

# Personal/Participant/Inhabitant

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## **Summary**

## **Keywords**

### **1 Personal/Participant/Inhabitant derived nouns**

### **2 Semantic classification of P/P/I nouns**

2.1 Thematic P/P/I nouns

2.2 Athematic P/P/I nouns

### **3 Polysemy of P/P/I nouns**

### **4 Theoretical treatments of P/P/I nouns**

4.1 Generative approaches

4.1.1 Syntactic approaches

4.1.2 Non-syntactic approaches

4.1.3 Cognitive and functional approaches

### **5 Critical analysis of scholarship**

## **Further Reading**

## **References**

## Summary

The category of Personal/Participant/Inhabitant derived nouns comprises a conglomeration of derived nouns that denote among others agents, instruments, patients/themes, inhabitants, and followers of a person. Based on the thematic relations between the derived noun and its base lexeme, Personal/Participant/Inhabitant nouns can be classified into two subclasses. The first subclass comprises derived nouns that are deverbal and carry thematic readings (e.g. *driver*). The second subclass consists of derived nouns with athematic readings (e.g. *Marxist*).

The examination of the category of Personal/Participant/Inhabitant nouns allows one to delve deeply into the study of multiplicity of meaning in word formation and the factors that bear on the readings of derived words. These factors range from the historical mechanisms that lead to multiplicity of meaning and the lexical-semantic properties of the bases that derived nouns are based on, to the syntactic context into which derived nouns occur, and the pragmatic-encyclopedic facets of both the base and the derived lexeme.

**Keywords:** derivation, polysemy, lexical semantics, morphology-syntax interface

### 1 Personal/Participant/Inhabitant derived nouns<sup>1</sup>

The purpose of this article is to examine the morpho-syntactic and semantic properties of the category of Personal/Participant/Inhabitant (henceforth P/P/I) derived nouns. This category comprises a conglomeration of derived nouns that denote agents, experiencers, stimuli, instruments, patients/themes, the goal, locations, inhabitants, followers of a person, people with a particular set of beliefs, kinship terms, and feminine entities.

Based on the thematic relations between the derived noun and its base lexeme, P/P/I nouns can be classified into two subclasses, derived nouns that are deverbal and carry thematic readings as for example *driver* in 1a, and derived nouns with athematic readings as for example *Thatcherite* in 1b.

- (1) a. Once identified as an “owner of a red sports car,” a **driver** applying for automobile insurance will be grouped with other red sports car owners, and each group member will be assigned the group-wide attribute of “dangerously fast **driver**.” (COCA ACAD 2017)
- b. Johnson is not a **Thatcherite**. He is a risk-taker who will go for anything he thinks has a fair chance of working. (COCA MAG 2012)

In 1a, *driver* carries a thematic reading, in that its referent is a participant in the event denoted by the verb *drive*; it is an agent. In 1b, *Thatcherite* is a person who supports the political ideas and policies of the former Prime Minister of the United Kingdom, Margaret Thatcher, and belongs to the subclass of athematic P/P/I nouns.

Depending on their typological characteristics, languages may employ suffixation, prefixation, infixation, reduplication, and conversion to derive P/P/I nouns. Greek, for example, forms agentive nouns with the suffix *-tis*, as in 2:

- (2) *xorevo* → *xorev-tis*  
 “dance”      “dancer”

In Zulu, an agentive noun is formed by prefixing to a verb root the prefix *um(u)-*, which appears on all nouns in the human class, and by replacing the verbal suffix *-a* by *-i* (Comrie & Thompson, 2007, 338)):

- (3) *-cula* → *um-cul-i*  
 “sing”      “singer”

In Boumaa Fijian, an Austronesian language, the prefix *ai-* is added to place names to derive a native of that place as in 4 (examples adapted from Dixon, 1988, 43):

- (4) a. ai-Boumaa “person from Boumaa”  
 b. ai-Mereke “American”

In the Austronesian language Ilocano, inhabitant nouns are formed with the infix *-um-* as in 5 (Rubino, 1998, 97):

- (5) *baláy* → *b-um-alay*  
“house”      “residents of the house”

Reduplication is used to form agent nouns in the Senegambian language Serer (Luschützky & Rainer, 2011, 316):

- (6) *ma:x* → *ma:-ma:x*  
“to build”      “mason”

Finally, in English, a P/P/I noun may be formed by conversion as in 7 where *cook.N* has an agentive reading:

- (7) *cook.V* → *cook.N*

This article focuses on both the morpho-syntactic make-up and the semantic properties of P/P/I derived nouns. Section 2 provides a classification of P/P/I nouns into thematic and athematic. Sections 3 and 4 tackle an issue that figures prominently in the study of derived nouns, that is, polysemy and present a number of analyses that have been put forth to deal with it. Section 5 offers a discussion of open issues in the study of P/P/I derived nouns.

