

MILVIA ANICI DE ALBUQUERQUE

THE ENGLISH AGENTIVE NOUNS

IN

-er, -ee, -ant, -ist, and -ian

a generative approach

Dissertação de Mestrado
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E R R A T A

- p. Symbols line 5: change lars to bars
- page 6 line 12: change -by to -ly
- page 6 line 19: change -by to -ly
- page 9 line 22: add quotation marks after forms.
- page 15 line 14: insert with after -ity
- page 20 lines 12/13: change ba-se to base
- page 22 line 16: insert semicolon after nudity
- page 29 line 12: delete by itself after word
- page 35 lines 6/7: change confu-se to confuse
- page 37 line 5: change absolate to obsolete
- page 38 line 5: change transformed to transferred
- page 40 line 19: delete moneylende
- page 44 line 10: change mortgage to mortgagee
- page 50 lines 17/18: replace character that distinguishes the -ant agents to the output with aspect that characterizes the -ant agents
- page 62 line 4: change bobby - bobbyist to lobby - lobbyist
- page 67 line 6: change than to that
- page 74 line 4: change semicolon to colon
- page 74 line 26: add (CEC) after quotation
- page 79 line 6: change ciclist to cyclist
- page 79 line 7: change profissional to professional
- page 86 line 5: change engayed to engaged
- page 89 line 10: change higly to highly
- page 89 line 15: change produtivity to productivity
- page 90 line 20: change banker in bound base column to grocer

To

my remarkable family,
a good example of concord
and team - spirit.

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TABLE OF CONTENTS

	p.
1. INTRODUCTION.....	1
1.1. Purpose.....	1
1.2. Corpus.....	2
2. THE THEORETICAL BACKGROUND.....	4
2.1. A brief survey of the study of morphology.....	4
2.1.1. Classic English Grammar: Otto Jespersen.....	4
2.1.2. American structuralism.....	5
2.1.2.1. Nida's principles of morpheme identification.....	8
2.1.3. Transformational generative grammar.....	13
2.1.3.1. The transformationalist hypothesis	13
2.1.3.2. Chomsky's lexicalist hypothesis	13
2.1.3.3. Aronoff's theory.....	14
2.2. Methodology.....	16
2.2.1. Bound bases.....	17
2.2.2. Aronoff's framework.....	20
2.2.2.1. Syntax and semantics.....	20
2.2.2.2. Morphology.....	22
2.2.2.3. Phonology.....	23
3. THE AGENTIVE NOUNS.....	25
3.1. The suffix <u>-er</u>	25
3.1.1. Syntax and semantics.....	25
3.1.1.1. Nominal base.....	26
3.1.1.2. The verbal base.....	27
3.1.2. Morphology.....	28
3.1.2.1. The nominal base.....	28
3.1.2.2. The verbal base.....	29
3.1.2.3. The bound base.....	29
3.1.3. Phonology.....	30
3.1.4. Contrasting <u>-ar</u> and <u>-or</u> : are they differ ent morphemes or graphic variants of the morpheme <u>-er</u> ?.....	31
3.1.4.1. <u>-ar</u>	32
3.1.4.2. <u>-or</u>	32
3.2. The suffix <u>-ee</u>	36
3.2.1. Syntax and semantics.....	36
3.2.1.1. Transitive verbal base.....	37
3.2.1.2. Nominal base.....	40
3.2.1.3. Intransitive or reflexive verbal bases.....	41

	p.
3.2.2. Morphology.....	43
3.2.3. Phonology	43
3.2.3.1. / i /	43
3.2.3.1.1. Stress shift.....	44
3.2.3.1.2. Stress shift and vowel change.....	44
3.3. The suffix <u>-ant</u>	46
3.3.1. Syntax and semantics.....	46
3.3.1.1. The verbal base.....	48
3.3.2. Morphology.....	49
3.3.2.1. Bases of the form Xate.....	49
3.3.2.2. Unaffixed bases.....	49
3.3.2.3. Bound bases.....	50
3.3.3. Phonology.....	50
3.3.3.1. Bases of the form Xate.....	51
3.3.3.1.1. Loss of <u>-ate</u>	51
3.3.3.2. Unaffixed bases.....	51
3.3.3.2.1. No change.....	52
3.3.3.2.2. Stress shift and vowel change.....	52
3.3.3.2.3. Loss and addition of phonemes.....	53
3.4. The suffix <u>-ist</u>	54
3.4.1. Syntax and semantics.....	54
3.4.1.1. Noun base.....	56
3.4.1.2. Adjectival base.....	58
3.4.1.3. Verbal base.....	59
3.4.2. Morphology.....	60
3.4.2.1. The nominal base.....	60
3.4.2.2. The verbal base.....	60
3.4.2.3. The bound base.....	60
3.4.3. Phonology.....	61
3.4.3.1. / <u>-ist</u> /.....	61
3.4.3.1.1. Loss of final vowel.	61
3.4.3.1.2. Addition of phonemes	62
3.4.3.1.3. Change of phoneme...	63

	P.
3.5. The suffix <u>-ian</u>	63
3.5.1. Syntax and semantics.....	63
3.5.1.1. Noun base.....	64
3.5.1.2. Adjective base.....	66
3.5.1.3. The suffix <u>-ician</u>	66
3.5.2. Morphology.....	67
3.5.2.1. Bases in Xic.....	68
3.5.2.2. Other bases.....	68
3.5.2.3. The suffix <u>-ician</u>	68
3.5.3. Phonology.....	68
3.5.3.1. / <u>-yan</u> /.....	69
3.5.3.1.1. Stress shift.....	69
3.5.3.1.2. Stress shift and vowel change.....	70
3.5.3.2. / <u>-sän</u> /.....	70
3.5.3.2.1. Stress shift.....	70
3.5.3.2.2. Stress shift and vowel change.....	70
4. CONTRASTS.....	72
4.1. Verbal base.....	72
4.1.1. [X_{vee}] _N and [X_{ver}] _N	74
4.1.2. [X_{vant}] _N and [X_{ver}] _N	75
4.1.3. [X_{vist}] _N and [X_{ver}] _N	77
4.2. Nominal base.....	80
4.2.1. [X_{Ner}] _N and [X_{Nist}] _N	80
4.2.2. [X_{Ner}] _N and [X_{Nian}] _N	82
4.2.3. [X_{Nian}] _N and [X_{Nist}] _N	83
5. CONCLUSIONS.....	87
5.1. Phonology.....	87
5.1.1. Phonology and productivity.....	87
5.1.2. Morphophonemic changes.....	88
5.2. Morphology.....	89
5.2.1. Morphology and productivity.....	89
5.2.2. Morphological conditioning.....	89
5.2.3. The problem of bound bases	89

	P.
5.3. Syntactic features.....	90
5.3.1. The <u>-er</u> suffix.....	90
5.3.2. The <u>-ee</u> suffix.....	90
5.3.3. The <u>-ant</u> suffix.....	91
5.3.4. The <u>-ist</u> suffix	91
5.3.5. The <u>-ian</u> suffix.....	92
5.4. Semantics.....	92
5.4.1. Semantics and productivity.....	92
5.4.2. Semantic contrast.....	93
5.4.3. Semantic drift.....	94
5.5. Psychological reality of morphological rules...	94
5.6. Final considerations.....	95
CHART 1: <u>-er</u>	97
CHART 2: <u>-ee</u>	98
CHART 3: <u>-ant</u>	99
CHART 4: <u>-ist</u>	100
CHART 5: <u>-ian</u>	101
APPENDIX.....	102
GLOSSARY.....	108
BIBLIOGRAPHY.....	114

S Y M B O L S

- : a hyphen before a morpheme indicates that the morpheme is a suffix, e.g. -er.
- : a hyphen after a morpheme indicates that the morpheme is a bound base, e.g. butl-.
- / / : slant lars enclose phonemic transcriptions, e. g. / myu'zɪʃən /.
A Pronouncing Dictionary of American English by Kenyon and Knott.
- ' : used in the upper space before a syllable indicates that the primary stress falls on that syllable, e.g. /'prezɪdənt /.
- , : used in the lower space before a syllable indicates that the secondary stress falls on that syllable, e. g. / ,refa'ri /.
- [X] : indicates a word unit.
- * : hypothetical forms.

A B B R E V I A T I O N S

- F & W : Funk & Wagnall's Dictionary.
- OAD : The Oxford American Dictionary.
- OED : The Oxford English Dictionary.
- WC : Webster's New Collegiate Dictionary.
- WI : Webster's New International Dictionary.
- WFR : Word Formation Rule.

1. INTRODUCTION.

1.1. Purpose.

The word formation process, particularly the principles that govern the combination of semantic elements, has long intrigued us, and is of special interest to our work in the field of translation, as we try to find equivalents and logical reasons for those combinations of bases and suffixes which are part of the inherent linguistic knowledge of the native speakers of a language.

In trying to find out how suffixes combine with different bases, we became interested in a group of suffixes which share a common characteristic: they all form nouns that indicate agency.

We soon realized that in order to elucidate the semantic differences of the suffixes, which had not yet been clearly explained or defined, a thorough study of all aspects of word formation had to be made.

We started by posing several questions, such as: Why do words such as geographer, geologist, and mathematician have different suffixes, though all of them refer to people who occupy themselves with sciences? Is the occurrence of these suffixes either phonologically or morphologically conditioned? (Our study reveals that phonological conditioning plays no role and that morphological conditioning occurs only in one instance). Moreover, do these suffixes (-er, -ist, and -ian) only attach to nouns, such as geography, geology, and mathematics, or to other parts of speech as well?

In collecting data for a corpus that would provide us with the necessary elements for working out a hypothesis that would answer these questions, we encountered

two other suffixes, -ee (as in escapee, refugee), and -ant (as in accountant, celebrant), which we added to our initial list.

At this point, our corpus revealed such pairs as copier - copyist, physicist - physician, server - servant, returner - returnee. Each pair has identical bases, therefore excluding any possibility that phonological or morphological complementary distribution might condition the attachment of one suffix or the other. Furthermore, both bases are in the same lexical category. Are these pairs then synonyms? If not, where does the difference lie?

Some other agentive suffixes came to our attention: -eer, -ster, -aster, and -ard; but it was soon evident that these four suffixes formed a distinct semantic group: all of them carried a pejorative meaning. Since the semantic distinction was so evident, we thought it better to restrict our study to the first five suffixes (-er, -ee, -ant, -ist, and -ian), leaving the pejorative suffixes for a future paper.

In carrying out our project we analyzed each of these suffixes in turn, considering their phonological and morphological behavior when added to a base, the syntactic features of this base and the meaning content of the base, of the suffix, and of the resulting combination.

In short, our purpose is to investigate whether these suffixes are variants of a single agentive morpheme or whether each one represents a distinct agentive morpheme and, if so, how one distinguishes from the other.

1.2. Corpus.

In order to assemble a corpus to work on we first collected examples in the following dictionaries:

The Oxford English Dictionary
Oxford American Dictionary

Webster's New Collegiate Dictionary
Webster's New International Dictionary
Walker's Rhyming Dictionary
Capricorn Rhyming Dictionary

This survey provided us with a large number of suffixed agents, but we also included words of contemporary usage which we came across in our readings of current novels and magazines. These consisted of terms that had not yet been lexicalized and so we could check not only the present productivity of each suffix, but also the persistence or variation of its semantic content in different words generated by the same word formation rule.

We included in our thesis words we believed to be of a larger range of occurrence, i.e. we omitted low frequency words. The complete corpus is compiled in alphabetical order in an appendix following the final conclusions.

2. THE THEORETICAL BACKGROUND.

2.1. A brief survey of the study of morphology.

The purpose of this survey is to show the different perspectives that have been directing the studies of morphology up to the present time.

We do not intend to cover the subject thoroughly, but just to show how the main trends from traditional grammar up to the present time have contributed to the development of morphology, the aspects that are relevant to our paper, that is, the structure of words.

2.1.1. Classic English Grammar: Otto Jespersen.

One of the most representative authors of classic English grammar is Otto Jespersen, who devoted a volume of his Modern English Grammar, first published in 1911, to morphology. It includes prefixes and suffixes as word formatives, but does not distinguish clearly between the ones that have a grammatical function (plural, verb inflections, comparative, etc.) and the ones that form words. That is the reason why the author includes within the functions of -s ending, meanings so far apart as the plural of nouns and the formative element in verbs such as cleanse.

In other words, though Jespersen recognizes the different meanings of the endings, he lists them regardless of the bases they are attached to and of their semantic content. For example, he assigns, the following grammatical means to the ending -en:

- 1) plural of substantives: oxen.
- 2) primary of a noun: mine, none.
- 3) adjectives from substantives: woollen.

- 4) second participle: taken.
- 5) derives causative or inchoative verbs from adjectives: sharpen, or substantives: heighten. (JESPERSEN, 1954:337)

As can be seen, he considers them all "grammatical means", not making a clear distinction between inflectional and derivational endings.

2.1.2. American structuralism.

The systematization of the morphological analysis of English came with the American structuralists who divided the analysis of the language into three levels: phonology, morphology and syntax.

The classic core of American structuralism is formed by Leonard Bloomfield, who published his Language in 1933 and by a group that published most of their productions in the late forties: Bloch, Hockett, Nida, and Harris.

HERNDON (1976: 69) is very precise in the definition of the methods used by the structuralists: "The methods of structural grammarians consist of breaking the flow of spoken language into the smallest possible units, sorting them out, and then studying the various ways in which these units are joined in meaningful combination".

"The smallest possible unit in morphology is the morpheme, defined as a group of morphs that are semantically similar and in complementary distribution. The allomorphs are the member morphs of a morpheme. They may or may not be similar in sound, but they do show a pattern of complementary distribution, that is, each has its own environment. For example, the plural morpheme in English -es has principal allomorphs /-s/, /-z/, and /-ɪz/ as in /kæts/, /dɔgz/, and /ɔrɪz/, but it also includes a few occurrences of /-ən/ as in /ɔksən/, /Ø/ or zero allomorph, as in /sɪp/, and some instances of internal

vowel change, as in /tiθ/. Thus the allomorphs of the plural morpheme -es are semantically similar (each carries the notion of more than one), and they are in complementary distribution (they do not overlap). That is, we may say oxen, but not *oxes; two teeth, but not two *tooths.

We will define other terms that are fundamental for the structuralist and for our paper. Morphemes may be either free or bound. A free morpheme is one that may stand alone, as an independent linguistic form, such as sad, run, jump, or may combine with other morphemes, as with sadly, running, jumped. Bound morphemes are those that must always appear as part of a combination of forms. Examples are - by, - ing, - ceive, - sist.

When there is a combination of morphemes, the one that carries the main semantic load is called base. Forms added to the bases and that modify their meaning are called affixes. In sadly, running, jumped, receive and consist, the bases are sad, run, jump, -ceive, and -sist and the affixes are -by, -ing, -ed, -re, and con-.

In English bases may be either free or bound⁽¹⁾ and may be differently combined. Depending on this combination we have the following kinds of words:

1) simple words: these are made up of a free base, such as house, take, strong;

2) complex words: these are subdivided into two groups:

a) those formed of a bound base + a derivational affix, such as: conceive, disturb, version.

b) those formed of a free base + a derivational affix, such as: hopeless, undo, lover.

The agentive formation, that is the subject of this paper, is included in this group.

(1) The different views concerning bound bases in word formation are discussed in Section 2.2.1.) for

3) Compound words: they are made up of a free morpheme + an other free morpheme, such as: blackboard, lookout, housewife.

Affixes, which are always bound morphemes, are called prefixes when they are added before the base and suffixes when they are added after the base.

According to their function affixes are divided into two main categories: inflectional and derivational. Inflectional suffixes adapt words to grammatical functions without changing their meaning. The referents of boy, cat, and house are not changed by adding a plural morpheme; the notion of rob, call, or miss is not changed by adding an -ed that indicates past tense.

Derivational suffixes and prefixes, on the other hand, alter the lexical meaning, often the part of speech, when they are added to another form.

So we have: happy - happiness
act - actor
paint - painter
agree - agreement.

Summing up, the word consists of a base plus an affix. Nevertheless we cannot ignore that in the spoken system there are pauses of varying length, and the suprasegmental phonemes of stress, pitch and juncture. These phonemes are called suprasegmental because they seem like an extra layer of structure, superposed on the basic segmental phonemes - the consonants and vowels.

In our paper we deal only with stress. It frequently shifts from one syllable to another when derivation occurs and in doing so causes changes in the segmental phonemes.

2.1.2.1. Nida's principles of morpheme identification.

In his Morphology: the descriptive analysis of words, first published in 1946, NIDA mentioned six principles which we may apply in isolating and identifying morphemes. They are:

Principle 1: "Forms which have a common semantic distinctiveness and an identical phonemic form in all their occurrences constitute a single morpheme." (NIDA, 1970:7).

