

# Treatment Automatic: Semantics Analysis and Traduction of the Frozen Expression with Nooj

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## ABSTRACT

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The purpose of this article is to define more closely the notion of freezing which, despite numerous publications in the field, remains a vague concept. The reflections are the result of a research project that aims to build an almost exhaustive database of fixed verbal expressions in English. After a review of the essential properties of the expressions, it is indicated why each of these criteria is problematic. One of the major problems lies in the existence of related phenomena: from a semantic point of view, fixed expressions participate in the general phenomenon of polysemy, lexical solidarity brings them closer to collocations and finally, morphosyntactic fixity is present in many fixed sentences that are conversational routines and even partly in so-called free syntax.

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## 1. Introduction

The automatic processing of natural language (TALN) or languages (TAL) is a discipline at the border of linguistics, data processing and artificial intelligence, which concerns the application programs and techniques of data processing to all aspects of human language. The TAL or TALN is sometimes called linguistic engineering

Automatic Language Processing (T A L) is a multidisciplinary field of research that belongs to the field of artificial intelligence (I A). It makes collaborate linguists, computer scientists, logicians, psychologists, documentalists, lexicographers or translators.

T.A.L. is also a socio-economic reality, with companies and specialized products like spelling correctors, translation software, voice dictation ...

With the increasing computerization of activities, the fields of application of T.A.L. are more and more numerous; even if its share varies according to the activities: low for cars "talking" or information synthesized, average for word processing programs with built-in corrector, important for "smarter" applications such as translation or summary automatic.

NooJ, presents features specifically designed for language teaching and linguistics. NooJ takes over

some features of INTEX [Silberztein99], improving them and adapting them to the development of educational activities.

## **2. Keyzords**

### **2.1. Frowen expressions**

the congestion is the process who gives us the possibility to designated a group of words whose elements are indissociable

The congestion is characterized by loss proper sense of the elements constituting the group of words, which appears like:

A new lexical unit,

Autonomous and full-sense

Regardless of its composents

The studies on congestion "have made it possible to highlight the fact that we are in the presence of one of the most important phenomena of the natural languages, which presents, for the automatic treatment, an obstacle as important as the polysemy, for example

Nooj

NooJ is a development environment used to construct large-coverage formalized descriptions of natural languages, and apply them to large corpora, in real time. The descriptions of natural languages are formalized as electronic dictionaries, as grammars represented by organized sets of graphs.

NooJ supplies tools to describe inflectional and derivational morphology, terminological and spelling variations, vocabulary (simple words, multi-word units and frozen expressions), semi-frozen phenomena (local grammars), syntax (grammars for phrases and full sentences) and semantics (named entity recognition, transformational analysis). In effet, NooJ allows linguists to combine in one unified framework Finite-State descriptions such as in XFST, Context-Free grammars such as in GPSG, Context-Sensitive grammars such as in LFG and unrestricted grammars such as the ones developped in HPSG.

NooJ is also used as a corpus processing system: it allows users to process sets of (thousands of) text files.

Typical operations include indexing morpho-syntactic patterns, frozen or semi-frozen expressions (e.g. technical expressions), lemmatized concordances and performing various statistical studies of the results.

## **3. Research goal**

The objective of this work is to traduction the frozen expressions with Nooj « arabe-english », he is a important subject of reserch.

## **4. Experimentation and results**

The use of fixed expressions is far from being a marginal phenomenon in languages: Mr Gross (1982 & 19884) has listed more than 40,000 in French alone, which contradicts the traditional conception that considers them as exceptions - "ignoring these constructions means ignoring a large part of the language" (Danlos 1981). But because of this frequency, a translator or learner may remain speechless: fixed expressions "cause many difficulties when learning a foreign language or when translating (whether manual or automatic). Nevertheless, they are only the subject of a few bilingual dictionaries without scientific pretensions, and they are not at the centre of comparative linguistics studies. It would therefore be of the utmost interest that bilingual glossaries of fixed expressions be developed" (Danlos 1988). To our knowledge, there are no accessible studies that have given rise to exhaustive bilingual glossaries of fixed expressions