## 2 Semantic classification of P/P/I nouns

P/P/I nouns can be classified into two subclasses, the semantic criterion being the thematic relation between the derived noun and its base lexeme.

### 2.1 Thematic P/P/I nouns

The first subclass of P/P/I nouns comprises nouns that are deverbal and carry thematic readings. In these cases, the derived noun denotes a participant in the event denoted by the verb. This subclass is further divided into nouns that have subject-oriented readings and nouns that have object-oriented readings. Subject-oriented readings cover agents (“people or person who verb-s”, e.g. *worker*), experiencers (“entity that is aware of the event undergone”, e.g. *hearer*), stimuli (“cause in an

event that elicits an emotional or psychological response”, e.g. *pleaser*), and instruments (“the thing that verb-s”, e.g. *scanner*, *sealer*, *sweeper*) as in 8.

(8) Subject-oriented derived -er nouns

a. Agent

Undocumented **workers**, of course, are not “unencumbered by fear;” to the contrary, the threat of being run through E-Verify is often enough to cow a **worker** seeking her rights under federal labor law, which protects all workers regardless of immigration status (COCA ACAD 2017)

b. Experiencer

Prague school linguists accepted Karl Bhler’s schema of the communicative act in the form of a triangle whose apices are the speaker, the **hearer**, and the referent (the world). (COCA ACAD 2006)

c. Stimulus

The Hercules Cluster (M13) is a favorite object at summer star parties across the Northern Hemisphere. It’s easy to locate, visible through a small telescope, and always a crowd **pleaser**. This tight ball of stars is an unexpected sight for newcomers to these events. (COCA MAG 2014)

d. Instrument

Bart has finished an entire section of wall when the alarms go off, ear-piercing. The ceiling lights switch to the highest setting, bright, almost blinding. Bart puts down his **scanner**, **sealer** and **sweeper**, and heads towards the centre of the intersection, as he’s supposed to. (COCA FIC 2016)

The second subclass of derived nouns with thematic readings comprises object-oriented nouns. As shown in 9, these nouns may denote patients/themes (“thing verb-ed, thing affected or moved but not created by verb-ing”, e.g. *employee*), the goal (“location or entity in the direction of which something moves”, e.g. *addressee*), and locations (“the place of verb-ing”, e.g. *diner*).

(9) Object-oriented derived nouns

a. Patient/theme

If the **employee** or the department has a specific asset that cannot be easily transferred to other **employees** or other departments, the production department has significant leverage in the cost measurement relationship. (COCA ACAD 2017)

b. Goal

The **addressee**'s name was written in block letters to make it as clear as possible. She did not want this piece of mail to go astray. (COCA FIC 2012)

c. Location

There's a **diner** not far from here. Why don't I buy you a cup of coffee and we can talk? (COCA FIC 2017)

## 2.2 *Athematic P/P/I nouns*

The second subclass of P/P/I nouns comprises derived nouns with athematic readings. This class covers a wide range of nouns that denote inhabitants (e.g. *Londoner*)<sup>2</sup>, followers of a person/people with a particular set of beliefs or way of behaving (e.g. *Marxist*), kinship terms (e.g. *grandfather*), and feminine gendered terms (e.g. *Daemonette*).

(10) a. Inhabitant

It was there that he'd met and fallen madly in love with Fiona, a red-headed, feisty **Londoner**. (COCA FIC 2016)

b. Follower of a person

If the people of San Francisco study (Tom) Ammiano's positions closely, they will see that he truly is a **Marxist**. (COCA NEWS 1999)

c. Kinship term

I look over to the window and I see my **grandfather**. (COCA NEWS 2017)

d. Feminine gendered term

The **Daemonette** is deaf to reason, and longs only to kill. (BNC 1985-1994)

A major difference between the subclasses of thematic nouns and athematic nouns is that the morphological means that create thematic nouns alter the word class of the base, whereas means that form athematic readings may not alter the word class of the base. For example, the addition of *-er* to the verb *drive* triggers a change from verb to noun. The suffix *-ette* in the athematic *daemonette*, however, does not alter the word class of the base lexeme *daemon*. Thus, the subclass of athematic derived nouns covers processes which may trigger a change from one subclass of a noun to another; e.g. from a noun that is typically not gendered, i.e. *daemon*, to a noun that is, i.e. *daemonette*.