In other words, if they have the same form and the same meaning they are a single morpheme.

Example: Such a form as -er, added to verbs as in dancer, runner, worker is a morpheme.

The -er in comparative adjectives such as wider, smaller, deeper is another morpheme.

Principle 2: "Forms which have a common semantic distinctiveness but which differ in phonemic form (i.e. the phonemes or order of the phonemes) may constitute a morpheme provided the distribution of formal differences is phonologically definable." (NIDA, 1970:14).

In other words, forms with the same meaning and different allomorphs, phonologically conditioned, are a single morpheme.

Example: In the series comparable, context, congregate, the prefix has three forms - /kam-, kan-, kaŋ-/ and their distribution is phonologically conditioned. They are allomorphs of a single morpheme.

Principle 3: "Forms which have a common semantic distinctiveness but which differ in phonemic form in such a way that their distribution cannot be phonologically defined constitute a single morpheme if the forms are in complementary distribution in accordance with the following restrictions:

1. Occurrence in the same structural series has precedence over occurrence in different structural series in the determination of morphemic status.
2. Complementary distribution in different structural series constitutes a basis for combining possible allomorphs into one morpheme only if there also occurs in these different structural series a morpheme which belongs to the same distribution class as the allomorphic series in question and which itself has only one allomorph or phonologically defined allomorphs.
3. Immediate tactical environments have precedence over nonimmediate tactical environments in determining morphemic status.
4. Contrast in identical distributional environments may be treated as submorphemic if the difference in meaning of the allomorphs reflects the distribution of these forms. (NIDA, 1970:41).

In other words, elements with the same meaning but different phonemic form in complementary distribution are a single morpheme if the restrictions above are followed.

Example: The plural forms of English nouns illustrate a number of points in the application of Principle 3. The predominant pattern of formation consists in the suffixation of /-s, -z, -~~z~~/, phonologically conditioned forms. To these may

be added the forms /-ən, -Ø/ as in oxen and sheep, which are morphologically conditioned.

There are absolutely no limits to the degree of phonological difference between allomorphs. Allomorphs may consist of very different phonemes as in the plural formatives or they may be quite similar.

Principles 4: "An overt formal difference in a structural series constitutes a morpheme if in any member of such a series, the overt formal difference and a zero structural difference are the only significant features for distinguishing a minimal unit of phonetic - semantic distinctiveness." (NIDA 1970: 54).

Example: The overt difference between foot and feet is the replacement of /ʊ/ by /i/. According to Principle 4 this replacement constitutes a morpheme.

Principle 5: "Homophonous forms are identifiable as the same or different morphemes on the basis of the following conditions:

1. Homophonous forms with distinctly different meanings constitute different morphemes.
2. Homophonous forms with related meanings constitute a single morpheme if the meaning classes are paralleled by distributional differences, but they constitute multiple morphemes if the meaning classes are not paralleled by distributional differences." (NIDA, 1970:55).

Example: Fish meaning an object and fish meaning a process are assigned to the same

morpheme, for these differences in meaning are paralleled by distributional differences: the first is a noun and the second is a verb. They occur in different grammatical constructions and with different suffixes.

In analyzing the distributions of the semantically related forms of horn designating: a) an animal's horn and b) an instrument for producing sound, it soon becomes evident that they are not in complementary distribution and so they constitute different morphemes.

Principles 6: "A morpheme is isolatable if it occurs under the following conditions:

1. In isolation.
2. In multiple combinations in at least one of which the unit with which it is combined occurs in isolation or in other combinations.
3. In a single combination provided the element with which it is combined occurs in isolation or in other combinations with nonunique constituents." (NIDA, 1970:58)

Examples:

Condition 1: On the basis of this condition we may identify as morphemes the forms which may be uttered in isolation, such as boy, run, jump, up.

Condition 2: Certain morphemes, as -er, in work, er, dancer, and provider, never occur in isolation. Nevertheless, we can identify -er as a morpheme, since the elements with which it occurs work, dance, provide may be found in isolation.

Condition 3: There are some morphemes which occur in only one combination, as cran- in cranberry, rasp- in raspberry, and cray- in crayfish. According to condition 3 of isolatability, the morphemes cran-, rasp-, and cray- are isolatable because the elements berry and fish occur in isolation or in other combinations.

In 1975, almost thirty years after Morphology: the descriptive analysis of words was published, Nida wrote The Componential Analysis of Meaning. In this volume he studies referential meaning focusing on the semantic domains of words and the components of meaning, presenting some procedures for the analysis of referential meaning.

Referential meaning is analyzed in terms of the semantic domain to which the word belongs. "Perhaps the largest single domain in any language consists of entities, or objects, whether countable (man, tree, dog, house, etc), or mass (sand, water, ice, air, etc). The next largest domain consists of events - both actions and processes - (rain, come, go, grow, etc); while somewhat smaller domains consist of abstracts: qualities (good, bad, beautiful, etc); quantities (much, few, many, etc.), and degrees (very, too, so, etc). The relationals, which primarily mark the relations between objects, events, and abstracts, are a somewhat smaller class (beside, around, with, etc) as well as the various "case" relations of agent, instrument, affected, recipients, etc." (NIDA, 1979:175).

So, in this volume, he evolved from the word segmentation in his original theory to a semantic study that follows a generative - transformational orientation.

2.1.3. Transformational generative grammar.

2.1.3.1. The transformationalist hypothesis.

Initially the transformational theory considered each word as a whole, abandoning the derivational morphology as it had been considered by the American descriptivists: a combination of elements.

The transformational theory was concerned just with general derivational processes, such as nominalizations, but gave them a syntactic approach. Sentences such as "John criticized the book" and the derived nominal "John's criticism of the book" would have their origin in the same deep structure, the latter being the result of a transformational rule.

This approach has some advantages over the previous one: on one hand the problem of the morpheme being a minimal meaningful unit is ignored and on the other hand it accounts for the semantic correspondence between verbal sentences and their derived nominals.

The transformational hypothesis, nevertheless, cannot explain all the derivational processes of the language and so Chomsky suggests the lexicalist hypothesis.

2.1.3.2. Chomsky's lexicalist hypothesis.

The lexicalist hypothesis is contained in "Remarks on Nominalization" (1970).

This paper presents a new theory of syntax, in which all of derivational morphology is isolated and removed from the syntax; it is instead dealt with in an expanded lexicon, by a separate component of the grammar. This distinction legitimizes the field of morphology as an independent entity.

Chomsky did not propose a theory of morphology; he merely suggested that there should be one, and that its properties should be very different from those of an adequate theory of syntax.

2.1.3.3. Aronoff's theory.

A theory of morphology is elaborated by Aronoff in his Word Formation in Generative Grammar first published in 1976. His theory provides "a unified account of morphological phenomena within a generative grammar." (ARONOFF, 1981:6).

According to Aronoff all word-formation processes are word-based. A new word is formed by applying a regular rule to a single already existing word and is represented as follows:

$$(1) \quad [X]_A \longrightarrow [[X]_A \ Y]_B$$

both $[X]_A$ and $[[X]_A \ Y]_B$ being free forms in the language. Thus -ment forms nouns from verbs (detachment, agreement) being both the verbs and the -ment nouns free forms in the language.

$$(2) \quad [\text{detach}]_V \longrightarrow [[\text{detach}]_V \ \text{ment}]_N$$

The regular rules referred to above are termed Word Formation Rules (WFR). Such a rule specifies a set of words on which it can operate. This set, or any member of this set, is the base of that rule. Every WFR specifies a unique phonological operation - usually the addition of some affix - which is performed on the base. Every WFR also specifies a syntactic label and subcategorization for the resulting word (the output), as well as a semantic reading for it, which is a function of the reading of the base.

Aronoff's word - based morphology is restricted to word formation and has disregarded the structure of already existing words, where the problem of assigning meaning to all the elements that make up a word would be considered.

An important matter discussed by Aronoff is the notion of productivity . "It is the root of the strange and persistent fact that, though many things are possible in morphology, some are more possible than others." (ARONOFF, 1981:35).

The author does not identify productivity with sheer number but takes into account the morphology of the base. He compares the two affixes -ness and -ity when attached to two distinct classes of base adjectives, those ending in ive (perceptive) and those ending in ile (servile). The simple list tells us that -ness is more productive than -ity the former class of bases. However this result does not carry over to the second class of bases. The number of words of the form Xility overwhelmingly exceeds that of those of the form Xileness . In the one case one suffix is more productive, in the other case the other is. Thus, there is no absolute way to say that one WFR is more productive than another. Rather, one must take into account the morphology of the base.

Generally speaking, a WFR whose general productivity is high will have few morphological restrictions on the class of bases to which it attaches. Morphological restrictions refer to the particular morphological classes to which a suffix can be added. The attachment of the suffix -ian to form agentive nouns, for example, is highly restricted to the form Xic (music - musician, logic - logician).

Summing up, Aronoff develops the notion of a Word Formation Rule as an operation on a base, accompanied by various conditions on the base. The base is a word, a member of a major lexical category. Each WFR specifies the unitary syntacticosemantic class of which its base must be a member. The base is also a fully specified phonological entity of unique form.

The operation is both syntacticosemantic and morphophonological. It specifies the semantics of its output as a compositional function of the meaning of the base, and assigns the output to a specific major lexical category in a specific subcategorization. The morphophonological operation is phonologically unique: only items which meet the conditions may serve as bases for the WFR in question. Morphological conditions determine the productivity of the WFR with different morphologically specified subclasses of the base.

We will exemplify Aronoff's theory with the rule of negative un-. The phonological change operated by the rule consists of the addition of the prefix and its boundary: un-.

$$(3) \text{ [X]}_{\text{Adj.}} \longrightarrow \text{ [un [X] }_{\text{Adj.}} \text{]}_{\text{Adj.}}$$

semantics: (roughly) unX = notX

f. Forms of the base

1. X_ven (where en is the marker for past participle)
2. X_ving
3. X_vable
4. Xy (worthy)
5. Xly (seemly)
6. Xful (mindful)
7. Xal (conditional)
8. Xlike (warlike)

2.2. Methodology.

As we have seen in Section 2.1. the study of derivational morphology has had different approaches and each of them emphasized one specific characteristic of the word formation process. The descriptivists broke the word into

meaningful units; the transformationalists, though disregarding morphology and emphasizing syntax, contributed by directing our attention to the syntactic and semantic correspondence between words of different categories; the generativists following the tradition of the lexicalist hypothesis, developed the notion of Word Formation Rule to account for word formation within the lexicon.

In our paper we have adopted Aronoff's theory of word formation, since we believe that the emphasis on the creative aspect of language in the generative theory opens new perspectives for the derivational morphology. It is a dynamic process that accounts for the creation of new words in the lexicon. However, after the morpheme was considered a linguistic unit in the structuralist period, it is impossible to ignore the fact that the words in the lexicon have an internal structure that has to be described. We decided to follow Nida's principles of word segmentation for they analyze thoroughly all possible combinations of morphemes.

Derived words are made up of an affix, which is always bound, and a base, which may be either free or bound. Complex words with a recognizable suffix, but with a stem that is not an existing word of the language constitute a classic problem of morphology.

2.2.1. Bound bases.

Scholars' points of view about bound bases in word formation differ a good deal.

The descriptivists who place great emphasis on form insist on the segmentation of words with a bound base. According to Principle 6 of Nida (See Section 2.1.2.1.) words such as cranberry or crayfish are made up of cran- plus berry and cray- plus fish. The two bound bases cran- and cray- are isolatable because the elements berry and fish occur in isolation or in other combinations.

The position of the descriptivists is soundly attacked by MAKKAI (1969) who says that the segmentation of these words is just formal, since in terms of meaning they can only be regarded as single indivisible units. According to her the best solution for the problem is a redefinition of the morpheme - or rather, a division of the old morpheme into two separate layers, the one dealing with minimal meaningful units (the lexeme), the other with minimal formally definable units (the morpheme). This in fact is what has been done by stratificational linguists in their lexemic versus morphemic strata.

MATTEWS (1979) also mentions this problematic aspect of morphological analysis. He illustrates with words such as baker or banker in which we recognize a formative element -er; the words have an obvious relationship to bake and to bank. The baker is in origin someone who 'bakes', the banker runs a 'bank'. Based on this he asks how we could explain butcher. One answer might be that butcher is indeed butch- plus -er; since this 'butch-' is not connected in meaning with any other 'butch', it would be established as a (so called) 'partially independent' element, distinct from -er but nevertheless unable to enter into any other combination. The other answer, of course, is that words such as butcher are morphologically simple; but why, one then asks, do even simple 'occupation' nouns so often end in -er? He ends the discussion by saying that it could be prolonged fruitlessly.

In Aronoff's theory all regular word formation processes are word - based. A new word is formed 'by applying a rule to a single already existing word, not to a meaningful element". He applies truncation rules, which delete a morpheme that is internal to an affix, to account for words which do not appear to have been derived from words. The suffix -ee in (4) does not appear attached to any verb, but rather to the root of that verb, which can be obtained by deleting its last morpheme.

- (4) nominate - nominee
evacuate - evacuee

Aronoff is not concerned with the structure of already existing words and so the problem of bound bases could be disregarded in his theory.

We share AKMAJIAN's (1981) opinion about complex words with bound bases. He illustrates the fact with -able words, specifically malleable and feasible. In both cases the suffix -able has the regular meaning "be able", and in both cases the -ity form can be added to form a noun, as in malleability and feasibility. The two words are broken down as malle + able and feas + ible and, as there are no existing words in the English language such as malle or feas, we have to allow for the existence of complex words whose stems exist only in those complex words.

AKMAJIAN (p.123) adds that "this example shows that word formation rules cannot be viewed solely as relating pairs of existing words or of specifying how new words are formed. Sometimes a complex word is not paired with another but exists by itself, only as a complex word (such as malleable or feasible). In spite of this lack of pairing, we can nevertheless use the word formation rule backwards, as it were, to deduce that the stem for feasible is feas: word formation rules can analyze single words into parts, even if some of those parts don't exist as words."

After having summed up the various studies about bound bases and having profited from the different approaches and points of view, we feel that a coherent way of approaching the issue would be the following: it is possible to define a formal relationship between the elements that make up butcher or malleable, but the two bases, butch- and malle-, have no lexical category and no independent meaning. The meaning is latent in the base and will achieve its full syntactic and semantic realization just when it is attached to a suffix that assigns the resulting word a lexical category.

2.2.2. Aronoff's framework.

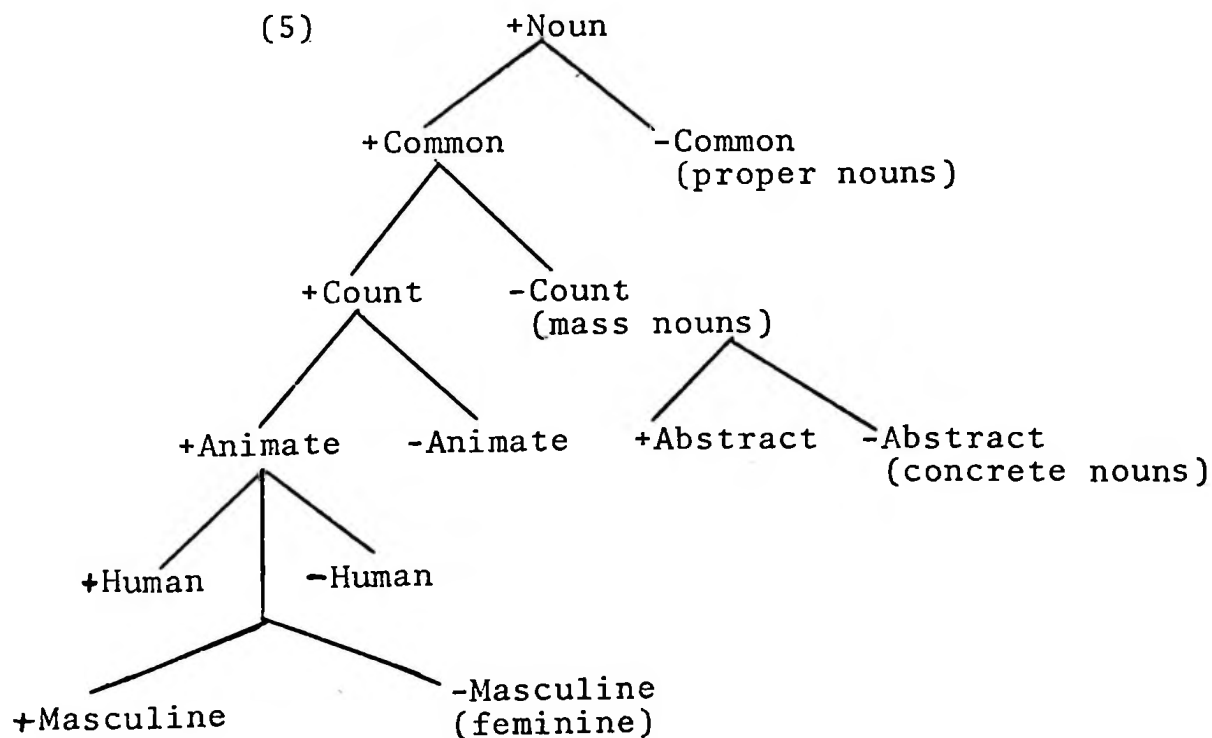
The study of each suffix follows Aronoff's framework. First we discuss the syntax and semantics of WFRs, then their morphology, and finally their phonology.

