quand Marie a bu.*

Peter wants John to cry when Mary has drunk.

However, there is no way in which sentence (23) can be derived from (24). The only means of deriving the verb form *aura bu* by these transformations is by applying the subjunctive transformation after the tense sequence transformations so that *pleurer* is preceded by an AUX dominating either R + PRST or R + PRST + PRFT instead of dominating SUBJ.

The ordering of these transformations with respect to the subjunctive transformation also illustrates the fact that these transformations must apply in the cycle. Consider sentence (27).

(27) *Je regrette que tout le monde se querelle quand Pierre
aura ordonné que Jean pleure quand Marie boira.*

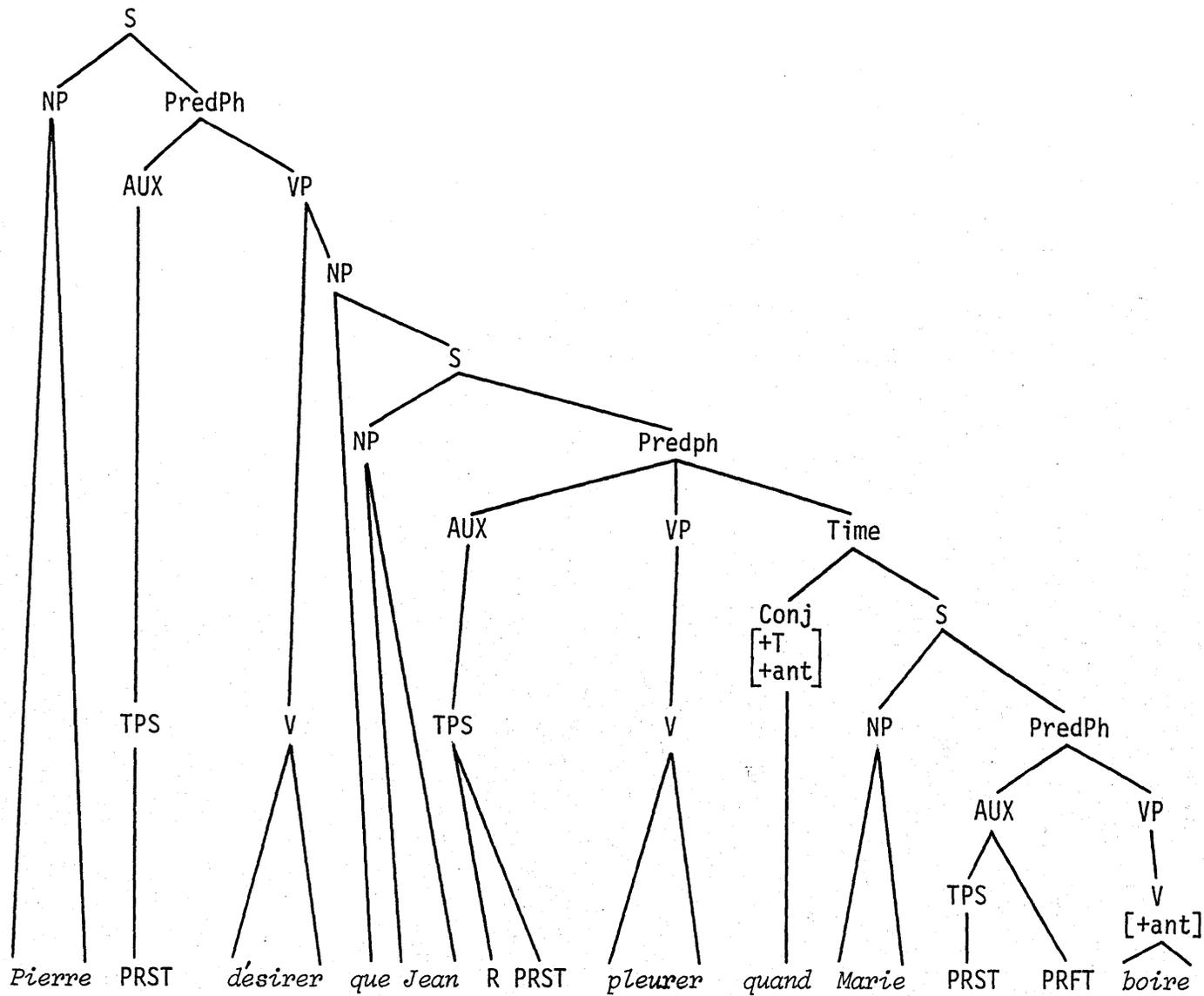
I am sorry that everyone will argue when Peter orders John to cry when Mary drinks.

This sentence requires two separate applications of the temporal tense sequence transformations as well as two separate applications of the subjunctive transformation. Further, in order to generate this sentence, they must apply in the order given in (28).

(28) TENSE SEQUENCE TRANSFORMATIONS

SUBJUNCTIVE TRANSFORMATION

(24)



(28) TENSE SEQUENCE TRANSFORMATIONS
 cont.
 SUBJUNCTIVE TRANSFORMATION

Since multiple applications of both of these sets of transformations must occur in the order given in (28), it would follow that both of these sets of transformations appear in the transformational cycle.

Finally these transformations are intrinsically ordered with respect to the adverb preposing transformation in that only temporal sentences which have not undergone adverb preposing are in a format which makes them eligible for these transformations. While the structural description of these transformations could be altered to allow for the possibility of a *quand* clause preceding the main clause as well as following it, no reason was found to do so.

This description appears to describe adequately the normal sequence of tenses in temporal sentences, particularly *quand* temporal sentences. Since the problem of tense sequence in temporal clauses exists not only in French, but rather is present in many languages, it is possible that the study of tense sequence in temporal clauses might reveal certain tendencies leading to linguistically significant generalizations. This paper, then, is only a beginning in the study of the intricate problems of tense sequence and illustrates that much more research in this area is essential before any grammar describing the verb phrase can be considered complete.

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