### 3 Polysemy of P/P/I nouns

The suffixes that form P/P/I nouns are highly polysemous, in that they have a primary function but also a number of secondary functions as well. For instance, Diola (an Atlantic language of the Niger-Congo family), uses the same affixal material, i.e. *-a*, for the agentive *ateb-a* ‘builder’ in 11a, and the instrumental *elib-a* in 11b (Comrie & Thompson, 2007, 339):

- (11) a. *-tɛp* → *ateb-a*  
“build” “builder”
- b. *-lib* → *elib-a*  
“make slices” “knife”

In the relevant literature, a lot of attention has been directed towards the study of the English suffixes *-er* and *-ee* because the primary functions of each of these affixes are largely complementary; *-er* is primarily used to derive subject-oriented nouns and *-ee* to form object-oriented nouns.

The suffix *-er* may take on any of the thematic roles that the base verb assigns to its external argument (Alexiadou & Schäfer, 2010; Comrie & Thompson, 2007; Fabb, 1984; Keyser & Roeper, 1984; Levin & Rappaport Hovav, 1988; Lieber & Andreou, 2018; Rappaport Hovav & Levin, 1992; Roeper, 1987; Roeper & Van Hout, 1998). For example, it may correspond to the agent (e.g.

*worker*) but also to the stimulus (e.g. *pleaser*) or to the experiencer (e.g. *hearer*). This observation has come to be called the “External Argument Generalization”.

It has been voiced in the literature that *-er* nouns that obey the external argument generalization can be classified into two subclasses; event *-er* nouns and nonevent *-er* nouns. For Levin and Rappaport Hovav (1988), event *-er* nouns inherit the argument structure of the base verb, and the obligatory internal arguments of the verb appear as complements to the head noun. Those *-er* nouns that do not inherit the argument structure of the base verb are classified as nonevent.

The distinction between event and nonevent *-er* nouns corresponds to whether the noun refers to an actualized event or not. Consider, for example, the *-er* noun *destroyer* with an agentive reading as in 12a and an instrumental reading as in 12b (Levin & Rappaport Hovav, 1988, 1069).

- (12) a. the destroyer of the city  
b. destroyer “warship”

In 12a, the agentive *destroyer* inherits the argument structure of the verb *destroy*, refers to an entity who has participated in the actual event of destroying the city and, thus, receives an event reading. In 12b, however, the instrumental *destroyer* receives a nonevent reading. It does not inherit the argument structure of the base verb and, in addition, it does not presuppose an actual event of destruction. Rather, *destroyer* with the reading “warship” refers to something that is intended to be used for a particular purpose; it has a dispositional reading. Thus, a warship may be called a *destroyer* even if it has never destroyed anything.

It should be noted that the distinction between event and nonevent *-er* nouns does not depend on the semantic role (e.g. agent, instrument) the referent of the derived noun carries. Thus, although more often than not event nouns are agentive, and nonevent nouns bear the instrumental reading, there are cases of event *-er* nouns which are instrumental and nonevent *-er* nouns which denote the agent. Consider the following (example 13 adapted from Alexiadou & Schäfer, 2010, 20:

- (13) a. A protein ... that is a potent **inducer** of new blood vessel growth  
b. Woks have always been **conservers** of cooking oil as well as fuel

(14) teacher, lifesaver: person trained for a job

In 13, *inducers* and *conservers* are event instrumental nouns that inherit the complement structure of the verbs *induce* and *conserve*, respectively. In 14, *teacher* and *lifesaver* are occupational nouns that denote people who are trained for a specific job. They are noneventive because they do not presuppose that their referents have participated in an actual event of teaching or lifesaving, respectively.

A secondary function of *-er* is to form nouns with an object-oriented reading as in 15.

