Nouns in *-ion* and denominal verbs: can the output be explained? The case of English and French

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1 Introduction

Many studies on denominal verbs, both in French and English, have focused their analyses on the main word-formation process involved, i.e. conversion (which is by far the most productive pattern), as exemplified in Bleotu 2019; Clark & Clark, 1979; Kiparsky 1997, among others. Some tackle cases of conversion and suffixation (Huyghe, 2017; Plag 1999) while studies on prefixation are relatively scarce (Jacquey & Namer 2007)[1]. Similarly, backformation is often forgotten in these accounts on denominal verbs even though Nagano (2007: 67-68) shows that noun-to-verb and adjective-to-verb backformations are the only two productive patterns of backformation in contemporary English. Nagano (2007) offers an original account of backformation as a type of conversion, revisiting Marchand's hypothesis (1960; 1969) according to which backformation is a combination of zero derivation – to which Nagano prefers conversion – and clipping – which is unpredictable.

In this study, I would like to confront data on denominal verbs to one crucial assumption made in Nagano (2007: 59):

> *When an input has a nominal or adjectival (pseudo-) suffix (e.g.,* television$_N$*), conversion to a verb yields a categorially verbal but formally nominal/adjectival output (e.g.* television$_V$*).* ***In such cases, conversion uses clipping to remove the categorially obstructive element,*** *i.e.,* ***the (supposed) suffix, to adjust the output form to the output category.***[2]

In other words, language users try to avoid ambiguity: if a converted verbal ending clearly belongs to another category, Nagano's assumption predicts that conversion will be completed with clipping so as to delete the "obstructive element".

To question this assumption, I selected denominal verbs built on nouns ending in *-ion* in French and English. The *Oxford English Dictionary online*, along with the *Trésor de la Langue Française informatisé*, lists *-ion* as an allomorph of the *-tion* suffix. The latter is a nominalization suffix inherited from Latin in both languages with the ability to form action nouns, usually on a verbal base. In the data I collected, most cases[3] of backformations are of the type BF_?ion where "?ion" stands for any deleted material ending in *-ion*.

2 Data

I adopt here a data-driven view and the perspective is "polysynchronic": I consider each attested denominal verb at its time of coinage so as to analyse the patterns in denominal verbal word-formation processes. Consequently, I adopt an onomasiological approach as I place my

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[1] Studies on *-ize* or *-iser* suffixation are also frequent but generally focus on the morphological paradigm and as such encompass denominal as well as deadjectival verbs (i.e., Lignon 2013).

[2] My emphasis.

[3] Respectively 50% of French backformations and 42% of the English data are of the _?ion type.

analysis at the hypothetical time an innovator creates a verb from a noun in order to convey a certain meaning.

The present study is based on the data collected for an ongoing project on denominal verbs called "Vdenom". This section briefly presents the methodology used to collect both the VdenomEN and VdenomFR data from which the present data is extracted.

2.1 Collecting the data

The extraction of denominal verbs was carried out manually in four online dictionaries and one paper dictionary: namely the *Oxford English Dictionary online* and *Green's Dictionary of Slang*, for the English data, and the *Grand Robert*, the *Trésor de la Langue Française informatisé* and the *Dictionnaire historique et philologique du français non conventionnel* (Enckell 2017) for French. The resources were evaluated according to the presence of the following criteria: date of first attestation (after 1800); etymology (denominal verbs); historical data (first attested meaning). Data collection resulted in a set of 5 932 English denominal verbs attested from 1800 onwards, and 2 368 French denominal verbs coined during the same period. In the case of polysemous verbs, only the first attested meaning was selected.

2.2 Extracting the data

To explore Nagano's assumption, I randomly selected a sample of 600[4] verbs in each dataset. In the two samples, conversion is by far the most represented word-formation process accounting for 63% of the English sample and 57% of the French sample. Backformation is the second most frequent process for English (15%) while suffixation is a close third (12%). French shows a different structure as suffixation (13,5%), prefixation (13%) and backformation (12%) are all quite equally represented.

3 Data description

By applying a textual filter to the base-noun column, I selected, in both samples, all verbs deriving from a noun ending in *-ion*. This results in two subsets presented in Tables 1 and 2.

3.1 English verbs

Table 1 shows that 52 verbs, out of the 600 English sample, correspond to the criterion "base-noun ending in *-ion*". Three-quarter of them are cases of backformation while the last quarter is either a conversion (for half) or another process. The data tends to confirm Nagano's assumption that an apparent nominal suffix, such as *-ion*, will rarely be kept through verbal derivation. A closer look at the cases of conversion is however needed to understand why these cases "resisted" backformation.