First to translate the fixed expressions ,it will be necessary to create a dictionary after a graph then to call them with the nooj platform

**Tableau 1 : COMPARATIVE TABLE OF MORPHOLOGICAL ANALYZERS**

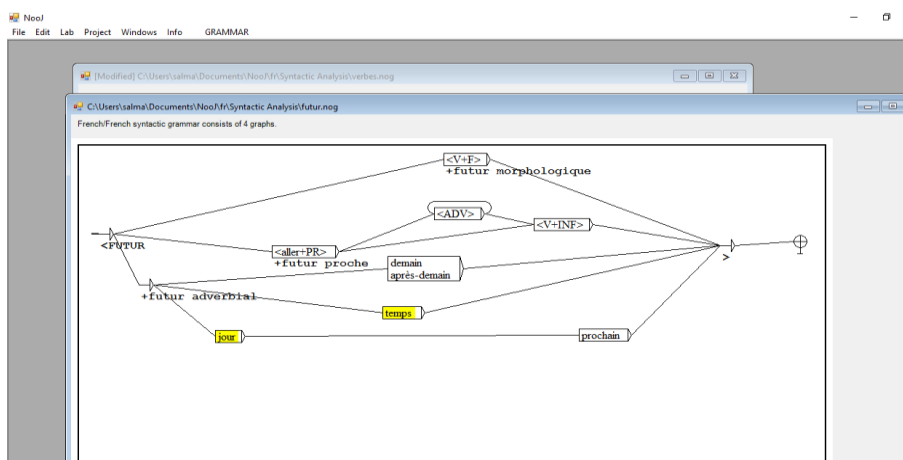
	Technologie à états finis	Génération	Voyellation	Agglutination	Désambiguïsation
David Cohen	x	✓	x	x	x
AraMorph	x	✓	✓	±	x
Xerox	✓	✓	✓	±	x
AraParse	x	x	✓	✓	±
AMSAAR	x	x	✓	✓	x
Sebawai	x	±	±	±	x
NooJ	✓	✓	✓	✓	✓

THE TABLE below explains why choosing the nooj platform as you see it, the nooj platform is perfect for different analyses and processing like de-ambiguating against xerox and david cohen

```

# NooJ V5
# Syntactic grammar
#
# Input Language is: fr
# Output Language is: fr
#
# Special Start Rule: Main
#
# Special Characters: '=' '<' '>' '\ ' ' ' ' : ' ' | ' + ' - ' / ' '$' ' _ '
#
Main = :futur_syntaxique | :futur_morphologique | :futur_adverbial;

futur_syntaxique=<V+F>;
futur_morphologique=<aller+PR> (<E>|pas|plus|jamais|guère) <V+INF>;
futur_adverbial=demain | (le mois|l'année) |<prochain>| (lundi|mardi|merc.
    
```