- (15) a. The contrast of sweet onions and briny olives are actually quite harmonious in this simple, skillet chicken dish. 1 tablespoon kosher salt 2 teaspoons ground cayenne 3- to 3-pound **fryer** chicken, cut into 10 serving pieces (COCA NEWS 2014)
- b. She was a **looker**, all right. Slender, frizzy blond hair, long legs, perfect curves, sleek as an otter. (COCA FIC 2016)

The suffix *-ee* primarily forms sentient nouns with an object-oriented reading (e.g. *employee*). The requirement that the referent of an *-ee* nouns must be sentient restricts *-ee* nouns to animate referents. For example, *addressee* and *employee* in 9 are animate object-oriented nouns. In order to form inanimate object-oriented nouns, English employs processes and affixes whose primary use is to create event/state/result nouns. Consider the examples in 16:

- (16) a. Mr. Parsons, a 67-year-old retiree from Indiana, said he had recently asked his father to purchase a pistol for him – a **buy** he suspects would now be labeled an illegal “straw purchase.” (COCA NEWS 2016)
- b. Staff will recommend funding **allocations** at the third and final public hearing scheduled for Feb. 6, according to village documents. (COCA NEWS 2017)

In 16a, the process of conversion gives rise to the noun *buy* the referent of which is a pistol (i.e. inanimate theme). In 16b, the suffix *-ation* the primary function of which is to derive event/state/result nouns is used to derive the noun *allocations* which receives an inanimate theme interpretation.

Although the primary function of *-ee* is to derive object-oriented nouns, the examples in 17 show that subject-oriented readings with *-ee* are also possible.

- (17) a. But in a similar setting Westerners lose their identity too, like Italians in Mussolini's time, chanting DOO-chay in Rome's Piazza Venezia. Coping with the problem, officials number the paving blocks in Tianenmen Square, and each **standee** has his own block to stand on. (COCA FIC 2001)
- b. Agents were returning an **escapee** to the U.S. Penitentiary in Leavenworth, Kansas, when they were ambushed. (COCA NEWS 2017)

## 4 Theoretical treatments of P/P/I nouns

### 4.1 Generative approaches

#### 4.1.1 Syntactic approaches

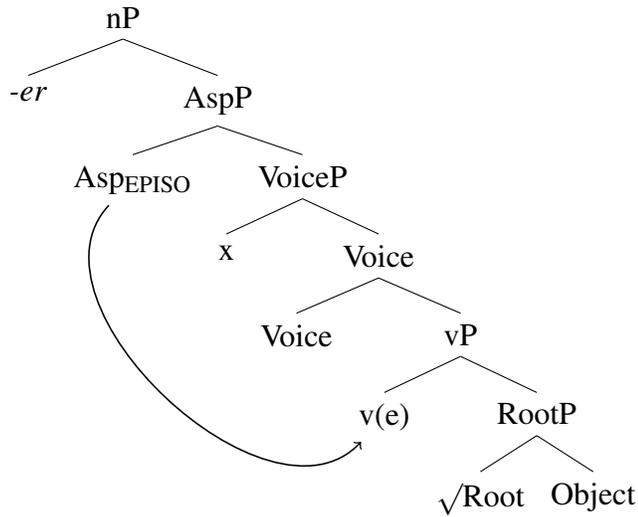
An issue that is central to syntactic approaches to P/P/I nouns is the distinction between event and nonevent nouns and the syntactic structure that gives rise to these interpretations (Alexiadou & Schäfer, 2010; Harley, 2009; Roeper & Van Hout, 1998). For Roeper and Van Hout (1998), this distinction is attributed to different underlying syntactic structures between event and nonevent nouns. This idea has been called into question by Alexiadou and Schäfer (2010) who claim that there is no structural difference between event and nonevent nouns.

Working within the framework of Distributed Morphology, Alexiadou and Schäfer (2010) argue for a distinction between *-er* nouns that obey the external argument generalization irrespectively of whether they are event or nonevent nouns, and *-er*-nouns that do not obey the external argument generalization. Nouns that obey the external argument generalization are classified into episodic and dispositional, the criterion being whether they always project their internal complements or not. Crucially, episodic nouns and dispositional nouns are derived from verb phrases and have the same rich syntactic structure shown in 18.

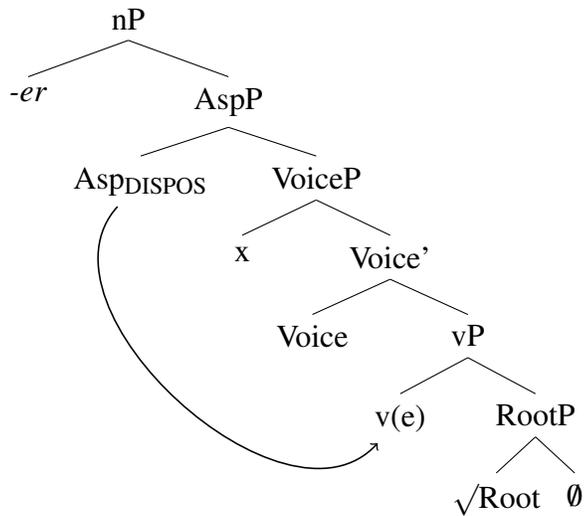
(18) [nP -er[VoiceP[vP[RootP]]]]

Although both episodic and dispositional nouns contain verbal layers, they differ with respect to their aspectual properties as illustrated in 19a,b respectively:

(19) a.



b.



