

Paradigms in Word Formation: what are we up to?

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1 What are derivational paradigms?

Paradigm is a notion closely related to morphology, and more particularly to inflectional morphology. The notion stems from the observation that the lexemes of a category are all realized in the same way, i.e. for the same inflectional categories and with the same exponents. The sets of word forms of these lexemes can then be arranged into inflectional paradigms. There is a broad consensus that paradigms are the relevant structure for the description of inflectional morphology. Paradigms are defined in a standard way as in (1) by Carstairs-McCarthy (1994:739) and can be illustrated by examples from Italian as in Table 1.

- (1) **Paradigm₁**: the set of combinations of morphosyntactic properties or features (or the set of ‘cells’) realized by inflected forms of words (or lexemes) in a given word-class (or major category or lexeme-class) in a language.

Paradigm₂: the set of inflectional realizations expressing a paradigm₁ for a given word (or lexeme) in a given language.

Inflectional class: a set of words (lexemes) displaying the same paradigm₂ in a given language.

The central questions addressed in the current special issue are: Can the concept of paradigm be applied to derivation? Is it possible to organize the lexicon into paradigms? By analogy with inflection, could the members of a derivational family be defined as a *derivational paradigm₂*, and could the combinations of categorial, semantic and formal properties according to which these families are realized be defined as a *derivational paradigm₁*? Can we group the derivational families into derivational classes?

IC-a		Paradigm ₁	X-o _{M.SG}	X-a _{F.SG}	X-i _{M.PL}	X-e _{F.PL}
	ROSSO ‘red’	Paradigm ₂	[ˈroso]	[ˈrosa]	[ˈrosi]	[ˈrose]
	PURO ‘pure’	Paradigm ₂	[ˈpu:ro]	[ˈpu:ra]	[ˈpu:ri]	[ˈpu:re]
IC-b		Paradigm ₁	X-e _{M.SG}	X-e _{F.SG}	X-i _{M.PL}	X-i _{F.PL}
	VERDE ‘green’	Paradigm ₂	[ˈverde]	[ˈverde]	[ˈverdi]	[ˈverdi]
	GRANDE ‘tall’	Paradigm ₂	[ˈgrande]	[ˈgrande]	[ˈgrandi]	[ˈgrandi]

Table 1: Example of paradigm₁ and paradigm₂ of Italian adjectives. IC-a represents the inflectional class of ROSSO and PURO, and IC-b the one of VERDE and GRANDE

Some answers to these questions may be found in the literature. As evidenced by the recent handbook articles of Štekauer (2014) or Boyé & Schaalchli (2016), the paradigmatic approach in derivational morphology is gaining in popularity. Many other studies focus on the paradigmatic dimension of derivational morphology and propose derivational paradigmatic models, as Van Marle (1984), Stump (1991), Bochner (1993), Bauer (1997), Pounder (2000), Booij (2010), Hathout (2011), Roché & Plénat (2014) to only mention a few. Word-based approaches such as Blevins’ (2016) words and paradigms model contributes also to reinforce the interest of morphologists in paradigmatic approaches. Three main questions motivate most of the work on derivational paradigms: the first is to have a morphological model adapted to both inflection and derivation, including the description of phenomena at the boundary between the two components of morphology (Spencer 2013); the second is to account for derivational phenomena that are difficult to describe within traditional approaches and in particular phenomena that do not naturally fit into base → derivative schemas; the third is to find out and describe the morphological relations between the members of derivational families, and in particular to explain some related psycholinguistic effects (e.g. family size effects).

ADVERTISE	ADVERTISER	ADVERTISEMENT	ADVERTISEE	ADVERTISABLE	READVERTISE
EMPLOY	EMPLOYER	EMPLOYMENT	EMPLOYEE	EMPLOYABLE	REEMPLOY
ADDRESS	ADDRESSER	ADDRESSMENT	ADDRESSEE	ADDRESSABLE	READDRESS
PAY	PAYER	PAYMENT	PAYEE	PAYABLE	REPAY

Table 2: Example of derivational paradigm₂. A derivational paradigm₂ is an arrangement of derivational families

A possible illustration of the way the questions above can be answered is given

in Table 2. Each row in the table contains a (partial) **derivational family**, in this case a set of lexemes derived from the verb in column 1; these lexemes are all directly or indirectly interconnected. Moreover, the meaning and form relations are the same in all the families (Bauer 1997). For instance, there is a action noun \leftrightarrow patient noun relation between the lexemes in columns 3 and 4. The set of lexemes in each column form what we call a **derivational series**. Series are identified by a set of categorial, semantic and formal features. They make up the analog of a paradigm₁ in inflection, namely a *derivational paradigm*₁. The derivational paradigm₁ that corresponds to the arrangement of families in Table 2 can be represented as in Table 3. Similarly, the notion of *derivational class* could be defined as a set of families whose members are all in the same derivational relations.