2.2.2.1. Syntax and semantics.

The lexicon includes both syntactic and semantic information. The most studied aspects of morphology within the framework of generative grammar are the relation between the syntax and semantics of the base and that of the output of a WFR, the common properties which the two share, and the ways in which these relations can be accounted for.

The syntactic and semantic conditions on the base of a WFR are those of category, subcategory, selection, lexically government entailment and presupposition. (ARONOFF, 1981: 48).

The syntactic features of a noun may be charted this way:



So a noun syntactic features might include:

(6) girl

+N
+Common
+Count
-Abstract
+Animate
+Human
-Masculine

Other forms - verbs, adjectives, and adverbs - can be identified by a combination of syntactic feature and environmental restrictions called strict subcategorization rules.

As verbs are chosen after nouns, part of a verb's syntactic identity depends on which nouns it may appear with as well as how it may appear with certain nouns. All this information is specified by strict subcategorization and selectional restriction rules.

The entry for a verb such as blush would be:

(7) blush

+Verb
-Transitive
+Human Subject —

The selectional restrictions of adjectives depend on the contents or environments in which each type of adjective might appear with certain categories of nouns. For example, adjectives like shy could not appear with [-Animate] nouns, but adjectives like large could appear with any [+Count] nouns.

Adverbs are also subcategorized on the basis

of a combination of their syntactic features and some selectional features. That is, adverbs of manner could fill certain positions in English sentences and appear with certain categories of verbs; adverbs of place could fill fewer positions and have their own selectional restrictions.

The semantic component is that part of the grammar which provides interpretation of meaning to be found in deep structures. Traditionally, the meaning of a WFR is represented by a paraphrase containing a variable. So, for example, the agentive occupational suffix -er can be roughly paraphrased "one who Xs habitually, professionally..."

2.2.2.2. Morphology.

The vocabulary of English is divided, for purposes of morphology into two distinct parts, native and Latinate, and there are many rules which are sensitive to this distinction. Many WFRs are restricted to Latinate bases. A good example is the suffix -ity (e.g. enormity, nudity) it contrasts in this regard with its rival -ness, (e.g. peacefulness, stillness) which does not discriminate at all between Latinate and native words. WFRs restricted to native words are less common. One is the suffix -hood, of motherhood and brotherhood.

Many tangible restrictions other than [+Latinate] are common. A WFR will always be associated with the individual morphological subclasses of the base, rather than the unitary syntactic base of the rule. Thus, the productivity of -ity will not be a function of the whole class of Latinate adjectives, but rather of each of the morphological classes Xile, Xous, Xable, etc. It is these classes which comprise the morphological conditions of the base, conditions which must be stated separately from the syntactic, semantic, and phonological operations of the WFR itself.

We have already stated (Section 2.1.3.3.) that the morphological conditions of the base are associated with productivity: a WFR is highly productive when the class of

bases to which it attaches has few morphological restrictions.

2.2.2.3. Phonology.

We have said that a WFR specifies a base as well as some operation on the base which results in a new word. This operation will usually have some phonological reflex, some morpheme which is added to the base. It is the phonological operation of the WFR.

The phonological form of an affix may have different realizations in environments determined by the form of the base. These different forms, called allomorphs, are determined by the morphemes of the bases, in terms of their phonological shapes.

The attachment of the base and the suffix may occur without causing any change in either of them (8) or their combination may cause change in the phonemic constituents both of the base and the suffix (9). These morphophonemic changes are responsible for the different allomorphs.

(8) dance / d æ n s /
-er / -ə r /
dancer / d æ n s ə r /

(9) magic / m æ j ɪ k /
-ian / -y ə n /
magician / m ə j ɪ ŝ ə n /

Considering the three main allomorphs of the suffix -ion (-ation, -ion, -tion), we see that their distribution is morphologically and phonologically conditioned. The distribution of -ation (accusation, declaration, formation), the unrestricted variant, on one side, and of the two re

stricted variants, -tion and -ion, on the other side, is morphologically conditioned. -tion and -ion are limited to bases ending in certain Latinate roots. On the other hand, the choice between the two variants -tion and -ion is phonologically conditioned. It is governed by the last consonant of the root: -tion (production, deduction, deception) goes with noncoronal roots and -ion (communion, rebellion, revision) with coronal⁽¹⁾ roots.

(1) In coronal sounds the blade of the tongue moves up toward the teeth and teeth ridge. Dental, alveolar, and palatal sounds are coronal. Examples: /θ, d, ʃ/.

3. THE AGENTIVE NOUNS. (1)

In this section we are going to study the agentive nouns, considering both the input (the base) and the output (the agentive noun resulting from the addition of a suffix).

We are going to divide the nouns according to their agentive suffixes and each group is going to be analyzed according to the semantic, syntactic, morphologic and phonological properties both of the base and the output, making an attempt to get to the basic meaning that underlies each agent.

3.1. The suffix -er.

3.1.1. Syntax and semantics.

The syntactic, semantic, and morphological aspects of the bases have a greater or lesser influence in the derived words, conditioning their forms. In some occasions the morphological aspects perform an important part in conditioning the derived form, as it happens with agents such as geographer, biographer, lexicographer, etc., which are conditioned by -graphy, the last morpheme of their bases, geography, biography, lexicography, etc. In other cases the form is syntactically conditioned. The suffix -er, for example, may be added to practically all words belonging to the verbal class, producing the deverbal -er agents as writer, teacher, dancer, robber, etc.

The agentive noun suffix -er is added both to verbal and to nominal bases.

The different syntacticosemantic specification of the bases, of course, results in a different semantic output. We will see below that the denominal and the deverbal -er derivatives have very distinct semantics.

(1) Summary charts for each of the suffixes are on pages 97-101.

3.1.1.1. Nominal base.

(10) $[X]_N \longrightarrow [[X]_N \text{ er }]_N$

$\left[\begin{array}{l} +\text{Common} \\ -\text{Animate} \\ -\text{Abstract} \end{array} \right]$

The suffix -er attaches to nominal bases that be long to the semantic domain of $[+\text{Common}]$, $[-\text{Animate}]$, $[-\text{Abstract}]$ nouns, such as:

(11) law - lawyer
cloth - clothier
coal - collier
fur - furrier
hat - hatter
hose - hosier
tin - tinner

So, when attached to a nominal base $[X]$ indicating objects, the agentive -er derivative has the meaning of 'one who habitually makes or trades with X.'

The occupations are all very primitive, the ones learned through practice and not requiring a specific course of studies in order to be mastered.

Law is an exception to this semantic domain. Though it is not an object, it follows the same rule, probably because it is considered that in performing his activity the lawyer 'manipulates' the law in the same way the other agents do with the objects they work with.

The base of an agentive may be a place instead of an object, as in (12). In such cases the agentive indicates 'one who habitually works at X'.

- (12) bank - banker
 farm - farmer
 forest - forester
 garden - gardener
 marine - mariner
 mine - miner
 office - officer

In both cases the agent holds an occupation that is represented either by the material he works with or by the place where he performs his work. (1)

3.1.1.2. The verbal base.

- (13) $[X]_V \longrightarrow [[X]_V \text{ er}]_N$

The agentive occupational suffix -er attaches to transitive or intransitive verbal bases belonging to any semantic field and having animate nouns as subjects, as can be seen in (14).

- (14) braze - brazier
 cater - caterer
 dance - dancer
 drive - driver
 dry - dryer
 embroider - embroiderer
 glaze - glazier
 graze - grazier
 hunt - hunter
 run - runner
 saw - sawyer
 sing - singer

(1) The abstract nouns ending in Xgraphy (geography - geographer, biography - biographer, etc) will be dealt with in Section 3.4.1. with the bases that refer to a branch of learning, since their -er derivation was not due to their semantics but was morphologically conditioned.

teach - teacher
upholster - upholsterer
wash - washer
write - writer
etc.

The meaning of the output is 'one who Xs habitually', or 'something that Xs', where [X] represents any verb. The distinction between material and personal agents depends on whether the subject of the verb has the feature [+Common], or [-Common] respectively.

The regularity of attachment of -er to verbs, the semantic coherence and the wide distribution of the -er derivatives contribute to the productivity of the suffix.

According to ARONOFF (1911:43) the most productive classes never have to be listed in the lexicon. "Only those words which are exceptional, i.e. arbitrary in at least one of their various features, will be entered in the lexicon". From this definition it follows that the verbal -er derivatives must not be listed in the lexicon.

3.1.2. Morphology.

3.1.2.1. The nominal base.

By analyzing the nouns that constitute the bases of denominal agentive nouns we did not notice any morphological restriction to the addition of -er. The bases are made up of a variety of morphemes, can have any number of syllables and can be both native and Latinate in origin. This can easily be seen in (11) and (12) above.

These aspects reinforce the point we made in the introduction that the type of base is irrelevant, for what gives formal and semantic identity to a word is the suffix that is added to it.

3.1.2.2. The verbal base.

There is no morphological restriction for -er to be attached to a verb. Examining the verbal bases we noticed they are made up of various morphemes and present the same characteristics mentioned in the nominal base above.

As we have seen in Section 2.1.3.3. above, this lack of morphological restrictions adds to the productivity of the rule.

3.1.2.3. The bound base.

There is a group of Latinate words as in (15) in which we recognize two elements: the morpheme -er (graphically -er ou -or) and a form which is distinctive from -er but which in itself does not constitute a word by itself.

- (15) barb - er
brok - er
butl - er
carpent - er
(1) fruiter - er
doct - or
plumb - er
port - er
tail - or
etc.

We have already discussed at length the problem of bound bases in Section 2.2.1. In (15) above there is a list of nouns that indicate occupations and if we segment these

(1) Forms such as fruiter-, poulter-, sorcer-, etc, used to be free agents. The -er suffix was doubled and presently the previous agents are bound bases of the present agentive nouns.

nouns and isolate their endings, we will be left with bound bases. Being bound they need the suffixes for their meaning to be fully realized.

In other words, the meaning of the bound base is realized with the suffix -er. It assigns the derived word the nominal syntactic category and the occupational meaning it has.

3.1.3. Phonology.

The -er suffix has two different allomorphs, /-ər/ and /-yər/ in complementary distribution.

3.1.3.1. / -ər /.

This is the unrestricted variant. There are no conditions on its attachment, except that it is not affixed in cases where the conditions of attachment of the other variant are met. It is found in the great majority of words resulting from the addition of -er. In (16) a few examples are given:

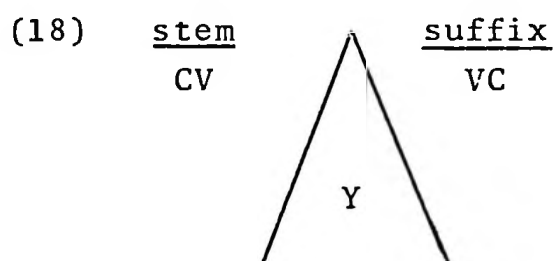
- (16) hat - hatter
bank - banker
drive - driver
sing - singer
tin - tinner
teach - teacher
write - writer
etc.

3.1.3.2. / -yər /.

Some examples of the variant / -yər / are given in (17). They can be divided into two main groups of bases: those ending in a vowel and those ending in a consonant.

<u>Base ending</u> <u>in a vowel</u>	<u>Base ending</u> <u>in a consonant</u>	<u>/ -yar /</u>
bow		bowyer
law		lawyer
saw		sawyer
	graze	grazier
	glaze	glazier
	braze	brazier
	hose	hosier
	fur	furrier
	coal	collier
	cloth	clothier

The variant / -yar / occurs after a vowel stem in order to separate the vowel sound of the stem from the one of the suffix.



The final consonants / -z, -r, -l / are alveolar and /-θ /, the final consonant of cloth / k l θ / is dental. We may say that the morpheme cloth has two allomorphs, /k l θ / and /k l θ̣ /, whose distribution is complementary. The allomorph /k l θ̣ / appears in combination with the noun plural morpheme -es (/k l θ̣ ə z /) and with the agentive noun ending -er (/k l θ̣ y ə r /), and is thus not a free but a bound allomorph. The allomorph /k l θ / is a free form.

3.1.4. Contrasting -ar and -or: are they different morphemes or graphic variants of the morpheme -er?

3.1.4.1. -ar.

We find the suffix -ar in nouns with bound bases (19) and in some deverbal agents (20).

(19) vic-ar
schol-ar

(20) beg - beggar
lie - liar

The spelling does not accompany pronunciation changes and so preserves the origin of words. In the examples above the -ar ending words preserved the spelling occasionally found in Middle English, being so a variant grapheme to the morpheme -er.

3.1.4.2. -or.

The occurrence of the ending -or in legal terms denoting the person acting, as opposed to the person acted upon in -ee, as in (21) has imparted a kind of technical or professional character to the ending, opposed to the pure agency conveyed by -er as can be seen in (22).

(21) appelor - appelee
grantor - grantee
lessor - lessee

(22) addresser - one who addresses or directs a message or letter to any one.
addressor - one who addresses a formal document.

assigner - one who assigns, apportions, etc.
assignor - (law) one who assigns or makes over a right or property.

granter - one who grants (WI)
grantor - (law) one who makes a grant or conveyance in legal form.

saver - one who or that which saves; one who economizes (WI).

savior- one who saves, preserves or delivers from destruction or danger.

We think it is worth giving a historical evolution of the suffix -or, for besides the semantic opposition - shown in (22), there are etymological reasons that account for the existence of the form -or.

The ending -or is a form derived of various suffixes of Latin origin. There are four varieties:

a) Latin agent nouns in -or, -orem, such as:

(23)	actor	pastor
	assessor	possessor
	author	professor
	captor	rector
	censor	sculptor
	confessor	sponsor
	doctor	successor
	elector	transgressor
	inventor	tutor
	oppressor	

b) Latin agent nouns in -ātor, -ētor, -itor, -itor that were reduced from -ator-em into -our in Middle English and thus fell together with those from simple -or-em in a). Such are:

(24)	barrator	juror
	cessor	lessor
	conqueror	Saviour
	donor	solicitor
	emperor	vendor
	governor	visitor

c) Latin agent nouns in -ātor, -ētor, itor, -ītor, -ūtor, adopted in later times in English, retain t and have the same written form as in Latin.

(25)	administrator		
	agitator	orator	auditor
	creator	procurator	creditor
	curator	senator	editor
	dictator		janitor
	gladiator		monitor
	imitator		servitor
	legislator		executor
	navigator		
	spectator		
	translator		
	vindicator		

The pronunciation varies greatly, the stress being sometimes as in the Latin nominative sometimes on the second syllable before the stressed Latin accusative (27); sometimes corresponding with that of the English verb (28); sometimes with two forms, one after Latin nominative, and another after Latin accusative (29).

(26)	(27)
creator	auditor (Latin auditorem)
creditor	executor
	orator
	senator
	servitor
(28)	(29)
administrator	curātor (after Latin nom.)
agitator	cūrator (after Latin accus.)
imitator	
prosecutor	

d) alteration of -er from Latin -arius, as in
(30):

(30) bachelor
chancellor
heritor

In Middle English there was a tendency to confuse the endings -er and -our (modern -or), thus in a large number of words the original -our has been exchanged for the -er of agent nouns of English derivation. Some examples are the words in (31) whose etymological form is -our, -or.

(31) barber
brother
laborer
preacher
robber
rhymer

According to MENCKEN (1977), first published in 1919, the agent -or has always conveyed a more dignified suggestion in English than -er and he gives some interesting examples which show that -or conveys different semantics to speakers of English.

"Healor is one of the professional titles of one Lena P. Smith, The Woman of God, who operates a religious studio on S. Cottage Grove Av. in Chicago." (MENCKEN, 1977: 340).

"Weldor was launched as the result of a labor squabble. In 1941 the welders in the shipyards and on building construction petitioned the American Federation of Labor for a charter - when it was refused, they left the Federation and formed the Brotherhood of Weldors, Cutters and Helpers of America". (MENCKEN, 1977:340).