Episodic nouns involve an episodic aspect head, whereas dispositional nouns involve a dispositional aspect head.

#### 4.1.2 Non-syntactic approaches

Early approaches to nominalization (Booij, 1986; Levin & Rappaport Hovav, 1988; Rappaport Hovav & Levin, 1992) highlight the central role of argument structure in the interpretation of *-er* nouns. According to these accounts, the suffix binds the external argument of the base verb and the interpretation of the resulting *-er* noun depends on the thematic role associated with the external argument of the base. For example, when the role of agent is associated with the external argument of the base, the resulting noun is interpreted as agentive (e.g. *worker*), and when the external argument of the verb bears the role of experiencer, the derived noun denotes the experiencer (e.g. *hearer*).

Object-oriented *-er* nouns (e.g. *fryer*) receive an interpretation that is close to the interpretation of their base verb in middle constructions (e.g. *This chicken fries well*) (Rappaport Hovav & Levin, 1992). Thus, *fryer* does not derive directly from the transitive or unaccusative use of the verb *fry*, but rather from its middle version which also involves “the externalization of an internal argument in the lexicon” (Levin & Rappaport Hovav, 1988, 1078). The externalization of the theme captures the fact that *-er* nouns that are related to middle constructions denote the external argument. This analysis, however, cannot capture cases of patient/theme *-er* nouns such as *loaner* in 20:

(20) The university holds the patent for the machines, but with a **loaner** in his possession Marcus can finally treat his own patients, charge a fat hourly rate and fulfill what was once a far-fetched dream. (COCA FIC 2013)

In 20, *loaner* denotes the theme but an analysis based on middle construction is not possible since the base verb *loan* does not have a middle version.

An argument structure analysis is not possible for object-oriented suffixes such as *-ee* since *-ee* does not always bind the internal argument of the verb. In particular, the referent of *employee* is the internal argument (i.e. patient/theme) of the base verb, whereas the referent of *addressee* is not. It is the indirect object, i.e. the goal.

Barker (1998) argues in favour of a semantic analysis of *-ee* nouns according to which *-ee* binds an argument of the verbal base under the following three conditions: (a) the argument *-ee* binds

must be episodically linked to the verb (i.e. the argument must be a participant in the event denoted by the verb), (b) it must denote something sentient, and (c) it must lack volitionality.

These three conditions account for the derivation of *employee* and *addressee* as follows. The verb *employ* has two arguments, an agent and a patient. The agent is sentient and volitional and as such it does not meet the condition of non-volitionality on *-ee* nouns. The second argument, i.e. the patient, is also sentient but lacks volitionality. Thus, *-ee* in *employee* binds the patient argument which meets all three conditions. The noun *addressee* is analysed in a similar manner. The referent of *addressee* cannot be the agent since this argument is volitional and it cannot be the theme argument (e.g. a letter) since this argument is not sentient. Thus, the only possible argument *-ee* can bind is the goal argument.

The role of semantics in P/P/I nouns is also evident in the work of Cohen (2016), Lieber (2004), and Lieber and Andreou (2018). Cohen (2016) offers a semantic explanation for the external argument generalization that is based on modality. In particular, he argues that this generalization follows from that *-er* nouns are dynamic modals. Dynamic modals, as for example *can*, are subject-oriented and express inherent/essential properties predicated of the external argument. For instance, the external argument in 21, i.e. John, has the ability to swim.

(21) John can swim.

In a similar vein, the *-er* noun *swimmer* in 22 attributes swimming abilities to the external argument, John. Thus, according to Cohen (2016), the affix *-er* is a dynamic modal which encodes an inherent/essential property of the external argument, and its syntactic behaviour follows from its modal nature.

(22) John is a swimmer.