**Figure 1 : CREATE A DICTIONARY OF NOOJ**

**Figure 2 : MORPHOLOGICAL GRAPH OF NOOJ.**

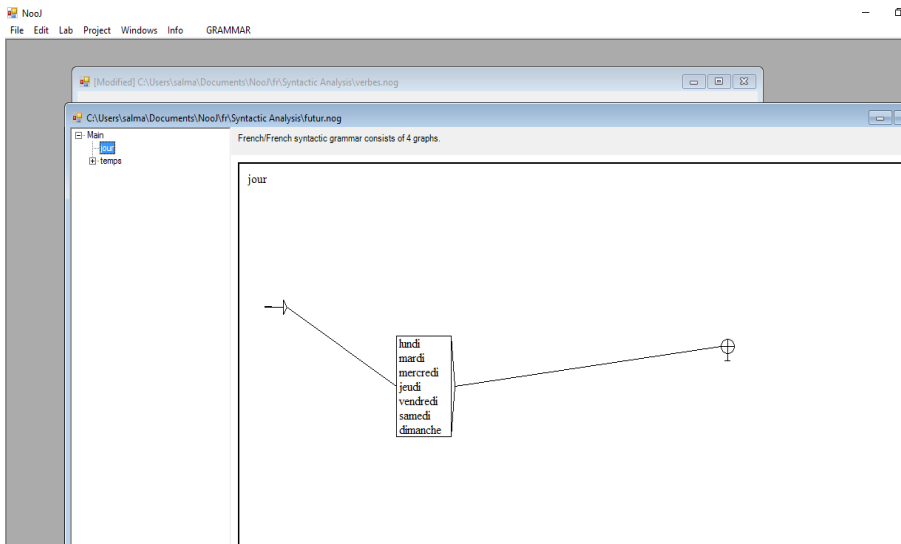


Figure 3 : GRAPH OF DATE

Text	Before	Seq.	After
est heureuse aujourd'hui, le	sera	elle toujours ? Car les	
bourdonnant comme un essaim. 'Cela	sera	donc bien beau ? demanda elle	
du Carrousel des régiments qui	vont manœuvrer	- Non, mon enfant, toutes les	
à a bon coeur, f	entraînera	peut-être à donner sa	
fait colonel. - Ma chère, Victor	restera	colonel toute sa vie. Je	
mais ! Comment espérer que vous	pourrez	vous entendre tous deux avec	
volontés différentes dont les tyrannies	seront	inconciliables ? Tu seras ou victime	
les tyrannies seront inconciliables ? Tu	seras	ou victime ou tyran. L	
si douce et modeste, tu	plieras	d'abord. Enfin tu as	
une grâce de sentiment qui	sera	astucieuse, et alors. ! Il n	
seprit il après une pause.	blessera	les naïves qualités de ta	
elle, de qui tu n	entendras	bienôt plus la voix si	
ma fille. Un jour tu	deploreras	amèrement sa nullité, son défaut	
mille autres chapitres qui te	viendront	par lui. Alors, souviens-toi	
'ange... Mais elle se se	gênera	pas lui, j'espère, de	
plus embarrassée que curieuse. 'Nous	allons donc faire	connaissance, mon cher coeur ? reprit	
peut-elle, mon neveu	subira	bienôt les inconvénients du mariage	
silence, aujourd'hui tu en	deviendras	peut-être la raison en	
apprenais les mystères que je	vois traître	Je les aurais à jamais	
de tes plus poignants regrets	viendra	du souvenir de ce que	
peignaient si délicieuses. Cette soirée	fera	ton désespoir, Louise. Dans ce	
si non heureuse, un mari te	rendra	, en peu de jours, ce	
Et même comment te le	dirai	je ? je ne me souviens	
Ma sœur, je vous le	formai	Je metrai fin au triste	
je vous le formerai. Le	metrai	fin au triste désaccord, assez	
venir ou bon lui semble ?	Demain	nous ne mangerons plus dans	
lui semble ? Demain nous ne	mangerons	plus dans cette salle, quand	
quand il ne nous y	verra	plus, le jeune gentilhomme discontinuera	
verra plus, le jeune gentilhomme	discontinuera	de vous aimer par la	
les Autrichiens et les Anglais	vont faire	leur souçon à l'illus ou	

Figure 4 : TRAITEMENT ANALYSIS OF DATE

For this experiment, WE SELECTED to analyze the text we call the present graphs to finally have the number of sentences containing the times.

## 5. Conclusion

In view of all the above, and if we accept what has long been recognised by linguistic tradition, namely that the phraseological phenomenon is to be taken in the broad sense, it seems to me that we must reasonably admit that it is illusory to find a totally "watertight" definition of the freeze. In other words, we must be satisfied with a very general definition according to which a fixed expression is a phraseological unit composed of several words, contiguous or not, which have a certain degree of semantic freezing, a certain degree of lexical freezing and a certain degree of morphosyntactic fixity. Fortunately, the case of fixed expressions is not an isolated case

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- [18] <http://pen.ius.edu.ba/index.php/pen/issue/view/18>
- [19] <http://pen.ius.edu.ba/index.php/pen/issue/view/19>

## Web sites:

1. [www.nooj4nlp.net](http://www.nooj4nlp.net)