"Institutional purchasing agents favor purchasor; The Chicago Purchasor is their local house organ". (MENCKEN, 1977:340).

"Realtor was devised by a high-toned real-estate agent of Minneapolis, Charles N. Chadbourn by name, who sought a distinctive title by which he and his fellow members of the Minneapolis Real Estate Board could distinguish themselves from fly - by - night dealers in houses and lots.

The ending -tor was probably added to real because of an analogy with doctor and other words derived from Latin -tor in an attempt to give the word a more dignified meaning.

The pairs of words presenting semantic differences in (22) make us conclude that we really have two homophonous morphemes, distinguished just in spelling: -er and -or.

3.2. The suffix -ee.

3.2.1. Syntax and semantics.

The conditions for the formation of -ee nominals are syntactically and semantically governed. They may be formed both on transitive and intransitive verbal bases and this different syntactic subcategorization of the base accounts for two opposite meanings of the -ee nominals: passive and agentive.

Aronoff quoting SIEGEL (1971) notes that the suffix -ee attaches regularly to verbs which are both transitive and take animate objects, as with presentee, employee, and payee. Based on this the following rule is stated:

(32) Siegel's -ee attachment rule

$$[X]_V \longrightarrow [[X]_V ee]_N$$

$$\left[\begin{array}{l} +\text{transitive} \\ +\text{animate object} \end{array} \right]$$

ARONOFF (1981:88), trying to explain the nominals derived from verbs other than transitive, adds the following footnote to Siegel's rule: "-ee used to attach to verbs which took animate indirect objects as well. The condition is now obsolete, though the forms still exist. Exceptions to the general case are escapee, refugee, devotee, absentee, standee".

We think that Siegel's rule explains only one part of -ee nominals - those derived from transitive verbs - and we do not agree with Aronoff's statement that the condition for the derivation of forms such as escapee, refugee, etc is now obsolete. New forms, such as the recent returnee, are being coined on intransitive verbs confirming its productivity.

In this paper we try to demonstrate that the -ee nominals belong to two different semantic fields and as this distinction is a function of the syntactic subcategorization of the base, we will divide our discussion into two main categories: transitive verbal bases and intransitive or reflexive verbal bases.

3.2.1.1. Transitive verbal bases.

We deal in this part with the -ee nominals whose base is a transitive verb. If just the semantic field of -ee derivatives were considered, this group should not be included in this paper for the nouns do not have an agentive meaning, as all the other derived nouns studied do, but a passive one. We consider it important to include both functions - passive and agentive - for a complete analysis of the suffix.

For this group Siegel's rule of -ee attachment (32) is quite adequate.

The suffix -ee attaches to transitive verbs that take animate objects and the resulting nominal refers to the beneficiary of the action, meaning 'one who is Xed'.

In this group are included the law terms that show a correlation between -or, denoting the agent, and -ee, denoting the beneficiary of the action, such as:

- (33) alienee - one to whom the ownership of property is transformed. (OED)
- alienor - one who transfers property to another. (OED)

- appelee - one who appealed against. (OED)
- appelor - one who accuses of crime, etc. (OED)

- assignee - one who is appointed to act for another. (OED)
- assignor - one who assigns or makes over a right or property. (OED)

- bailee - one to whom goods are committed in trust for a specific purpose. (OED)
- bailor - one who delivers goods, etc. to an other for a specific purpose. (OED)

- collatee - one who is collated to a benefice.(OED)
- collator - one who confers or bestows. (OED)

- grantee - the person to whom a grant or conveyance is made. (OED)
- grantor - one who makes a grant or conveyance in legal form. (OED)

- legatee - a person to whom a legacy has been bequeathed. (OED)
- legator - one who gives something by will. (OED)

- lessee - a person to whom a lease is granted. (OED)
- lessor - one who grants a lease. (OED)

nominee - the person who is named in connection with an annuity, grant, etc. (OED)

nominator (nominator) - one who nominates to office or for election. (OED)

payee - the person to whom a sum of money is to be paid. (OED)

payer (payor) - the person who is supposed to pay. (OED)

vendee - the person to whom a thing is sold. (OED)

vendor - one who disposes of a thing by sale. (OED)

-ee has become a living English suffix and its original use in law terms has been imitated in the formation of new words derived from verbs of many different meanings being also frequent in deliberately jocular non-technical nonce formations.

(34) addressee - the person to whom a letter or other commercial document is addressed. (OED)

cuttee (nonce) - one who is cut socially. (OED)

deportee - a person who has been deported or is under sentence of deportation. (WI)

donee - recipient of a gift, esp. of a gratuitous gift. (WI)

draftee - a person who has been drafted into the armed forces. (OAD)

educatee - one who is subjected to the process of education. (OED)

employee - one who is employed. (OED)

expellee - one who has been expelled. (OED)

indorsee - one in whose favor a note or bill is indorsed. (OED)

- mortgagee - the person to whom property is mortgaged. (OED)
- referee - a person to whom a dispute between parties is referred by mutual consent. (OED)
- sendee - the person to whom a thing is sent. (OED)
- trustee - one to whom property is entrusted to be administered for the benefit of another.

In each case we observe that the -ee nominal is present as a patient, a recipient of the action. The patient - as - victim role emerges clearly from Jespersen's list of novel -ee formations, excerpted in (35). (JESPERSEN (1954, 221)).

- (35) blackmailee
 boree
 evacuee
 laughee
 moneylendee
 murderee
 pickpocketee
 moneylendee

3.2.1.2. Nominal bases.

We have found a small set of nouns which occur with the suffix -ee (36). They have the same meaning as the ones derived from transitive verbs, and indicate 'the beneficiary of X', but the attachment of -ee to nouns is not productive⁽¹⁾.

- (36) biographee - one who is the subject of a biography.
 (OED)
- patentee - one to whom letter(s) patent have been granted. (OED)

(1) We have been unable to explain the occurrence of the suffix -ee in bargee (aman who has charge of a barge). Though it is derived from a noun it does not have any semantic relation with the class mentioned in (34).

3.2.1.3. Intransitive or reflexive verbal bases.

Forming a distinct group we have the -ee nominals derived from intransitive or reflexive verbs and for them the following rule can be stated:

$$(37) \quad \begin{array}{c} [X]_V \longrightarrow [[X]_V \text{ ee}]_N \\ \left[\begin{array}{c} \text{-transitive} \end{array} \right] \end{array}$$

The output that derives from this rule is semantically different from the transitive - based one. It indicates the agent, the performer of an action and not its beneficiary as the previous rule does.

Some of the verbs and the derived -ee nominals that fit rule (37) are:

- (38) absent (refl) - to keep or withdraw oneself away (OED)
absentee - one who is absent or away on any occasion. (OED)
- debauch (intr)- to indulge to excess in sensual enjoyment. (OED)
debauchee - one who is addicted to vicious indulgence in sensual pleasures. (OED)
- devote (refl) - apply zealously to a particular purpose. (OED)
devotee - a person zealously devoted to a particular cause. (OED)
- escape (intr) - to get free from detention or control. (OED)
escapee - one who has escaped; esp. an escaped convict from a penal settlement. (OED)

refuge (int) - to take refuge; to seek shelter
 or protection. (OED)
 (refl) - to take refuge. (OED)
 refugee - one who owing to religious per
 secution or political troubles
 seeks refuge in a foreign coun-
 try. (OED)

return (intr) - to come or go back. (OAD)
 returnee - a person who returns, esp. one
 returning from military service
 abroad. (OAD)

stand (intr) - to assume or maintain an erect
 attitude on one's feet. (OED)
 standee - (informal) a person who stands
 in a bus or theater, etc. be
 cause seats are occupied. (OAD)

HORN (1980: 141) says that "a standee is one forc
ed to stand as on a bus or subway - the subject is acting invo
luntarily as a patient, not an agent".

The other agents in (38) also seem to act becau-
 se of a certain compulsion, not of their own will, as if their
 behavior were determined by external circumstances to which they
 are powerless.

This compulsion to act is generally related to
 a place (a penal settlement, a foreign country, a bus, a theater,
 etc), except for debauchee and devotee that seem to refer to
 people who are compelled to behave the way they do either be
 cause of psychological subjection or religious fanaticism.

To some intransitive verbs both -ee and -er can
 be attached, but, as it is expected, the resulting nominals dif
fer in meaning. The difference between -er and -ee nominals
 will be dealt with in Section 4.1.1.

3.2.2. Morphology.

The suffix -ee derived originally from legal usage and then was attached to words of many different meanings, both Latinate and native in origin. Its productivity was syntactically and semantically conditioned and the bases do not present any morphological restrictions to the attachment of the suffix.

In most cases -ee is attached to a free base, such as:

- (39) alien
assign
bail
collate
employ
grant
legate
pay
send
trust
etc.

But the -ee suffix can be added also to a bound base such as:

- (40) appel-
less-
nomin-
don-
evacu-

3.2.3. Phonology.

3.2.3.1. / -i /

The suffix -ee has one allomorph / i / that, being stressed, causes different morphophonemic changes when added to a base.

3.2.3.1.1. Stress shift.

When /-i/ is attached to some words it makes the stress move onto the suffix causing no other change in the segmental phonemes of the base. Some examples are:

- (41) assign - assignee
- bail - bailee
- address - addressee
- grant - grantee
- pay - payee
- mortgage - mortgagee
- stand - standee

3.2.3.1.2. Stress shift and vowel change.

In English, when the process of derivation involves stress shift, it usually also involves certain types of vowel change. NIDA (1970:302) notices "the weakening of vowels in unstressed syllables: long vowels tend to be reduced to short vowels and short vowels frequently change to mid central vowels in unstressed positions".

It should be noted that besides the weakening of vowels there is also another kind of change: the change of reduced ⁽¹⁾ or short ⁽²⁾ vowels to long vowels when the stress shifts onto the syllable.

In (42) we have listed the changes found in the words studied:

-
- (1) The reduced vowels require less effort in their articulation and occur in unstressed positions. They are / ə / and / ɪ /.
 - (2) Short and long vowels differ in terms of length and place of articulation. The short or lax vowels are: / ɪ, ɛ, æ, ʊ, a, ɔ /.
- The long or tense vowels are: / i, e, u, o /.

(42)

VOWEL CHANGE

in syllables losing stress	in syllables acquiring stress ⁽¹⁾	<u>Base</u>	<u>Derivative</u>
ɛ > ə		æb'sent	,æbsan'ti
o > ə		dɪ'vot	,dɛvə'ti
u > ʊ		'rɛfyuʃ lis	rɛfyʊ'ʃi lɛs'i
i > ɛ	I > i	dɪ'port	,dipor'ti
	I > ɛ	rɪ'fɔr	,rɛfa'ri

3.2.3.1.3. Stress shift and loss of the final morpheme -ate.

Some verbs (43) lose the final morpheme -ate when -ee is attached.

- (43) donate - donee
 evacuate - evacuee
 nominate - nominee

ARONOFF (1976:89) considers the truncation of the phoneme -ate as a general rule. According to him dedicatee is an exception to the rule and he traces its exceptionality to the fact that because of English spelling the c of ^{*}dedicee would undergo the k > s rule, giving the surface form / dɛdɪsi /.

(1) These syllables acquire secondary stress after the attachment of the suffix -ee to the base.

This explanation is not complete. In spite of the fact that it works for words such as dedicatee and educatee, it does not explain the forms in (44) where the final phoneme -ate was not lost.

(44)	base	derived forms	
		<u>losing -ate</u>	<u>keeping -ate</u>
	collate	—	collatee
		—	collator
	donate	donee	donatee
		donor	donator
	nominate	nominee	—
		(nominator) (obs)	nominator

We have taken into consideration such items as number of syllables, stress and phonetic features of sounds and even so were not able to explain why in some cases -ate is kept, while in some others it is lost. We feel, nevertheless, that the tendency is for -ee to be attached to -ate ending words without causing its truncation, as it is confirmed by forms such as donatee and donee, nominator instead of the obsolete form nominator. Why can't we expect nominatee later?

3.3. The suffix -ant.

3.3.1. Syntax and semantics.

The WFR that forms agents by the addition of the suffix -ant⁽¹⁾ operates mainly on verbal bases and has the following structure:

$$(45) \quad [X]_V \longrightarrow [[X]_X \text{ ant}]_N$$

[⁺Human subject-]

(1) Graphically it may be written -ant (celebrant), -ent (president) or have both spellings (descendant, descendent).

The -ant derivative indicates 'one who is entitled to X', that is, one who is furnished with proper grounds for doing that action.

The agent seems to have an official status, being authorized to act because of his position or by a legal instrument (such as a lawsuit, a lease) that grants him such right. This can be easily seen in the examples in (46):

- (46) celebrant - the priest who performs a solemn religious ceremony.
- complainant - one who makes the complaint in a legal action.
- litigant - a person who is involved in a lawsuit.
- president - an official elected to preside over a meeting.
- tenant - one who based on a lease rents a house from a landlord.
- etc.

A great number of bases may add both the suffix -ant and the suffix -er, such as:

- (47) applicant - applier
- celebrant - celebrator
- informant - informer
- etc.

The existence of one form did not block the other one because, though the bases are the same the resulting agents are semantically different. These pairs are studied in Section 4.1.2. together with the other contrasts.

3.3.1.1. The verbal base.

The suffix -ant can be added to verbs belonging to a variety of semantic fields as long as they presuppose human subjects. The official status conveyed by the output is inherent to the suffix itself, as it is evidenced by the examples in (48) where there are bases of many different meanings.

- (48) account - accountant
apply - applicant
assist - assistant
attend - attendant
celebrate - celebrant
congregate - congregant
correspond - correspondent
defend - defendant
depend - dependent, dependant
descend - descendant, descendent
emigrate - emigrant
inform - informant
inhabit - inhabitant
litigate - litigant
negotiate - negotiant
participate - participant
preside - president
serve - servant
superintend - superintendent
etc.

3.3.2. Morphology.

According to the form of their bases, Xant agents fall into three classes: those which have a related verb of the form Xate (immigrate, immigrant; celebrate, celebrant) , those which have an unsuffixed related verb (apply, applicant; descend, descendent), and those whose bases are not free words (merchant, tenant).

3.3.2.1. Bases of the form Xate.

The morphological class Xate is especially productive with the suffix -ant. ARONOFF (1981: 90) says that "Thirty-two of the 95 items in WALKER (1936) which have a verbal base are in this class; a very high number for a single morphological class". Some examples are:

- (49) communicate - communicant
immigrate - immigrant
negotiate - negotiant
postulate - postulant

3.3.2.2. Unsuffixed bases.

The suffix -ant is also attached to a great quantity of unsuffixed bases made up of a variety of morphemes. (examples in (50) below).

The existence of bases with various morphemic forms reinforce the point that the semantic meaning of the output derives from the suffix -ant and that, though the attachment of -ant is very productive with Xate bases, the WFR does not undergo any morphological restriction for its use.

- (50) aspire - aspirant
complain - complainant
demand - demandant
occupy - occupant

3.3.2.3. Bound bases.

There is a very small group of -ant derivatives(51). made up of bound bases. Of course these nouns form a small, closed set and no other forms of this type are entering the English language. As usual, the attachment of -ant to bound bases is not productive, the nominals in (51) are dead expressions.

- (51) jur- - jurant - one who takes an oath.
merch- - merchant - a buyer and seller of commodities for profit.
ped- - pedant - one who parades his learning
ten- - tenant - one who based on a lease rents a house from a landlord.

In Section 2.2.1. we have already discussed the problem of bound bases. As it was stated in that Section, it is the suffix that lexicalizes the words; in the examples in (51) the -ant suffix assigns the official character that distinguishes the -ant agents to the output.

3.3.3. Phonology.

The suffix -ant has one allomorph / -ənt /, an unstressed form that is used in any environment and interferes in a lesser or greater degree with the phonological form of the base.

Since the behavior of the suffix depends on the phonological quality of the base and in order to study the morphophonemic changes that occur when / -ənt / is added, we have divided this section according to the forms of the bases - the Xate bases and the unsuffixed ones.

3.3.3.1. Bases of the form Xate.

Most of the Xate verbs are three - syllable words stressed on the antepenult. Some of them have a secondary stress on the last syllable.

When -ant is added the stress pattern remains the same, since the suffix is not stressed and there is no alteration in the number of syllables because of the deletion of the phoneme -ate. The segmental phonemes, however, undergo changes.