Lieber and Andreou (2018) present a corpus study of over 16,000 tokens of deverbal *-er* nouns that were extracted from the Corpus of Contemporary American English and the British National Corpus, and argue that the modal reading of *-er* nouns does not arise from the semantic representation of the affix itself. They show that deverbal *-er* nouns can have both modal and aspectual readings and set out to identify factors which affect both the modal and the aspectual readings of

these nouns. Modal readings of *-er* nouns can sometimes be dynamic, as in 23a but can also be deontic, as in 23b (adapted from Lieber & Andreou, 2018, 11):

- (23) a. *Horticulture 1991*: Where my adapted Craftsman or any other mower fitted with an **adapter** does not perform as well is in grinding up leaves
- b. *Education 1990*: We are bilking the tax **payer**. We are cheating the tax payer by taking his money and not providing the services (education of America's young people) that were promised.

The aspectual readings can be habitual as in 24a or can suggest either bounded 24b or on-going events 24c.

- (24) a. Only with the advent of the Romantics did we turn introspective or self-searching; this lifelong **wanderer** appears to have spent nearly no time at all looking back over his shoulder at what he left behind. (COCA MAG 1993)
- b. Bureau of Land Management, are always voluntary or involuntary litigants in these cases. Although statutes may give them discretion, such as the decision whether to prosecute a **violator**, the scope of their authority and how they exercise their discretion are directly affected by court rulings. (COCA ACAD 2001)
- c. It has little to do with his policy proposals, which are very close to his Democratic rivals' and which, with a few exceptions, exist firmly within the conventions of our politics. It has little to do with Obama's considerable skills as a **conciliator**, **legislator**, or even **thinker**. (COCA MAG 2007)

The picture that emerges from 23 and 24 reveals that it is highly problematic to maintain the idea that *-er* is a dynamic modal. The nuances of meaning in 23 and 24 suggest that *-er* nouns are highly polysemous either with respect to their thematic relations or the modal and aspectual nuances they may express.

An account of affixal polysemy in terms of lexical semantics is offered in Rochelle Lieber's Lexical Semantic Framework (Lieber, 2004, 2007, 2015, 2016). In this framework, affixes have a



Given that the first argument of the verb *employ* is always volitional, the only argument of the affix must be co-indexed with the second argument of the base, namely the patient argument, which is always nonvolitional. From this follows the theme reading of the word *employee*.<sup>3</sup>

It should be noted that although affixes have a skeletal part, the semantic content of an affix is abstract and underdetermined since affixes have no (or little) semantic/pragmatic body. This is a source for polysemy in word formation. That is, the semantic contribution of the affix can be spelled out in several ways when the affix is combined with the more semantically robust base and deployed in context.

#### 4.1.3 Cognitive and functional approaches

The polysemy of P/P/I derived nouns is also of interest to cognitive and functional approaches to word formation. In cognitive literature, the emphasis is not so much on predicting and deriving possible readings from a core sense, but on motivating those readings from the core sense. Thus, cognitive literature makes use of radial constellations in which secondary senses are linked to the core sense by relations of motivation. These relations are mainly created by the mechanisms of metaphor and metonymy (Rainer, 2014, 340).

Panther and Thornburg (2002, 285), for example, posit the central sense “a human Agent who performs an action or engages in an activity to the degree that doing so defines a primary occupation” for the suffix *-er* and argue that all other senses of *-er* are related to this central sense via semantic extension mechanisms. For example, in cases such as “*driftnetter, hatter, etc.*, the denotatum of the base constitutes a reference point from which the occupational action or activity of the Agent is metonymically accessed” (Panther & Thornburg, 2002, 288-289).

The studies of Heyvaert (2003, 2010) focus on yet another aspect of *-er* nouns, namely, their modal nuances. Heyvaert (2010) argues that:

“Agentive lexicalized *-er* nominalizations [...] imply a dynamic type of modality: most prototypical agentives imply the dynamic modality of *ability (can)* (e.g. *teacher, baker, preacher, life-saver, trainer*). Some also imply regularity or persistent habit (*will*) (e.g. *gambler, drinker*).” (Heyvaert, 2010, 65)

An account of polysemy that does not make reference to semantic extension mechanisms is put forth by Heyvaert (2006) in her treatment of the suffix *-ee*. Heyvaert (2006) proposes that there is a systematic relation between *-ee* nouns and the past participial *-ed*, and that this relationship can account for the range of semantic interpretations of *-ee* derived nouns. For example, object-oriented *-ee* nouns express meanings which are comparable to the passive use of the past participle: *employee* or *experimentee* in 29 have a patient/theme reading (Heyvaert, 2006, 353):

- (29) *employee* “(s)he is employed”  
*experimentee* “(s)he is experimented on”

In a similar vein, there is a resemblance between agentive *-ee* nouns and the adjectival use of the past participle, as in 30a, or the present perfect use of the past participle, as in 30b (from Heyvaert, 2006, 353):