Morpho1_V[5]	Morpho2_V	Count	Examples N > V
BF	BF_ion	26 (50%)	convection > convect
BF	BF_ation	10 (19.23%)	excystation > excyst
BF	BF_tion	2 (3.85%)	sorption > sorb

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[4] The choice of a 600 threshold, while partly arbitrary, is driven by the observation of the data and its structure through the modelling process.

[5] In the columns "Morpho1_V" and "Morpho2_V", which both describe the morphology of the verb, "BF" stands for "backformation", "CONV" for "conversion", "CPX" for "complex processes", "PREF" for "prefixation" and "SUFF" for "suffixation".

BF	BF_cation	2 (3.85%)	relexification > relexify
CONV	CONV	6 (11.54%)	pincushion > pincushion
CPX	BF_ion/SUFF_fy	1 (1.92%)	destruction >destructify
CPX	BF_ition/SUFF_ize	1 (1.92%)	premunition > premunize
CPX	PREF_de/SUFF_ize	1 (1.92%)	ion > deionize
PREF	PREF_pre	1 (1.92%)	tension > pre-tension
SUFF	SUFF_ize	2 (3.85%)	salvation > salvationize
TOTAL		**52 (100%)**	

Table 1. Morphology of English denominal verbs built on N-*ion*

3.2 French verbs

The situation is quite different for the French data as conversion accounts for almost a third of the 56 verbs of the sample, while backformation remains the main process (66%). This suggests that Nagano's assumption may not apply in the same way to languages other than English: either some language specific variables are needed to explain this difference, or backformation is motivated by other variables.

Morpho1_V	Morpho2_V	Count	Examples
BF	BF_ation	28 (50%)	hominisation > hominiser
BF	BF_ion	7 (12.50%)	péréquation > péréquater
BF	BF_tion	1 (1.79%)	involution > involuer
BF	BF_ction	1 (1.79)	transduction > transduire
CONV	CONV	16 (28.57%)	fusion > fusionner
SUFF	SUFF_iser	2 (3.57%)	ion > ioniser
SUFF	SUFF_aliser	1 (1.79%)	administration > administrationaliser
TOTAL		**56 (100%)**	

Table 2. Morphology of French denominal verbs built on N-*ion*

4 Discussion

The English data suggests that Nagano's assumption may be right, and that the main motivation for backformation may be to erase what could be construed as a categorial suffix other than verbal, and thus avoid ambiguity. Indeed, -*ion* and its allomorphs are clear cases of nominal suffixes. Still, the few cases of conversion in the sample suggest that other variables may play a role as backformation potential blockers, as illustrated in examples (1) to (3):

(1) lion$_V$: "to frighten, to intimidate" [GDS 2022] < lion$_N$ → prosodic blocking

(2) accordion$_V$: "To cause (a thing) to fold, collapse, etc." [OED 2023] < accordion$_N$ → conceptual blocking

(3) proposition$_V$: "To propose sexual activity, esp. of a casual or illicit nature, to (a person)" [OED] < proposition$_N$ → paradigmatic blocking

Another problem is raised with the French data: even though backformation remains the main process for this type of verbs, conversion accounts for almost a third of the data. Denasalization could easily explain this difference as it regularly applies to verbal conversion when the base-noun ends in a nasal vowel. This phonological process renders Nagano's argument void for the French data as there is no longer any ambiguity between the noun and the verb. As a result, the overwhelming presence of backformation in the French sample becomes surprising. This would suggest that backformation is indeed attracted to suffix-like endings whether or not ambiguity may occur. The motivation for backformation needs to be found elsewhere, however.

Based on these two datasets, I propose that noun prosody can either block backformation (for mono- and disyllabic base-nouns) or encourage it (for base-nouns of 5 to 7 syllables). Moreover, the data suggests that paradigmatic criteria tend to directly influence the derivation. The preexistence of a paradigm in the lexicon, such as {-ation$_N$/ -ate$_V$} or {-isation$_N$/ -iser$_V$}, will pave the way for a specific type of derivation. Paradigmatic influence can also apply on a smaller scale as in the pairs {destruction$_N$/ destruct$_V$}// {construction$_N$/ construct$_V$} or {re-revolution$_N$/ re-revolutionize$_V$}// {revolution$_N$/ revolutionize$_V$}. It appears, however, that paradigmatic influence can also have the reverse effect as is the case for (3) {proposition$_N$/ proposition$_V$}# {-position$_N$/ -pose$_V$}. This example suggests, in agreement with Lignon & Namer (2014: 13), that conversion is preferred here because of the semantic specialization of the noun and subsequent verb.

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