3.3.3.1.1. Loss of -ate.

When the suffix -ant is added, the final morpheme -ate is always lost and in case there is a secondary stress it is lost too. Some examples are:

- (52) celebrate /'sɛlə,bret/
celebrant /'sɛləbrənt/

communicate /kə'myʊnəkət/
communicant /kə'myʊnikənt/

migrate /'maygrət/
migrant /'maygrənt/

participate /pər'tɪsə,pet/
participant /pər'tɪsəpənt/

3.3.3.2. Unsuffixes bases.

Most of the unsuffixes bases are two-syllable words stressed on the last syllable. When the suffix -ant is added, some morphophonemic changes may occur.

3.3.3.2.1. No change.

Sometimes the rule that attaches -ant to the base does not produce any phonological change. That is the case with the examples in (53) where no alteration occurs, in neither the segmental nor in the suprasegmental phonemes.

- (53) account /ə'kaunt/
accountant /ə'kauntənt/

aspire /ə'spayr/
aspirant /ə'spayrənt/

assist /ə'sɪst/
assistant /ə'sɪstənt/

attend /ə'tend/
attendant /ə'tendənt/

complain /kəm'plen/
complaint /kəm'plenənt/

etc.

3.3.3.2.2. Stress shift and vowel change.

We have already pointed out (Section 3.2.3.1.2.) that whenever the process of derivation involves stress shift, it also involves vowel change.

In (54) there are some examples of vowels that have been reduced and of others that have become long because there was stress shift in the word.

(54)

VOWEL CHANGE

<u>in syllable</u> <u>losing stress</u>	<u>in syllable</u> <u>acquiring stress</u>	<u>Base</u>	<u>Derivative</u>
ay > a	i > ε	preside /prɪ'zayd/	president /'prezɪdənt/
ε > i	a > ɑ	protest /pra'tɛst/	protestant /'prɒtɪstənt/

In some instances the vowel change occurs even without stress shift. Such is the case with the example in (55): there is lowering of the high front vowel /i/, that this way is put at the same level of the neighboring schwas.

(55) appeal /ə'pi:l/

appellant /ə'pɛlənt/

3.3.3.2.3. Loss and addition of phonemes.

In (56) there occurs loss of the last diphthong when -ant is added. We have not found other examples to establish a paradigm, but probably -ant does not attach to vowel sounds.

(56) occupy /'akyə, pay/

occupant /'akyəpənt/

The base of applicant, the verb apply, ends in the same vowel sound as occupy, but the phonological result of the addition of the suffix is entirely different. Besides losing the last diphthong the phonemes /-ək-/ are added to the base when the suffix -ant attaches to it.

(57) apply /ə'play/

applicant /'æpləkənt/

3.4. The suffix -ist.

3.4.1. Syntax and semantics.

The agentive nouns formed by the addition of the suffix -ist to a base are still increasing its range of syntactic and semantic applicability.

It was initially used as the agent of verbs in -ize or in association with nouns of action or function in -ism, as in (58), but its use has been extended, including now a multitude of terms that have no corresponding forms in -ize or -ism. (Apud OED)

(58)	<u>agent</u>	<u>verb</u>	<u>noun</u>
	altruist		altruism
	atheist		atheism
	baptist	baptize	baptism
	catechist	catechize	catechism
	evangelist	evangelize	evangelism
	exorcist	exorcize	exorcism
	hedonist		hedonism
	polytheist		polytheism

We have already pointed out (Section 3.1.1.) that the use of a suffix may be conditioned by semantic, syntactic, or morphological aspects. In the case of -ist, the expansion of its use was basically due to the semantic content both of the bases it used to attach to and of the suffix itself.

In most examples it is added to bases related to sciences, arts, systems, doctrines, that is, branches of knowledge that follow a theory, a set of principles and are acquired by systematic learning. The -ist ending agentive noun indicates 'one who is devoted to the theory of X' where [X] -

stands for a branch of learning. Some examples are given in (59).

(59)	<u>base</u>	<u>agent</u>
	archeology	archeologist
	biology	biologist
	capitalism	capitalist
	idealism	idealist
	materialism	materialist

There is a group of nouns ending in Xgraphy that do not comply with the semantic criterion. Though they indicate a branch of learning, they do not form their agents by adding -ist. They indicate their specialists by adding -er, therefore being a clear example of morphological conditioning in word derivation. The amount of formations that follow the structure $[Xgraphy_N \text{ er}]_{agent}$ to produce their agents testifies the productivity of the morphological criterion with Xgraphy nouns. Some are:

(60)	geography	- geographer
	biography	- biographer
	demography	- demographer
	photography	- photographer
	typography	- typographer

The application of -ist was increased, being the suffix added to words referring to any activity requiring specialized knowledge. In modern times, it is the agentive noun of most professions, since, with the development of society, almost all activities require long and intensive preparation. Some examples are:

(61)	cartoonist
	cyclist
	journalist

novelist
pianist

The suffix -ist was extended also to professional - people whose occupations are rather mechanical and do not require a course of studies in order to be mastered. In this case prominence was given to specialization rather than to knowledge of principles. Carrying a high degree of specialization, the suffix -ist has been used in an attempt to dignify some occupations. This practice, much used in the United States, results from a tendency to glorify the commonplace. Some examples are:

(62) chartist - a habitual watcher of business and stock-market charts.

manicurist - a person who gives manicure treatments

receptionist - one employed to greet callers.

red tapist - one who adheres strictly or mechanically to official routine.

typist - one who does typewriting.

As we have seen, the WFR that makes agents by the addition of -ist is governed by the semantic content both of the base and of the suffix. As semantics plays such an important role, syntax is irrelevant. There are no syntactic constraints to the application of the rule and it is added to words of different categories, such as nouns, adjectives and verbs.

Next, just to be consistent with the general organization of this paper and to give examples of each syntactic category, we are going to divide the -ist derivatives according to their bases. It is implicit, however, that the semantic content of the derivative is not conditioned by syntax.

3.4.1.1. Noun base.

(63) $[X]_N \longrightarrow [[X]_N \text{ ist }]_N$

When the base is a noun it covers sciences (64), personal names (65), names of languages and nationalities(66), musical instruments (67), types of artistic production (68)and a variety of independent words including nonce formations(69).

(64) anthropology - anthropologist
archeology - archeologist
biology - biologist
economy - economist
musicology - musicologist
philology - philologist
physics - physicist
sociology - sociologist
etc.

(65) Budha - Buddhist
Calvin - Calvinist
Darwin - Darwinist
Locke - Lockeist
etc.

(66) American - Americanist
Brazilian - Brazilianist
German - Germanist
Latin - Latinist
etc.

(67) cello - cellist
guitar - guitarist
organ - organist
piano - pianist
violin - violinist

- (68) cartoon - cartoonist
 column - columnist
 drama - dramatist
 humor - humorist
 journal - journalist
 novel - novelist
 satire - satirist

- (69) chart - chartist
 duel - duellist
 extortion - extortionist
 lobby - lobbyist
 perfection - perfectionist
 reception - receptionist
 red tape - red tapist
 tobacco - tobacconist
 truth - truthist
 etc.

3.4.1.2. Adjectival base.

- (70) $[X]_{Adj.} \longrightarrow [[X]_{Adj.} ist]_N$

When the base of the -ist agent derivative is an adjective, there exists often a corresponding abstract noun in Xism and a corresponding adjective in Xistic. Some examples are given in (71).

- (71) $[Xist]_N$ $[Xism]_N$ $[Xistic]_{Adj.}$
 fatal - fatalist - fatalism - fatalistic
 formal - formalist - formalism - formalistic
 human - humanist - humanism - humanistic

material	-	materialist	-	materialism	-	materialistic
natural	-	naturalist	-	naturalism	-	naturalistic
pure	-	purist	-	purism	-	puristic
real	-	realist	-	realism	-	realistic
social	-	socialist	-	socialism	-	socialistic
universal	-	universalist	-	universalism	-	universalistic

Semantically Xist is related to Xism, being Xist one who is devoted to the principles of the doctrine represented by Xism.

3.4.1.3. Verbal base.

(72) $[X]_V \longrightarrow [[X]_{Vist}]_N$

Though they do not constitute the most productive class, verbs can also be the base of -ist derivatives. The same meaning of devotion to or systematic knowledge of a theory is present here, as can be seen in most of the examples in (73):

(73)

compute	-	computist
conform	-	conformist
controvert	-	controvertist
copy	-	copyist
cycle	-	cyclist
separate	-	separatist
speculate	-	speculatist
type	-	typist

In some cases a deverbal -er agentive can be derived from the same bases that attach to -ist (copier - copyist, computer - computist). The differences and similarities of the two deverbal suffixes will be seen in Section 4.1.3.

3.4.2. Morphology.

3.4.2.1. The nominal base.

Being a suffix of Greek origin, initially -ist was productive with nouns of Greek formation in Xy (botany, monopoly; theory), Xma (algebra, dogma, drama), and Xlogy (etymology, geology, mythology).

Due to the force of its semantic content, -ist overcame these morphological restrictions and was added to nouns and adjectives of Latin or other origin with a cognate noun in Xism (capital, ideal, journal, natural, social, etc.).

Later its use was enlarged, being added to nouns without accompanying words in Xism (art, humor, guitar, novel , etc.).

The wide range of morphological applicability of the suffix -ist testifies its high productivity.

3.4.2.2. The verbal base.

Examining the verbal bases in (73), we saw that they are made up of a variety of morphemes, presenting no morphological restrictions to the attachment of the suffix -ist.

The rule operates because of the semantic content of the suffix and not because of the morphemic constituents of the base.

3.4.2.3. The bound base.

The suffix -ist attaches also to bound bases, and, of course, these derivatives, like the other ones of the same kind, form a closed set that is no longer productive in the language.

Being bound the bases do not occur in isolation and so cannot be assigned to any syntactic or semantic category.

It is the suffix -ist that gives them syntactic and semantic identity and assigns them the meaning that characterizes the -ist derivatives. Some examples are:

(74)	altru-	altruist
	anim-	animist
	athe-	atheist
	bapt-	baptist
	de-	deist
	ego-	egoist
	egot-	egotist
	hedon-	hedonist
	monothe-	monotheist

3.4.3. Phonology.

3.4.3.1. / -Ist /.

The suffix -ist has just one allomorph / -Ist / and, as the majority of English suffixes, it is not stressed. As it does not carry the primary stress, it does not cause stress shifts when it is added to the bases. Even so some words under go morphophonemic changes.

3.4.3.1.1. Loss of final vowels.

Words ending in vowels, such as / a; o / tend to lose the final vowel when / -Ist / is added.

(75)	Buddha	- Buddhist
	cello	- cellist
	piano	- pianist

The loss, however, does not occur when the final vowel is / ɪ /, as in:

- (76) copy - copyist / kɑpɪst /
 bobby - bobbyist / lɑbɪst /

3.4.3.1.2. Addition of phonemes.

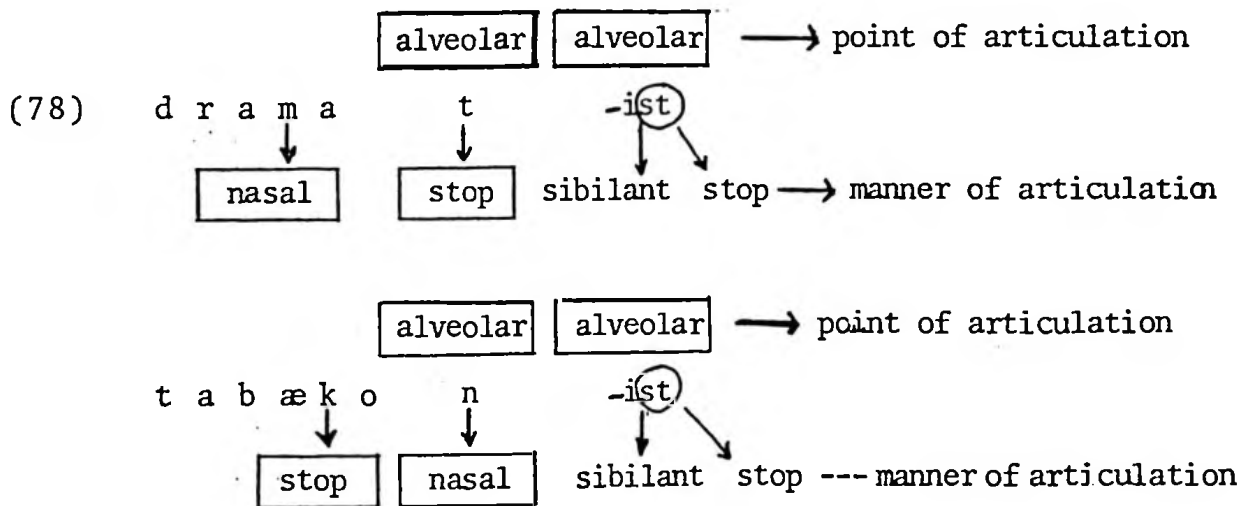
We also have examples of addition of phonemes after words ending in vowels. In the specific case of words in -ma / mə / (77a), the phoneme /t/ is added when the attachment of -ist occurs. To the word tobacco (77b) /n/ is added under the same circumstances.

- (77a) dogma - dogmatist
 drama - dramatist
 epigramma - epigrammatist

- (77b) tobacco - tabacconist

The reason that two different phonemes - / t / and / n / - are added, seems to be the manner of articulation of the last consonants of the bases.

Let's consider the words drama and tobacco.



The suffix -ist / -ɪst / is made up of two alveolar consonants: a sibilant /s/ and a stop /t/. In both examples mentioned, an alveolar consonant /t/ and /n/ is added, in as assimilation with the point of articulation of the suffix. The phonemes differ in manner of articulation and this seems to be caused by the base. When the last consonant of the base is a nasal / m / as in drama, a stop is added; when the last consonant of the base is a stop /k/, as in tobacco, a nasal / n / is added. So the phoneme added assimilates to the suffix in point of articulation and dissimilates from the base in manner of articulation.

3.4.3.1.3. Change of phoneme.

The last consonant of science /s/ changes into / t / when -ist is added.

- (79) science / 'sayəns /
 scientist / 'sayəntɪst /

There seems to be assimilation of /s/ with the last sound of the suffix, causing a change in manner of articulation from sibilant to stop.

3.5. The suffix -ian.

3.5.1. Syntax and semantics.

The WFR that attaches the suffix -ian to a base in order to form agentive nouns operates on a limited group of words. The words that constitute the input to the rule are, in their great majority, names of arts or sciences, such as magic, mathematics, music, statistics, etc. So the rule has the following structure:

- (80) $[X]_N \longrightarrow [[X]_N \text{ian}]_N$

The -ian derivative indicates 'one who is skilled in X'. It means that the agent has the ability to use his knowledge effectively in the performance of his activity.

To make the semantic content of -ian derivatives clearer, we will consider in (81) two representatives of this class: musician and physician.

(81) music - that one of the fine arts which is concerned with the combination of sounds with a view to beauty of form and the expression of emotion. (OED)

musician - one skilled in the science or practice of music.

- a professional performer of music, esp. of instrumental music. (OED)

physic (arch) - the knowledge of the human body, esp. the theory of diseases and their treatment. (OED)

physician - one who practices the healing art, including medicine and surgery. (OED)

Both the musician and the physician execute their "arts" by putting learning to practical use.

The rule that forms agents by attaching -ian always has nominal bases, but there are some minor syntactic and semantic variations worth mentioning.

3.5.1.1. Noun base.

(82) $[X]_N \longrightarrow [[X]_N \text{ian}]_N$

$\left[\begin{array}{l} - \text{Count} \\ + \text{Abstract} \end{array} \right]$

The suffix -ian attaches to nominal bases with the syntactic features [-Count] and [+Abstract] that belong to the semantic domain of arts or sciences, such as:

(83)	acoustics	- acoustician
	arithmetic	- arithmetician
	didactic	- didactician
	electric	- electrician
	ethics	- ethician
	grammar	- grammarian
	history	- historian
(1)	library	- librarian
	logic	- logician
	magic	- magician
	mathematics	- mathematician
	music	- musician
	pediatrics	- pediatrician
	physic (arch)	- physician
	politics	- politician
	statistics	- statistician

(1) Library is the only word that indicates a place instead of referring to a branch of knowledge.

3.5.1.2. Adjective base.

$$(84) \quad [X]_{\text{Adj.}} \longrightarrow [[X]_{\text{Adj.}} \text{ian}]_{\text{N}}$$

By analogy with the nouns in Xic, which constitute the greatest part of its bases, the rule was applied also to adjectives in Xic (85), supplanting the forms in -ist (academist, geometrist) derived from the nouns. In this case the range of applicability of the rule was increased because of morphological reasons.

(85)	<u>noun</u>	<u>adjective</u>	<u>agentive noun</u>
	academy	academic	academician
	geometry	geometric	geometrician

In the group of adjectival bases, though not ending in -ic, we may include veterinary. It produced the agentive form veterinarian, probably by analogy with physician.