- (30) a. *escapee* “an escaped prisoner”  
*enrollee* “an enrolled student”  
b. *resignee* “(s)he has resigned”  
*returnee* “(s)he has returned

## 5 Critical analysis of scholarship

Our understanding of the multiplicity of meaning in P/P/I derived nouns has come a long way since the study of *-er* nouns from the perspective of argument structure. A number of methodological and theoretical issues remain, nevertheless, open for future research. In particular, there is a need to increase the empirical coverage of the studies on P/P/I nouns. This can be achieved by the use of large corpora and by an in-depth study of both synchronic and diachronic data cross-linguistically. The study of diachronic data can greatly advance our understanding of the mechanisms that are responsible for the extension of the senses of affixes. The examination of these mechanisms may have implications for theoretical accounts that need to accommodate the findings of historical and typological research.

Cross-linguistic studies on P/P/I nouns identify two prominent patterns of polysemy; agent/ instrument and instrument/location polysemy. These patterns are interesting from both a typological and a historical perspective (Bauer, 2002; Comrie & Thompson, 2007; Dressler, 1986; Luschützky & Rainer, 2011, 2013; Rainer, 2014).

Turkana, for example, forms instruments and locations by means of the suffix *-et'* as in 31 (Luschützky & Rainer, 2013, 1340):

- (31) a. *-pɪ* → *a-pɪ-et'*  
 “to sweep” “broom”
- b. *-dɔk* → *a-dɔk-et'*  
 “hiding place” “to hide”

In some languages, the same affixal material can be used to derive all three readings. The English marker *-er*, for example, derives agents (e.g. *driver*), instruments (e.g. *printer*), and locations (e.g. *diner*).

It is usually assumed that this particular polysemy involves semantic extension mechanisms that are based on semantic affinity. For example, via metonymic extension, the instrument one uses to carry out an action can be thought of as the person who performs the action. Thus, suffixes which are used for agents can also be used to derive instrumental nouns. In a similar vein, locational uses of *-er* are extensions of instrumental ones (Panther & Thornburg, 2002, 294).

Luschützky and Rainer (2011, 2013) show that there is no evidence for a direct sense extension from agent to instrument or from instrument to location. Some of the mechanisms described in Luschützky and Rainer (2011, 2013) are concretization of action nouns, borrowing, reanalysis, ellipsis, and homonymization. For example, the establishment of the locative reading of the English suffix *-er* “was due to the influence of the Anglo-Norman suffixes *-eor/-our* or the Parisian suffix *-oir*, which all go back to Latin *-torium*, as well as Old French *-ier*, which goes back to Latin *-arium*” (Luschützky & Rainer, 2013, 1351). In addition, the development of a new sense due to borrowing, as for example the rise of location nouns in *-er*, may mean that not all senses of the same affixal material should be attributed to one affix. In other words, some affixes may not be

polysemous but rather homonymous (i.e. same form but different affixes).

Another area that calls for further research relates to the factors that bear on the readings of derived words. Lieber and Andreou (2018) identify the following three factors: (a) the semantics of the base lexeme, (b) the context in which derived words occur, and (c) encyclopedic knowledge.

First, consider effects that follow from the semantics of the base verb. In 32, the derived *stirrer* shows two different subject-oriented readings. In 32a, it denotes the stimulus and in 32b, it is instrumental. Crucially, these two different readings of *stirrer* follow from the polysemy of the base verb *stir*. In 32a, *stirrer* is based on the sense “arouse feelings in, provoke, agitate, foment, urge, incite” of the verb *stir* which involves a stimulus and an experiencer; *stir* in this sense is an *amuse* verb. In 32b, the instrumental *stirrer* is based on yet another sense of *stir*, namely, “move an implement through with a circular motion, mix” (Lieber & Andreou, 2018, 19).

- (32) a. Chicago Sun Times 1992: ... and to complement it all there was an excellent piece of grilled focaccia. I'd call it a real stuzzicare, or appetite **stirrer**.
- b. Mother Earth News 2001: Pour in lime, stirring with a wooden rod or paint **stirrer**, until the water level is within two or three inches of the top.

Another effect that follows from the semantics of the base verb relates to the aspectual characteristics of the derived noun. For example, the base verb *confess* in 33a is inherently telic, in that it implies an endpoint (i.e. a resulting confession). Thus, the noun *confessor* in 33a receives a bounded aspectual reading. The noun *maintainer*, however, in 33b receives an unbounded aspectual reading that is linked to the atelic characteristic of the base verb; *maintain* does not imply a natural endpoint.