X	XER	XMENT	XEE	XABLE	REX
V	N	N	N	A	V
[action]	[agent]	[action]	[patient]	[possibility]	[iteration]

Table 3: Example of derivational paradigm₁. A derivational paradigm₁ is characterized by a set of categorial, semantic and formal features

The situation is less clear with the families in Table 4 because they do not all have the same size (e.g. the family of CONFIDE has only 3 elements¹); the series represented in column 3 is semantically consistent but formally heterogeneous, the action nouns being derived by several word formation processes: suffixation in *-ion*, in *-ence* or conversion; the lexemes in column 2 present the opposite situation since they are uniformly suffixed in *-er* (or its variant *-or*) but may designate human agents (WORSHIPPER) or instruments (WRAPPER).

These gaps and mismatches are one of the reasons paradigms have been considered to be unfit for derivation, as summarized by Štekauer (2014). This results in a lack of consensus on the relevance of derivational paradigms and in a lack of a clear definition of this notion. Our interest in this notion arises from these very difficulties which, in our opinion, justify dedicating the present special issue of *Morphology* to it. Derivational paradigms remain mostly unknown objects that should be studied in greater depth, defined in multiple ways, illustrated with various examples from different languages, and evaluated in order to assess their psycholinguistic relevance.

¹CONFIDEE and CONFIDABLE are attested in English, but do not have the same meaning as the other lexemes in columns 4 and 5 of Table 2. CONFIDEE is a recipient and not a patient while CONFIDABLE is a property of a person which one can confide to and not a property of a secret that one can confide.

DELEGATE	DELEGATOR	DELEGATION	DELEGATE	DELEGABLE	REDELEGATE
CONSUME	CONSUMER	CONSUMPTION	∅	CONSUMMABLE	RECONSUME
WRAP	WRAPPER	∅	∅	WRAPPABLE	REWRAP
WORSHIP	WORSHIPPER	WORSHIP	∅	WORSHIPABLE	∅
CONFIDE	CONFIDER	CONFIDENCE	∅	∅	∅

Table 4: Arrangement of incomplete derivational families

A better characterization of this notion will provide new insights into the organization of lexical morphology and new perspectives on the differences and similarities between inflection and derivation.

2 The contribution of paradigms to derivational analysis

One of the aims of the special issue is to show that paradigms are operational, valid and useful tools in derivation as they are in inflection. Indeed, designing models that allow a convergence in the description of inflection and derivational phenomena is one of the main motivations for many studies on derivational paradigms, such as Bauer (1997) or Stump (1991), and in this volume, the articles of Bonami & Strnadová, Boyé & Schalchli and Gaeta & Angster. In his study, Bauer (1997) argues that inflection and derivation must be represented in a similar way because they use the same roots and the same processes (affixation, reduplication, etc.). Since inflection is paradigmatic, the problem is to describe derivation within the same framework. Bauer (1997) uses inflectional paradigms as point of reference in terms of representation and of conditions and constraints that apply to paradigms. He proposes an extension of these paradigms to derivation in order to account for data (from Van Marle (1984)) whose analysis is both inflectional and derivational. The phenomena considered by Stump (1991) are different: they combine inflection and derivation processes in a way incompatible with the traditional separation between the two morphological domains, and in particular with the fact that inflection applies after derivation and has no access to the structures produced by the latter. To account for these data, Stump (1991) extends to derivation the *paradigmatic function morphology* (PFM) model initially designed for inflection. The extension of inflectional paradigms to derivation has also been advocated by Van Marle (1984) and Pounder (2000). However, as mentioned by Bauer (1997), the combination of

inflection and derivation within a single morphological framework is hindered by the view that two components of morphology are fundamentally different, the main difference being the regularity of inflection and the higher variability of derivation; for a panorama on the subject see Štekauer (2014).

Another goal of paradigmatic derivational morphology is to overcome the limitations of traditional analysis systems, whether morpheme- or lexeme-based, because they are part of a framework where word formation rules are binary and oriented (base \rightarrow derivative). Two examples may illustrate the way paradigms can help analyze data that does not fit into this classical framework.

X	XAT	XAL
Nhum [agent]	N [status]	A [relational]
PROFESSEUR ‘professor’	PROFESSORAT ‘professorship’	PROFESSORAL ‘professorial’
ARTISAN ‘craftsman’	ARTISANAT ‘craftsmanship’	ARTISANAL ‘hand-crafted’/‘of craftsman’
PATRON ‘manager’	PATRONAT ‘management’	PATRONAL ‘managerial’

Table 5: Sample of French derivational families

Let us first consider the derivational families from French illustrated in Table 5, formed by a noun X designating the agent of a profession, the noun XAT of the status associated with the profession and a relational adjective (XAL). In each family, the status noun is directly derived from the agent noun by suffixation in *-at*. Similarly, the relational adjective is directly coined on the agent noun by suffixation in *-al*. In the three families, the form and the meaning of the noun in XAT and the adjective in XAL are constructed from those of X; for example, *mentalité artisanale* means ‘craftsmans’ mentality’. However, a third systematic and regular relation holds in these families between the name XAT and the adjective XAL: the XAL adjective is also the relational adjective of the status noun XAT. For example, the meaning of *secteur artisanal* is ‘craftsmanship’s sector’. Therefore, each of these families has a three-node graph structure: the adjective XAL is in a regular derivation relationship with the agent noun X, and in a semantically motivated relationship with the status noun XAT, itself regularly derived from the agent noun X. These recurrent relationships allow the families in Table 5 to be arranged into a derivational paradigm₂.