3.5.1.3. The suffix -ician.

$$(86) \quad [[X] \text{ician}]_{\text{N}}$$

In some derivations we notice a different structure: a base + -ician.

Being employed in so many instances after names of arts or sciences in Xic, the suffix -ian was attached to -ic and the resulting form -ician was used to lend dignity and attractiveness to certain commonplace occupations. That is the case with mortician and beautician. The addition of -ician emphasized the skill needed and therefore dignified the work of the undertaker and the hairdresser elevating it to the rank of arts.

3.5.2. Morphology.

The bases of the rule that attaches -ian to form agents refer to names of arts or sciences and their output has the meaning 'one who is skilled in X'. This semantic coherence unquestionably favors the productivity of the rule.

In spite of the fact that an important part is played by semantics, special prominence must be given to morphological aspects. -ian attaches most productively to bases of the form Xic and this characteristic was responsible for the extension of the rule to adjectives with the same form. Though in this case there was a syntactic expansion based on morphological conditions, if we consider the rule as a whole, we see that it has a lesser degree of productivity exactly because it is morphologically conditioned: it attaches almost exclusively to bases of the form Xic. (1)

Considering the morphological features, the elements of the rule may present the following forms:

(1) "The words of this class that were in use before 1500 had the singular form, and were usually written, after French (-ique), retorique, mathematique (-ike, -ik), etc. This form is retained in such words as arithmetic, logic, magic, music, rhetoric. But, from the 15th century, forms in -ics (-ique), occur as names of treatises, e.g. etiques and in the second half of the 16th century this form is found applied to the subject matter of such treatises, in matematics, economics, etc. From 1600 onwards, this has been accepted form with names of sciences, as acoustics, dynamics, ethics, linguistics, statics, or matters of practice, as aesthetics, economics, gymnastics, politics, etc. In recent times some writers, following German or French usage, have preferred to use a form -ic, as in dialectic, dogmatic, static, etc." (OED, p. 1365).

3.5.2.1. Bases in Xic.

Most of the bases have the form Xic. In (83) there are examples of [Xic_N ian], the most productive syntactic category, and in (85) we have words of the form [Xic_{Adj.} -ian].

3.5.2.2. Other bases.

A minor group of words - grammar, history, library, veterinary - does not follow the dominant morphological characteristic of the bases. With the words above, the morphological conditioning did not work and they seem to have been included in the rule because of their semantic content.

3.5.2.3. The suffix -ician.

The form -ician shows the strength of the morphological conditioning of the base in the operation of the rule.

The meaning of the output is not conveyed by the suffix -ian alone - in which case just the suffix would be added to create new terms - but by this suffix added to a base Xic.

The strong morphological characterization of the base gave origin to -ician which was added both to bound (mort-) and to free forms (beauty), meaning 'one who is skilled in X'.

3.5.3. Phonology.

As was pointed out in Section 2.2.2.3., a WFR will usually have some phonological reflex. A suffix is added to a base and the phonological form of the suffix has different realizations depending on the phonological entity of the base.

When the suffix -ian is added to a base the primary stress shifts to the syllable preceding the suffix. So we have:

- (87) beauty - beau'tician
 history - his'torian
 physic - phy'sician
 etc.

-ian has two allomorphs - /-yan/ and /-ʃən/ - in complementary distribution.

3.5.3.1. /-yan /.

This is the unrestricted variant . There are no conditions on its attachment, except that it is not affixed in cases where the conditions of attachment of the other variant are met.

There are only a few instances of /-yan/ and it occurs after a vowel-final stem /ɪ/ or after the semivowel /r/.

3.5.3.1.1. Stress shift.

The stress shift that occurs with the addition of -ian does not interfere in the vowel quality of the words in Xary because of their stress pattern. The syllable that receives the primary stress in the derived form has a secondary stress in the base. As it was stressed, it had the lax vowel /ɛ/ and it did not change after it got the primary stress.

- (88) library / 'lay,brɛrɪ / | librarian /lay'brɛrɪən/
 veterinary / 'vetrə,nɛrɪ/ | veterinarian /,vɛtrə'nɛrɪən/

3.5.3.1.2. Stress shift and vowel change.

The words in (89) have undergone vowel change. There was the weakening of vowels that lost their stress / æ > ə / and the change of reduced vowels to short ones when the stress shifted onto the syllable. / ə > ɛ; ə > ɔ /.

- (89) grammar /'græməɹ / - grammarian /grə'mɛɹiən /
history /'histəri / - historian /his'tɔriən /

3.5.3.2. / -ʃən /.

This palatalized variant of the suffix -ian occurs after /-rk /-final stems. The final consonant of the base, a velar stop, is replaced by a sibilant palatal because of the presence of the semivowel /y/ in the suffix.

3.5.3.2.1. Stress shift.

With the addition of the suffix /-ʃən/ the stress always shifts to the syllable preceding the suffix.

Some examples are:

- (90) arithmetic /ə'riθmə,tik/ arithmetician /ə,riθmə'triʃən/
music /'myuzɪk/ musician /myu'zɪʃən/
politics /'pɒlə,tɪks/ politician /,pɒlə'triʃən/
rhetoric /'rɛtərɪk/ rhetorician /,rɛtə'riʃən/

3.5.3.2.2. Stress shift and vowel change.

The stress shift generally changes the vowel quality of the syllables that receive and lose stress.

Some examples are:

- (91) logic /'lɒdʒɪk/ logician /lə'dʒɪʃən/
magic /'mædʒɪk/ magician /mə'dʒɪʃən/
statistics /stə'tɪstɪks/ statistician /,stætə'stɪʃən/

4. CONTRASTS.

In the previous chapter we studied the WFRs that form agentive nouns by the addition of the suffixes -er, -ee, -ant, -ist, and -ian.

After analysing each agent according to its semantic, syntactic, morphological and phonological properties, we have verified that, although they have a different semantic content, they present many similarities.

This chapter contrasts pairs of agents which present some similarities. They are divided into two groups according to the syntactic category of the base: verb-based and noun-based agents.

4.1. Verbal bases.

In this group we deal with pairs made of a lexically identical base that attaches to different suffixes, such as escaper - escapee, server - servant, separator - separatist, etc.

The occurrence or non-occurrence of different suffixes with the same base has been discussed in detail by Aronoff. According to him the key to the problem is a phenomenon which he calls blocking. "Blocking is the nonoccurrence of one form due to the simple existence of another. The reason we do not find *occurment or *occuration is because we already have occurrence." (ARONOFF, 1981:60).

In some instances semantic drift may occur with one item and another may take its place. The result is more than one item of a given class in a given stem, but not with the same meaning. Such is the case with humanity and humanness: the first used to mean 'being human'; it has drifted and was replaced by humanness.

Blocking prevents the listing of synonyms in a single stem, but, as long as the forms do not have the same meaning, it is perfectly possible to have more than one form in a single stem. The fact is exemplified in the pairs below:

(92) al/ation

proposal - the thing proposed; a request that a person should agree to be married to the person asking. (OAD)

proposition - a statement, an assertion. (OAD)

recital - a musical entertainment given by one performer or a group. (OAD)

recitation - a thing recited. (OAD)

ure/ation

junction - a point of time, a critical convergence of events. (OAD)

junction - a place where things join or cross. (OAD)

Aronoff does not exclude the possibility that two words will occur with the same meaning, but rather he excludes the possibility that there should be two words with the same meaning and the same stem in the same person's lexicon at the same time.

With all these statements in mind, we shall now consider the pairs of deverbal agents that have identical lexical bases. To wit: Xee and Xer (escapee - escaper), Xant and Xer (servant - server), and Xist and Xer (computist - computer).

4.1.1. [X_{Vee}] J_N and [X_{Ver}] J_N .

We did not find many pairs of the form Xee and Xer with identical bases, but the ones found are enough to reinforce what was stated in 4.1.; when different suffixes occur with the same base the output is semantically different.

The bases considered are intransitive verbs that form agents by adding either -er or -ee.

Xer is the unmarked agent that conveys simple agency regardless of any external circumstances or actions.

Xee's action, on the other hand, is linked to a previous action or situation - being sent to prison, being called to arms, the lack of seats - to which he was powerless to react, acting as a patient.

The forced passivity in the source action or situation (Action 1) has triggered an Action 2 whose agent is represented by Xee.

In all the examples found we verified a chain of events whose source action or situation lies in a place - prison, country, place of amusement - and whose -ee agent seems to incorporate the locative related to the specific action. This characteristic gives a certain uniformity to the individuals that are considered as part of a group.

The contrasts found are:

(93) escaper - one who escapes, who runs away."The bright escaper from a world of grief".

escapee - a person who has escaped from prison or other confinement. (OAD)

- returner - one who returns.
 returnee - a person who returns, esp. one returning from military service abroad. (OAD)
 stander - one who or something which stands. (the place and reasons are not considered. (OED)
 standee - (informal - a person who stands in a bus or theater, etc. because all seats are occupied. (OAD)

Summing up we have:

(94).

$[X_{vee}]_N$ - one who Xs forced by a previous action or situation to which he was powerless to react.
 $[X_{ver}]_N$ - one who Xs.

4.1.2. $[X_{vant}]_N$ and $[X_{ver}]_N$.

There are many pairs of agents of the form Xant and Xer whose bases are identical.

We have seen above (4.1.) that when two different outputs derive from the same base, they are semantically different and this can easily be verified by the examples in (95).

Both Xant and Xer indicate 'one who Xs', but the former has an official support in order to act. Because of his position or because of a legal agreement, such as a lawsuit,

a lease, the -ant derivative has the right to perform the action represented by the verb.

The Xer agent, on the other hand, does not have a systematic and official character, but indicates someone who is temporarily performing the action represented by the verb. Its base has no semantic restriction having a more general sense and even indicating, in some cases (cutter, applier, etc), a material agent.

Some examples are:

- (95) applicant - a person who applies, esp. for a job. (OAD)
- applier - he who or that which applies. (OED)
- celebrant - the priest who officiates at a religious ceremony. (OAD)
- celebrator - one who honors an event with festivities. (OAD)
- complainant - one who enters a legal complaint against another. (OAD)
- complainer - one who states he is suffering from a pain, etc. (OAD)
- defendant - a person accused or sued in a lawsuit. (OAD)
- defender - one who defends (tries to preserve, puts forward a justification). (OAD)
- descendant - a person who is descended from another. (OAD)
- descender - one who descends, goes down. (OAD)

- informant - a person who gives information.
(OAD)
- informer - a person who reveals information to the police, etc about secret or criminal activities.
(OAD)
- protestant - a member of any of the Christian bodies that separated from the Catholic Church in the Reformation. (OAD)
- protester - one who expresses his disapproval of something. (OAD)
- servant - a person employed to do domestic work in a household.
- server - one who serves (e.g. one who serves the ball in tennis).
(OAD)

Summing up we have:

(96)

$\llbracket X_v \text{ant} \rrbracket_N$ - one who is entitled to X because of an official support.

$\llbracket X_v \text{er} \rrbracket_N$ - one who Xs.

4.1.3. $\llbracket X_v \text{ist} \rrbracket_N$ and $\llbracket X_v \text{er} \rrbracket_N$.

Like the two previous contrasts, this one also has Xer agents as one of the elements.

In the contrasts below Xer indicates both 'one who Xs' and 'something that Xs', testifying to its wide semantic content.

In the examples in (97) Xer indicates machines, devices used to perform the actions. In the OED, which includes all the meanings a word has had, computer means also 'one who computes' and separator, 'one who separates'. With the advance of technology and the consequent replacement of human work by machines, these words have drifted semantically, indicating not the personal agent, but the material agent of the action. The previous meaning slot was replaced by Xist.

- (97) computer - an electronic machine for making calculations, storing and analyzing information fed into it. (OAD)
- computist - one skilled or employed in computing. (WI)
- separator - a machine that separates things (such as cream from milk). (OAD)
- separatist - a person who favors separation from a larger unit, as to achieve political independence.

In the examples in (98) Xer indicates 'one who Xs' without any further implication but the performance of the action. Xist, on the other hand, has a systematic and professional content, as in copyist and cyclist, or indicates one who follows the general principles of a theory (represented in these examples by a noun in Xism) even if at the present moment he is not performing the action.

- (98) conformer - one who conforms.
- conformist - a person who readily conforms to established rules or standards, etc. (OAD)

- copier - one who copies
- copyist - a person whose occupation is to make copies of documents, etc.
(WI)
- cycler - one who rides a cycle.
- ciclist - one who systematically rides a bicycle as a professional activity.
- escaper - one who escapes, who runs away.
"the bright escaper from a world of grief".
- escapist - a person who likes to escape from the realities of life by absorbing his mind in entertainment or fantasy. (OAD)
- speculator - one who speculates; esp. Com. one who speculates in business; one who engages in speculation, as in stocks, bonds, real estate.
(WI)
- speculatist - one who speculates, or forms theories; a theorist. (WI)

Summing up we have:

(99)

- | | |
|---|--|
| $\left[\bar{X}_v \text{ist} \right]_N$ | <ul style="list-style-type: none"> - (1) one whose occupation is to X. - (2) one who is devoted to the principles of Xism. |
| $\left[X_v \text{er} \right]_N$ | <ul style="list-style-type: none"> 1. one who Xs. 2. something that Xs. |

4.2. Nominal bases.

The bases of the pairs of agents studied in this section are not lexically identical, as in the previous group, but merely syntactically similar. They are all nouns and depending on their semantic content, they attach either to the suffix -er, or -ist, or -ian to form agents.

As we noted above "semantically, the meaning of the output of a WFR will always be a function of the meaning of the base". (ARONOFF, 1981:50). In the three pairs below we will consider the semantic content of the bases and the suffixes, since their semantics is responsible for their attachment to and the resulting meaning of the output.

4.2.1. $\lfloor X_N \text{er} \rfloor_N$ and $\lfloor X_N \text{ist} \rfloor_N$.

The bases of Xer (100) and Xist (101) are semantically different.

(100) bank - banker 'the keeper or manager of a bank'. (OED).

bow - bowyer 'one who makes or trades in bows'. (OED)

garden - gardener 'one who tends, lays out or cultivates a garden'.

hat - hatter 'a maker or dealer in hats'. (OED)

hose - hosier 'one who makes or deals in hose'. (OED)

mine - miner 'one who works in a mine'. (OED)

- (101) biology - biologist 'one who studies biol
oly' (OED)
- drama - dramatist 'a writer of dramas'.
(OAD)
- novel - novelist 'a writer of novels'
(OAD)
- sociology - sociologist 'a student of soci
ogy; one who is interested in
social problems'. (OED)

The suffix -er attaches most productively to concrete nouns or to nouns indicating places, the meaning of the output being either 'one who habitually manipulates or trades with X' or 'one who habitually works at X'.

The suffix -ist, on the other hand, attaches to abstract nouns that represent a branch of knowledge, such as sciences, arts, principles, doctrines, and the output refers to 'one who is devoted to X in a professional and systematic way'.

In many instances, because of the semantic con
tents of the bases, Xer performs an overt physical activity, while Xist performs an intellectual activity. With technol
ogical progress and the high demand for specialization in the modern world, Xist agents tend to increase in number. They in
dicate many modern occupations such as analyst, computist, se
manticist, etc.

Summing up we have:

(102)

<p>$[X_N \text{er}]_N$ - one who habitually manipulates or trades with X. - one who habitually works at X.</p> <p>$[X_N \text{ist}]_N$ - one who is devoted to X in a professional and systematic way.</p>

4.2.2. [X_N^{er}] and [X_N^{ian}].

Some confusion may result from -er and -ian agentive nouns since both derive from nominal bases. As in the previous pair, the contrast between Xer and Xian lies in the semantic content both of the bases and the suffixes. The output and the base of the WFR that attaches -er to nouns were exemplified in (100) above, its main meaning being 'one who habitually manipulates or trades with X'.

The suffix -ian attaches most productively to bases that refer to arts or sciences and the output means 'one who is skilled in X, who uses his knowledge of X to perform his activity'.

- (103) aesthetics - aesthetician 'one versed in or occupied with aesthetics. (OED)
- clinic - clinician 'a physician who treats patients, as opposed to one who conducts research. (OAD)
- grammar - grammarian 'one versed in the knowledge of grammar. (OED)
- magic - magician 'one skilled in magic or sorcery. (OED)
- music - musician 'one skilled in the science or practice of music'. (OED)

Both Xer and Xian denote occupations however, because of the different semantic content of their bases, they belong to different classes of workers: the former are concerned with manual work, while the latter put their knowledge into practical use.