- (33) a. mock jurors tend to react in the same manner as they do to admissions of guilt following promises of leniency, namely judging the confession to be less than voluntary, but still viewing the **confessor** as largely culpable for the crime (Note 1). (C0CA ACAD 2002)
- b. And though the work is very long and difficult, he should not worry that he won't be able to finish it no matter what difficulties befall him, as that true God and **maintainer**

of all things- whom the man of good sense put first in his work- will bring him the success that suits Him. (COCA ACAD 2004)

A second factor which affects the reading of derived nouns is the context in which they occur. Consider the following examples:

- (34) a. A megalomaniac defense attorney gets off a wife **beater** only to have him kill the next time, prompting a crisis of conscience and a switch to the prosecution side. (COCA NEWS 2006)
- b. of stacked husks into thinner layers to allow water to soften and permeate the husks more easily. Set aside.<p>Prepare the tamal dough: With an electric **beater** set at low speed, cream the butter with the baking soda and salt. (COCA NEWS 1994)

In both 34a and 34b, the derived *beater* is subject-denoting. In 34a, it denotes an agent (the referent is animate and human), whereas in 34b it denotes an instrument (an electric inanimate beater). Crucially, the value of *beater* with respect to animacy is set in the context in which *beater* occurs.

Contextual cues may also affect other properties of derived nouns, such as their aspectual characteristics. The modifier *frequent* in 35, for example, adds a habitual reading to the noun *flyer*, i.e. “a person who travels by air frequently”.

- (35) Judy, the figures that were quoted just now tell part of the story, and any **frequent flyer** knows theyre very true. Air travel these days is horrible, and its getting worse. (COCA SPOK 2007)

A third factor that affects the interpretation of derived nouns is encyclopedic knowledge. Consider 36 (Lieber & Andreou, 2018, 26):

- (36) Christian Science Monitor 1996: And today’s fancy big portobellos used to be known as ‘**choppers**’ or ‘No. 2’s’—they were sold wholesale for 25 cents a pound.

In 36, the context allows one to set the referent of *choppers*, i.e. portabellos. Contextual information alone, however, cannot account for the reading of *choppers*, in that it is not clear from the context whether *choppers* is subject-oriented or object-oriented. The piece of encyclopedic knowledge that portabellos are large mature mushrooms, forces a reading of *chopper* that is not consistent with either the agent or the instrument (i.e. subject reading). Thus, *chopper* in 36 is interpreted as a theme (i.e. object reading).

Finally, another issue that remains open in theoretical accounts of P/P/I nouns relates to the paradigmatic nature of affixal semantics. The derivation of feminine inhabitant nouns in Dutch best exemplifies this issue (Booij, 1997, 47):

(37)

<i>Toponym</i>	<i>Inhabitant</i>	<i>Toponymic adjective</i>	<i>Female inhabitant</i>
Amerika	Amerikaan	Amerikaan-s	Amerikaans-e
Rome	Romein	Romein-s	Romeins-e
Guatemala	Guatemalteek	Guatemalteek-s	Guatemalteeks-e
Amsterdam	Amsterdammer	Amsterdam-s	Amsterdams-e

Consider, for example, the relation between *Amerika*, *Amerikaan*, *Amerikaan-s*, and *Amerikaans-e*. The first observation is that the toponymic adjective *Amerikaan-s* derives from a stem allomorph of the toponym which is formally identical to the corresponding inhabitant term *Amerikaan*. The second observation is that the feminine gendered term *Amerikaans-e* does not derive directly from the neutral inhabitant term *Amerikaan* as one may expect. It derives from the toponymic adjective *Amerikaan-s* by adding a suffixal schwa. The relation between the feminine gendered term and the toponymic adjective is especially evident in cases in which the toponymic adjective does not derive from the inhabitant term, as in *Amsterdam-s* and *Amsterdams-e*. Booij argues that in order to best capture this state of affairs, one must acknowledge a paradigmatic relation between the toponym, the term for the inhabitant, the toponymic adjective, and the feminine gendered term. Evidence for paradigmatic relations in P/P/I derived nouns poses serious problems for the analysis of word-formation phenomena in terms of syntactic structures.

## Notes

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<sup>2</sup>For possible relations between deverbal and denominal *-er* nominals see Booij & Audring, 2018.

<sup>3</sup>For the treatment of more cases the reader is referred to Lieber (2004, 2016).

## Further Reading

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