In all the derivations studied up to now, the form of the agents was conditioned by the semantic content of

the bases. However, there is a group of words in Xgraphy that refer to a branch of learning and whose agents, nevertheless, are formed by adding -er. Regardless of their semantic content, they are morphologically conditioned by the ending of the base. Some of them are:

- (104) biography - biographer 'a person who writes a biography'. (OAD)
demography - demographer 'one who studies population statistics relating to births, deaths, disease, etc. (OAD)
geography - geographer 'an expert in geography'.(OAD)
photography - photographer 'a person who takes photographs'. (OAD)
typography - typographer 'an expert in typography'.

Summing up we have:

(105)

$[X_N\text{ian}]_N$ - one who is skilled in $[X]$.

$[X_N\text{er}]_N$ - 1) one who habitually manipulates or trades with X.
- 2) (after graphy): one who is skilled in X.

4.2.3. $[X_N\text{ian}]_N$ and $[X_N\text{ist}]_N$.

The bases of this pair have a very similar semantic content. Both refer to arts and sciences but, depending on the suffix that is added, either the theoretical or the practical aspect of the branch of knowledge is stressed. This testifies that suffixes carry their own semantic content.

The suffix -ian attaches most productively to names of arts or sciences of the form Xic. Though the semantic content of the bases plays an important role we cannot disregard the Xic form of the bases to which -ian is added.

- (106) magic - magician 'one skilled in magic or sorcery' (OED)
- mathematic - mathematician 'one who is skilled or learned in mathematics'. (OED)
- pediatrics - pediatrician 'a physician specializing in pediatrics'. (OED)
- rhetoric - rhetorician 'an expert in the effective use of language'. (OAD)
- statistics - statistician 'an expert in statistics'. (OAD)

The suffix -ist attaches to nouns that belong to a wider range of human knowledge, including arts, sciences, systems, doctrines, anything requiring systematic study or professional dedication.

- (107) biology - biologist 'an expert in biology'. (OAD)
- journal - journalist 'a person employed in writing for a newspaper or magazine'. (OAD)
- mythology - mythologist 'an expert in mythology'.
- piano - pianist 'a person who plays the piano'. (OAD)
- theory - theorist 'a person who theorizes'. (OAD)

Though the bases of Xian and Xist are very similar, the meaning of the output is quite different due to the semantic content of the suffix itself.

The activity of both agents derives from the

knowledge they have of the subject represented by the base, but the way this knowledge is handled is quite different.

Xist's intellectual work does not tend to have a practical purpose, but aims at the development of knowledge by means of study and research, while Xian uses his knowledge effectively to perform his activity. In short, it is the contrast between theory and practice.

- (108) music - the art of arranging the sound of voices or instruments or both in a pleasing sequence or combination. (OAD)
- musician - a person who is skilled at music, one whose profession is music. (OAD)
- musicology - the study of music other than that directed to proficiency in performance or composition. (OAD)
- musicologist: - one who devotes himself to the study of music as a branch of knowledge. (WC)

In the above examples there is a clear difference between the musician that uses his knowledge of music to perform and the musicologist that does not aim at performances, but carries on historical and theoretical investigation and analysis of specific types of music.

- (109) physic (arch) - the knowledge of the human body.(OED)
- physician - a doctor who practices medicine.(OAD)
- physics - the scientific study of the properties and interactions of matter and energy. (OAD)
- physicist - an expert in physics. (OAD)

In doing his work the physician applies his knowledge of the human body to try to cure his patient. On

the other hand, the physicist makes use of the elements that constitute the science of physics, aiming at new discoveries in his researches and favoring the development of the science.

(110) politics - the science and art of governing. (OAD)

politician - one practically engaged in politics.
(OAD)

politicist- a student of political science. (OED)

"The historian... according to me is distinct. He is not an anthropologist or an ethnologist, but if I may coin a word, he is a politicist. The political group or organism - the state - is his study".

Seeley, Political Science, 1896 i.26

In this pair again the performance, that is, the practical execution of ideas is contrasted with the theoretical knowledge. The politician's activity aims at producing a good social result by applying the science of governing. The politicist's work is limited to a room where he can study and in this way help to develop political science more fully. It is the politician's duty to derive practical benefits from the art of governing.

In short, in Xian the emphasis lies on the performance and in Xist it lies on the theory that underlies the knowledge.

Summing up we have:

(111)

<p>$\llbracket X_N^{\text{ian}} \rrbracket_N$ - one who is skilled in X. (emphasis on performance)</p> <p>$\llbracket X_N^{\text{ist}} \rrbracket_N$ - one who devotes himself to the theory of X. (emphasis on the study and development of the theory).</p>

5. CONCLUSIONS.

At the beginning of our thesis we proposed to study the English agentive nouns formed by the addition of the suffixes -er, -ee, -ant, -ist, and -ian to a base in order to determine whether these suffixes are variants of a single agentive morpheme or whether each one represents a distinct agentive morpheme.

In order to achieve our purpose we analyzed the phonological and morphological properties both of the bases and of the derived agentive nouns; we considered the syntactic features of the bases and the semantic content of both elements.

Most of the conclusions we came to in each area under consideration are of general application in word formation. We shall sum them up.

5.1. Phonology.

We demonstrated throughout this paper that the attachment of suffixes to bases is not phonologically conditioned.

5.1.1. Phonology and productivity.

Though suffixes are not attracted by specific sounds, the phonology of the resulting form plays a very important role in the productivity of a WFR.

CUTLER (1980) made a study to check productivity in word formation. In choosing neologisms, subjects in her study expressed a preference for derived words which were closer to their base words (transparent words) over those which were phonologically further away (opaque words).

Transparent words are those which preserve the phonology of the base (e.g. preciousness, scandalous), while opaque words are those in which the phonology of the base is altered (e.g. preciousity, piety) the stress can fall on a syllable other than the syllable stressed in the base word, a vowel which is tense in the base word can become lax in the derived word, etc.

Thus, it is possible to say that transparency or opaqueness of the derivative with respect to the base word determines speakers' preferences.

5.1.2. Morphophonemic changes.

In this section we analyzed the morphophonemic changes that occur when a suffix is attached to a base.

For example, the pronunciation of a word may be merely augmented by a phonetic sequence when a suffix is added to the word.

(111) dance /dæ ns/ dancer /dæ nsər/
 assist /ə'srɪst/ assistant /ə'srɪstənt/
 type /təɪp/ typist /təɪpɪst/

In other cases the phonological change may not be so simple. The addition of a suffix may produce different types of variation, such as stress shift as in (112):

(112) pay /pe/ payee /pe'i/
 library /laɪbrəri / librarian /laɪ'brɛriən /

or changes in the segmental phonemes of the stem, such as vowel change, palatalization, loss of phonemes, etc. (113):

(113) history /'hɪstərɪ / historian /hɪ'stɔriən /
 magic /'mædʒɪk / magician /mædʒɪ'sən /
 celebrate /'seləbreɪt/ celebrant /'seləbrənt/

5.2. Morphology.

5.2.1. Morphology and productivity.

As a general rule the morphological characteristics of the bases do not restrict the addition of agentive suffixes. The deverbal agentive nouns formed with the suffix -er (dancer, writer, etc.) constitute a good example: they are formed from bases made up of any morphemes. This characteristic adds to the productivity of the rule, for a WFR which has few morphological restrictions on the class of bases which it attaches is highly productive.

On the other hand, morphological conditions play an important role in the derivation of -ian agentive nouns (physician, musician, etc.). -ian is added almost exclusively to bases of the form Xic and this morphological restriction decreases the productivity of the rule.

5.2.2. Morphological conditioning.

The words of the group ending in Xgraphy (geography, lexicography) form their agentive nouns in -er because of a strong morphological conditioning of their bases. Though they refer to a branch of knowledge, and as such attract either -ist or -ian, words in Xgraphy, independent of their semantic content, form their agentive nouns in -er.

5.2.3. The problem of bound bases.

A special problem of morphological analysis, which we have discussed at length (Section 2.2.1.) concerns bound bases in word formation. There are different views concerning the problem: the descriptivists, placing great emphasis on form, insist on the segmentation of words with a bound base; stratificational linguists attack this position and say that, in terms of meaning; a word with a bound base can only be regarded as a single indivisible unit; ARONOFF disregards the problem by applying WFRs only to existing words.

The discussion could be prolonged fruitlessly. It is our opinion that it is possible to analyze words into parts even if some of those parts do not exist as independent words.

We would say that since the bases of words such as butcher, hedonist, mortician, etc., do not have lexical category or independent meaning, they only achieve their full syntactic and semantic realization when the suffixes are added to them. However each of these bases does have a latent meaning before its lexicalization occurs.

5.3. Syntactic features.

The agentive suffixes studied cannot be divided according to the lexical category of the words they attach to, since (though they show different levels of productivity), all of them attach to words of different categories.

5.3.1. The -er suffix.

The bases of -er consist of nouns, verbs, and bound bases, the verbal bases being the most productive class.

(114)	<u>denominal</u>	<u>deverbal</u>	<u>de-adjectival</u>	<u>bound base</u>
	banker	visitor	—	banker
	hatter	singer	—	butler

5.3.2. The -ee suffix.

The suffix -ee attaches mainly to verbs, though there is a small set of nouns with which it occurs as well. The verbs may be either transitive or intransitive and, depending on this syntactic subcategorization, the output is either passive or agentive.

The WFR that attaches to [-transitive] verbal bases produces agents, while the -ee nominals derived from [+transitive] verbal bases followed by [- + animate object] refer to the beneficiary of the action, meaning 'one who is Xed'. As the latter is not the focus of our study we will not include it in the chart below, which is restricted to agentive nouns.

(115)

<u>denominal</u>	<u>deverbal</u>	<u>de-adjectival</u>	<u>bound base</u>
—	[-transitive]	—	—
—	absentee	—	—
	escapee	—	—

5.3.3. The -ant suffix.

The suffix -ant attaches almost exclusively to verbal bases with [+ Human subject -]. There are nevertheless a few examples of -ant derivatives whose base is a bound form.

(116)

<u>denominal</u>	<u>deverbal</u>	<u>de-adjectival</u>	<u>bound base</u>
—	assistant	—	merchant
—	celebrant	—	tenant

5.3.4. The -ist suffix.

There are no syntactic constraints on the application of -ist to bases and it attaches to words of different categories, such as nouns, verbs, adjectives, and bound bases:

(117)

<u>denominal</u>	<u>deverbal</u>	<u>de-adjectival</u>	<u>bound base</u>
dramatist	cyclist	naturalist	atheist
geologist	separatist	socialist	hedonist

5.3.5. The -ian suffix.

The part of speech of the base plays no role in the formation of -ian derivatives. The suffix -ian attaches almost exclusively to nouns, but a few adjectives in Xic, by analogy with the ending of the noun bases, also add -ian to form the agentive derivative.

(118)

<u>denominal</u>	<u>deverbal</u>	<u>de-adjectival</u>	<u>bound base</u>
mathematician	—	academician	—
politician	—	geometrician	—

The form -ician is a result of the usual combination of -ian with nouns in Xic and is added to both nouns and bound bases.

(119)

<u>denominal</u>	<u>deverbal</u>	<u>de-adjectival</u>	<u>bound base</u>
beautician	—	—	mortician

5.4. Semantics.

5.4.1. Semantics and productivity.

Semantics plays a very important role in the productivity of suffixes.

Each rule has a semantic function and therefore assigns a specific meaning to the words formed by the rule. Consequently we can predict the meaning of any word formed by that rule. In this case the rule is said to be semantically coherent.

There is a direct link between semantic coherence and productivity, for "the surer one is of what a word will mean, the more likely one is to use it". (ARONOFF, 1981: 39). All the deverbal nouns of the form Xer mean "one who Xs habitually"; the class is therefore semantically coherent and this adds to the productivity of the rule.

5.4.2. Semantic contrast.

When a suffix is added it always introduces a new element of meaning.

In the course of our thesis, and through multiple contrasts, we have demonstrated that, though the five suffixes form agentive nouns, they exhibit semantic differences and therefore separate morphemes.

Summing up the main meanings of each agent we have:

(120)

	MEANING	EXAMPLES
Xer	one who Xs. It is the unmarked agent that conveys simple agency regardless of any circumstances.	driver dancer
Xee	one who Xs forced by a previous action or situation to which he was powerless to react.	escapee refugee
Xant	one who is entitled to X because of an official support.	dependant servant
Xist	one who is devoted to X in a professional and systematic way.	geologist novelist
Xian	one who is skilled in X.	musician physician

5.4.3. Semantic drift.

Considering the relationship between the meaning of a complex word and the meaning of its parts, several authors share the view that the meaning of complex words is a function of the meaning of its parts. So, for example, the agentive occupational suffix -er can be roughly paraphrased as in (121):.

(121). $[X_{Ver}]_N$ - 'one who Xs habitually.

Nevertheless, words have a life of their own and sometimes accrue some feature of meaning independent from their original semantic function, which restricts their basic meaning. We say that the word has undergone semantic drift. 'Computer' and 'separator' used to mean 'one who computes' and 'one who separates', but with the advance of technology and the replacement of human work by machinery, these words have drifted semantically, indicating not the personal agent, but the material agent of the action. Of course, when the semantic drift occurs the slot of the previous meaning is filled in by another word. The nouns that now refer to the personal agents are 'computist' and 'separatist'.

5.5. Psychological reality of morphological rules.

It is important to note that word formation rules specify the relationship between pairs of existing words and are followed by speakers in creating new words. They are not artificial creations of linguists, but have psychological reality in the mind of speakers.

AKMAJIAN (1981) illustrates this psychological reality with the process called backformation, which is, in a sense, the process of using word formation backwards. The English nouns peddler, beggar, editor, and sculptor all existed

in the language before the corresponding verbs to peddle, to beg, to edit, and to sculpt. Since each of the nouns referred to a general profession or activity, and since each noun terminated in a phonetic sequence similar to the -er suffix, speakers simply assumed that the nouns ended in the agentive suffix -er. They subtracted the -er ending and arrived at a new verb.

The author goes on to give an interesting modern example of backformation with the agentive suffix, involving the word laser. This word is an acronym; it ends in er only because e stands for emission and r stands for radiation (ligh amplification by stimulated emission of radia tion). Speakers quickly forget such origins, and before long physicists had invented the verb to lase, used in sentences as "This dye, under the appropriate laboratory conditions, will lase", where to lase refers to emitting radiation of a certain sort. The er on laser accidentally resembles the agentive suffix -er, and the word itself refers to an instrument; hence, physicists took the -er sequence to be the agentive suffix and subtracted it to form a new verb. (Apud AKMAJIAN p. 126).

In sum, the list of words which a speaker has at his command at a given moment is not closed. The speaker always has the capacity to make up new words to add to his repertoire. It is the task of morphology to tell us what sort of new words a speaker will form and which suffix he will choose to achieve a specific meaning.

5.6. Final considerations.

Aronoff's framework, which we used in our thesis, functioned well in solving the questions posed in the introduction and proved to be effective in the analysis of meaning-related morphemes.

.Based on this theory we studied the agentive nouns and came to the conclusion that each one represents a distinctive agentive morpheme with its own specific semantic content. This conclusion about agentive nouns may be strong evidence that other suffixes expressing grammatical categories may also constitute contrastive morphemes and not simply be variations of a single morpheme.

We hope to have contributed to an important aspect of word formation and helped to stimulate interest in morphological studies, which, we believe, constitute a promising area of linguistic research.

C H A R T 1

-er

B A S E		O U T P U T	
<u>Syntax</u>	<u>Semantics</u>	[X]	[Xer]
1. noun	1.1. objects	hat bow glass	hatter bowyer glazier
	1.2. places	bank mine garden	banker miner gardener
2. verb	any semantic field	visit sing write	visitor singer writer
3. Bound forms	no meaning in isolation	barb- butl- port-	barber butler porter

(1) as the bases of these words have no meaning in isolation their semantics cannot be stated by means of a paraphrase.

CHART 2

-ee

BASE			OUTPUT	
<u>Syntax</u>	<u>Semantics</u>	[X]	[Xee]	<u>Semantics</u>
1.1. [+Transitive verb]	any semantic field	assign grant pay	assignee grantee payee	(passive) one who is Xed
1.2. noun	any semantic field	biography patent	biographee patentee	the beneficiary of X (passive)
2. [-Transitive verb]	any semantic field	absent escape return	absentee escapee returnee	one who Xs forced by circumstances

-ant

B A S E		O U T P U T	
<u>Syntax</u>	<u>Semantics</u>	[X]	[Xant]
1. Verbs [+Human subject —]	any semantic field	account assist immigrate litigate	accountant assistant immigrant litigant
2. bound bases	no meaning in isolation	merch- ped- ten-	merchant pedant tenant
			one who is entitled to X
			occupation (1)

(1) as the bases of these words have no meaning in isolation their semantics cannot be stated by means of a paraphrase.

-ist

B A S E			OUTPUT
<u>Syntax</u>	<u>Semantics</u>	[X]	[Xist]
noun	branch of knowledge	archeology drama mythology	archeologist dramatist mythologist
adj. with a corresponding noun in Xism	the noun represents a branch of knowledge	natural positive social	naturalist positivist socialist
bound base with a noun in Xism	no meaning in isolation	altru- athe- hedon-	altruist atheist hedonist
verb	any semantic field	cycle copy separate	cyclist copyist separatist
			<u>Semantics</u> one who is devoted to X in a professional and systematic way
			one who is devoted to Xism in a professional and systematic way
			one who Xs in a professional or systematic way

-ian

BASE		OUTPUT
<u>Syntax</u> noun [-Count +Abstract]	<u>Semantics</u> arts sciences	[Xian] arithmetician historian politician
adjective	(1) academic geometric	one who is skilled in X a member of an academy one who is skilled in Xy

-ician

BASE		OUTPUT
<u>Syntax</u> noun	<u>Semantics</u> any semantic field	[Xician] beautician mortician
bound base	no meaning in isolation	one who shows the skill of an artist in a commonplace occupation

(1) These adjectives attach -ian because of morphological conditioning.

A P P E N D I X

- er Agentive Nouns

actor
administrator
adulterer
artiller
astrologer
astronomer
banker
barker
barrister
bartender
beggar
biographer
blusterer
boxer
bowyer
brazier
broker
butler
carpenter
caterer
chiropractor
chorister
clothier
collector
collier
composer
counselor
crippler
curator
dancer
demographer
doctor
draper
dressmaker
driver
embroiderer
experiencer
exterminator
farmer
farrier
forester
fruiterer
furrier
gardener
geographer
glazier
grazier
grocer
hairdresser
hatter

hosier
hunter
investigator
lawyer
lexicographer
mariner
miner
officer
operator
painter
photographer
plumber
porter
poulterer
realtor
recoverer
reporter
sailor
sawyer
shoemaker
singer
slater
sophister
sorcerer
tailor
teacher
translator
typographer
undertaker
upholsterer
washer
welder
writer

- ee Agentive Nouns

addressee
alienee
appelee
assessee
assignee
bailee
bargee
biographee
collatee
cuttee
deportee
donee
draftee
educatee
employee
expellee
gagee
grantee
indorsee
laughee
legatee

lessee
mortgagee
nominee
patentee
payee
photographee
referee
sendee
talkee
trustee
vendee

- ce Passive Nouns

absentee
debauchee
devotee
escapee
evacuee
refugee
returnee
standee

- ant Agentive Nouns

abdlicant
accountant
anticipant
appellant
applicant
aspirant
assailant
assistant
attendant
celebrant
commandant
communicant
complainant
confessant
congregant
correspondent
débutant
declarant
defendant
demandant
demonstrant
dependant
descendant
dissident
emigrant
entrant
examinant
figurant
immigrant
informant
inhabitant

intransigent
jurant
litigant
mendicant
merchant
migrant
negotiant
obligant
occupant
participant
pedant
postulant
predicant
president
protestant
servant
superintendent
tenant

- ist Agentive Nouns

amoralist
analyst
anthropologist
apologist
archeologist
artist
baptist
bigamist
biologist
capitalist
cartoonist
catechist
chartist
chemist
colonist
columnist
computist
conformist
controvertist
copyist
cyclist
dentist
dramatist
dogmatist
economist
evangelist
exorcist
externalist
extortionist
fashionist
florist
guitarist
humanist
humorist
idealist

journalist
jurist
linguist
lobbyist
materialist
memorialist
mineralogist
moralist
musicologist
naturalist
novelist
oculist
opinionist
perfectionist
philologist
pianist
plagiarist
polytheist
purist
receptionist
red tapist
rhapsodist
ritualist
satirist
schematist
scientist
separatist
socialist
sociologist
speculatist
symmetrist
theorist
typist
ventriloquist

- ian Agentive Nouns

academician
acoustician
aesthetician
beautician
cosmetician
clinician
dialectician
electrician
ethician
geometrician
geriatrician
grammarian
historian
librarian
magician
mathematician
mortician
musician
pediatrician

physician
politician
rhetorician
statistician
theologian
veterinarian

G L O S S A R Y

- AFFIX:** The morpheme that is added to the base and modifies its meaning; e.g. -ian in magician.
- ALLOMORPH:** "a positional variant of a morpheme. The endings of cats, dogs, and churches all have the meaning plural but differ phonemically / s, z, ɪz / and are therefore allomorphs of the plural morpheme". (WARDHAUGH 1972: 203).
- BACK VOWELS:** Vowels produced in the back of the mouth or with the back of the tongue: /ɜ,u,o,ɔ/.
- BASE:** A morpheme to which affixes can be added and which carries the main semantic load; e.g. write in writer.
- BLOCKING:** "the nonoccurrence of one form due to the simple existence of another." (ARONOFF, 1981: 43).
- BOUND BASE:** A base that never occurs as an independent linguistic unit, e.g., -ceive, -turb, ver-.
- CENTRAL VOWELS:** Vowels produced in the central area of the mouth: /ə, a /.
- COMPLEMENTARY DISTRIBUTION:** "The occurrence of variants of a linguistic unit in different environments. Two or more linguistic variants are in complementary distribution when they have no common environment; for example the allomorphic variants /s/ of cats and /z/ of dogs, both meaning plural. (WARDHAUGH, 1972: 206).

- COMPLEX WORD: A word formed of a bound base + a derivational affix, such as conceive, disturb, version or a word formed of a free base + a derivational affix, such as hopeless, undo, lover.
- COMPOUND WORD: A word made up of a free morpheme + another free morpheme, such as blackboardlookout, housewife.
- CORONAL SOUNDS: When "the blade of the tongue moves up toward the teeth and teeth ridge. Dental, alveolar, and palatal sounds are coronal," e.g. /θ, d, ʃ /. (AKMAJIAN, 1981: 88).
- DE-ADJECTIVAL DERIVATIVE: A derived word whose base is an adjective, e.g. purist.
- DENOMINAL DERIVATIVE: A derived word whose base is a noun; e.g. physicist.
- DERIVATION: The process by which noninflectional affixes are added to bases to form words, as -er in singer.
- DERIVATIONAL AFFIX: An affix that alters the lexical meaning, often the part of speech, e.g., happy-happiness, act - actor, agree-agreement.
- DEVERBAL DERIVATIVE: A derived word whose base is a verb; e.g. washer.
- FREE FORM: "A linguistic form that can occur as an independent word, like cat, judge, and happy, but not the -s of cats, the -ment of judgement, or the un- of unhappy". (WARDHAUGH, 1972: 210).

- FRONT VOWELS: Vowels produced in the front of the mouth:
/ɪ, i, e, ɛ, æ /.
- HIGH VOWELS: Vowels produced with the lower jaw in a high position, i.e., a small opening of the mouth: / i, ɪ, u, ʊ /.
- INFLECTIONAL AFFIX: A suffix which adapts a word to a grammatical function without changing its meaning, e.g. the plural morpheme in boys.
- JUNCTURE: "the transition from one phonological segment to the next, either open or close. Also, the pause at the end of a phrase or utterance. (WARDHAUGH, 1972:213).
- LAX VOWELS: Vowels produced with very little muscular tension in the articulators:
/ɪ, ɛ, æ, ʊ, ɔ, a / . Also called short vowels.
- LONG VOWELS: See tense vowels.
- LOW VOWELS: Vowels produced with the lower jaw in a low position, i.e., a wide opening of the mouth: /æ, a, ɔ /.
- MID VOWELS: Vowels produced with the lower jaw in a mid position, i.e., a middle opening of the mouth: / ɛ, e, ə, o /.
- MORPHEME: "The minimal unit of meaning. Cats contains two such units and unwisely three". (WARDHAUGH, 192: 214).

MORPHOLOGICAL CONDITIONING:	"Specification of the distribution of an allomorph by reference to a morphemic environment rather than to a phonemic one; for example, English plural has the allomorph /ø/ in <u>deer</u> and vowel change in <u>men</u> .
MORPHOPHONEMIC CHANGE:	A variation "in the phonemic structure of allomorphs which [accompanies] their grouping into words". (FRANCIS, 1958: 210).
NOMINALIZATION:	A transformation by which a kernel sentence is transformed into a noun phrase, e.g., Carol has a car — Carol's car. (Apud HERNDON, 1976: 133).
NONCE FORMATION:	A formation "coined for one occasion". (OAD: 451).
OPAQUE WORDS:	Derived words which do not preserve the phonology of the base word, e.g., <u>celebrant</u> lost the final phoneme <u>-ate</u> of the base.
OUTPUT:	The derived word that results from the application of a <u>word formation rule</u> .
PHONOLOGICAL CONDITIONING:	"specification of the distribution of an allomorph by reference to a phonemic environment; for example, English plural has the allomorph /s/ after certain voiceless phonemes". (WARDHAUGH, 1972: 217).
PITCH:	The frequencies used in the production of speech.
PREFIX:	An affix added before the base, e.g., <u>con-</u> (<u>conceive</u>), <u>dis-</u> (<u>disturb</u>), <u>un-</u> (<u>undo</u>).

- PRODUCTIVITY: "[The] fact that, though many things are possible in morphology, some are more possible than others". (ARONOFF, 1981: 35).
- REDUCED VOWELS: There are two reduced vowels in English : /ə/ so called "because it is frequently a reduction of a regular vowel". (ARONOFF, 1981: 80) and /ɪ/.
- SEGMENTATION: The process by which a word is divided into its meaningful units.
- SEMANTIC DRIFT: "When a word accrues some features of meaning independent from its morphological origin. (AKMAJIAN, 1981: 125).
- SEMANTIC FIELD: "that aspect of experience which is covered by a term or a set of related terms". (NIDA, 1979: 233).
- SEMANTICALLY COHERENT: "a WFR is semantically coherent to the extent that one can predict the meaning of any word formed by that rule", (ARONOFF, 1981: 38), e.g., all-er derivatives mean 'one who Xs'.
- SHORT VOWELS: See lax vowels.
- SIMPLE WORD: A word made up of a free base, such as house, take, strong.
- STRESS: The intensity with which a sound is pronounced relative to that of other sounds.
- STRICT SUBCATEGORIZATION RULE: A rule that specifies environmental restrictions. For example, for a verb it specifies "which nouns it may appear with as well as how it may appear with certain nouns". (HERNDON, 1976: 201).

SUFFIX:	An affix added after the base, e.g., <u>-ly</u> (<u>sadly</u>), <u>-ing</u> (<u>running</u>), <u>-ed</u> (<u>jumped</u>).
SYNTACTIC FEATURES:	"properties that determine how [a word] might be used in combination with other categories of words". (HERNDON, 1976:156).
TENSE VOWELS:	Vowels produced with noticeable muscular tension in the articulators: /i,e,o,u /. Also called long vowels.
TRANSFORMATIONAL RULE:	"a rule that account[s] for and describe[s] the relationship among different types of patterns". (HERNDON, 1976: 23).
TRANSPARENT WORDS:	Derived words which preserve the phonology of the base word, e.g. <u>dance</u> - <u>dancer</u> .
TRUNCATION RULE:	A rule which deletes a morpheme that is internal to an affix, e.g., <u>nominate</u> - <u>nominee</u> .
UNRESTRICTED VARIANT:	A variant that is not conditioned by environmental elements.
WORD FORMATION RULES:	Rules of the lexicon which generate words.

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OS SUBSTANTIVOS AGENTIVOS EM INGLÊS

EM

-er, -ee, -ant, -ist e -ian

uma abordagem gerativa

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Dissertação de Mestrado
apresentada ao Departamento
de Letras Modernas da
Faculdade de Filosofia,
Letras e Ciências Humanas
da Universidade de São Paulo

Esta dissertação teve como finalidade estudar os substantivos agentivos da língua inglesa formados com o acréscimo dos sufixos -er, -ee, -ant, -ist e -ian a uma base a fim de determinar se esses sufixos são variantes de um único morfema agentivo ou se cada sufixo representa um morfema agentivo distinto.

Em nosso trabalho adotamos a teoria gerativa de formação de palavras de Aronoff. Segundo o Autor, todos os processos de formação de palavras têm como base uma palavra, i.e., uma forma livre da língua. Forma-se uma nova palavra aplicando-se uma regra de formação a uma palavra já existente. Assim temos:

$$[X]_A \longrightarrow \left[\left[X \right]_A Y \right]_B$$

onde tanto $[X]_A$ como $\left[\left[X \right]_A Y \right]_B$ são formas livres.

As Regras de Formação de Palavras (RFP) operam sobre um determinado grupo de palavras: a base da regra. Cada RFP especifica uma única operação fonológica - geralmente o acréscimo de um afixo - que ocorre com a base e confere identidade sintática e subcategorização à palavra resultante da operação, bem como especifica o seu conteúdo semântico.

Seguindo o modelo de Aronoff, analisamos cada um dos sufixos agentivos, considerando seu comportamento fonológico e morfológico quando são acrescentados a uma base, as características sintáticas dessa base e o conteúdo semântico da base, do sufixo e da combinação resultante.

As conclusões de nosso trabalho se situam em quatro áreas principais: a fonologia, a morfologia, a sintaxe e a semântica.

Fonologia

Demonstramos que não existe condicionamento fonológico determinando a ligação de um determinado sufixo a uma base, no entanto a fonologia da forma derivada tem um papel de grande importância na produtividade das RFPs. As palavras transparentes, que preservam a fonologia da base (worker, receptionist, etc.) são mais produtivas do que as palavras opacas, aquelas que se distanciam fonologicamente de suas bases (celebrant, physician, etc.)

Nessa parte, analisamos também as alterações morfofonêmicas que ocorrem quando um sufixo é acrescentado a uma base.

Morfologia

De um modo geral as características morfológicas das bases não limitam o acréscimo dos sufixos agentivos. Os agentivos deverbais formados com o sufixo -er (dancer, writer, etc.) são um bom exemplo: derivam de bases com qualquer constituição morfêmica. Quando isto ocorre, aumenta a produtividade da regra. Uma RFP que apresenta poucas restrições morfológicas nas bases a que se liga é altamente produtiva.

Na derivação dos agentivos em -ian, por outro lado, as características morfológicas das bases, terminadas na sua maior parte em Xic, diminuem a produtividade da regra.

Encontramos um único exemplo de derivação condicionada exclusivamente pelas características morfológicas de suas bases, independente de seu conteúdo semântico: as palavras terminadas em Xgraphy, que formam seus agentivos em -er (geography - geographer, etc.).

No decorrer do trabalho colocou-se o problema da derivação com bases presas, que parece gerar grande discordância entre os linguistas. Nós acreditamos que se pode estabelecer uma relação formal entre os elementos de uma palavra derivada com base presa (butcher, hedonist, etc.). As bases butch- e hedon- têm um sentido latente que alcança completa realização sintática e semântica quando estas são ligadas aos sufixos -er e -ist que conferem à palavra resultante uma categoria gramatical.

Sintaxe

Não podemos classificar os sufixos segundo a categoria gramatical das bases a que se ligam, uma vez que eles se ligam a palavras de diferentes categorias.

O sufixo -er tem como base substantivos (banker), verbos (singer) e bases presas (butcher).

O sufixo -ee tem como base verbos -transitivos (absentee, escapee).

O sufixo -ant tem como base principalmente verbos com + Sujeito humano (assistant) e algumas bases presas (merchant).

O sufixo -ist tem como base substantivos (geologist), verbos (cyclist), adjetivos (naturalist) e bases presas (atheist).

Semântica

A semântica tem um papel muito importante na produtividade dos sufixos. Cada RFP tem uma função semântica e confere um conteúdo específico às palavras por ela derivadas, podendo-se consequentemente prever o sentido de qualquer palavra formada pela mesma regra.

No decorrer da dissertação, através de múltiplos exemplos e contrastes, demonstramos que, embora os cinco sufixos estudados formem substantivos agentivos, eles apresentam diferenças semânticas e portanto constituem morfemas separados.

Resumindo os sentidos principais de cada agentivo temos:

	S E N T I D O	EXEMPLOS
Xer	aqueleque Xs. É o agente não marcado que denota simples agentividade independente de quaisquer circunstâncias.	driver dancer
Xee	aqueleque Xs forçado por uma ação ou situação prévia contra a qual não tem poderes para reagir.	escapee refugee
Xant	aqueleque tem direito de X devido a apoio oficial.	dependant servant
Xist	aqueleque se dedica a X de modo profissional e sistemático.	geologist novelist
Xian	aqueleque é perito em X	musician physicien

Em base a todos os aspectos estudados, podemos concluir que cada sufixo estudado forma um morfema agentivo distinto com seu próprio conteúdo semântico.