The double motivation of the adjective XAL cannot be easily described in rule- or morpheme-based approaches, because it results from a mechanism of “form recycling”

where the form of the relational adjective of the noun X is borrowed in order to be reused as the form of the relational adjective of XAT, as stated in Hathout (2009, 2011) and following the Economy Principle proposed in Roché (2008). In these approaches, there is no simple way to express that the form (or the stem) of one derivative is provided by another member of its derivational family, different from its base, because derivational families are not part of the objects and structures that can be addressed or manipulated.

The paradigm illustrated in Table 5 can be used in different ways. In particular, it helps predict the semantic relations between the lexemes in a family based on the relations between their forms, for example, in families such as (CLERC ‘cleric’, CLÉRICAT ‘cleric’s function’, CLÉRICAL ‘clerical’) or (NOTAIRE ‘notary’, NOTARIAT ‘notary’s function’, NOTARIAL ‘notarial’). This paradigm can also be used to predict the presence of some lexemes in a family from the value of other members. For example, speakers who have both BEY ‘bey’² and BEYLICAT ‘bey’s status’ in their mental lexicon will be able to predict that the derivational family of BEY is also likely to contain a relational adjective whose form is BEYLICAL (by analogy with PROFESSORAL coined with the same stem as PROFESSORAT) and to retrieve the relationships between the three lexemes. The same applies to the family of PAPE ‘pope’ and PONTIFICAT ‘pontificate’, which can be completed with PONTIFICAL with a similar reasoning. These two examples show that paradigms do structure derivational families and ensure the mutual prediction of the derivational properties of the family members. With the last example, we see that paradigms allow the inclusion in a derivational family of formally distant members such as PAPE (synonymous of ‘Supreme Pontiff’) and PONTIFICAT. Booij (1997) is concerned by a similar situation, with the case of female inhabitant nouns in Dutch, belonging to families where the base word is a toponym, such as AZIATICHE ‘Asian female inhabitant’. This noun is part of the family of AZIË ‘Asia’: (AZIË, AZIAAT ‘Asian male inhabitant’, AZIATICH ‘of Asia’, AZIATICHE). The stem used in the formation of these nouns corresponds systematically to the form of the relational adjective of the toponym (e.g. AZIAAT). Gaeta & Angster (this volume) consider a similar shift, produced by German (pseudo)-compounds that include both a compounding element and a suffix.

Let us now have a look at the families in Table 6. In the first three families, the lexemes in XISM and XIST are regularly derived from X, but they are also mutually motivated by each other since any ideology is conveyed by its followers who in turn define themselves by the doctrine or belief they share. These families have therefore a structure of a three-edged graph and can be arranged into a three-columns paradigm. This paradigm can for instance be used to complement existing families: any speaker

²A bey is a governor of a district or province in the Ottoman Empire.

X (Proper) N [valued entity]	XISM N [ideology]	XIST N [follower]
MARX	MARXISM	MARXIST
TRUMP	TRUMPISM	TRUMPIST
FUSION	FUSIONISM	FUSIONIST
∅	FASCISM	FASCIST
∅	COMMUNISM	COMMUNIST

Table 6: Excerpt of derivational families of English nouns in *-ism* and *-ist*

who establishes a motivation relation between the nouns BREXIT and BREXITISM, the doctrine that supports this movement, may consider this relation as part of this paradigm and complement this family by connecting its two members to the noun BREXITIST, denoting a person who supports the BREXIT. Table 6 highlights another property of paradigms illustrated in the last two lines. A noun in XISM, e.g. COMMUNISM or FASCISM, maintains a reciprocal motivation relationship with the corresponding noun in XIST in its family (resp. COMMUNIST and FASCIST) even in the absence of a noun or proper name X corresponding to the valued entity. These two-members families (XISM, XIST) form a (partial) paradigm that complement the larger (X, XISM, XIST) paradigm. In other words, paradigmatic structure is not affected by the absence of some members in a family.

Different studies focus on this type of data. For example, Jackendoff (1975) proposes a model where derivational relations may be oriented in both directions or may not be oriented at all. Moreover, these relations are not limited to base-derivative pairs. In Jackendoff’s (1975) approach, derivational families thus form complex networks that reflect the patterns that generalize the many derivational relations that connect their lexemes. Bochner (1993) proposes a model similar to Jackendoff’s, based on families (i.e. *cumulative sets*) and *cumulative patterns* (i.e. abstractions of the relations between the lexemes of the families). One of Bochner’s (1993) ideas is that the relations between the lexemes in (COMMUNISM, COMMUNIST) are the same as those in (MARXISM, MARXIST) which is part of the larger family (MARX, MARXISM, MARXIST) where the relations are easier to identify because it contains the base word MARX. This cumulative principle allows the the families (COMMUNISM, COMMUNIST) and (MARX, MARXISM, MARXIST) to be arranged within the same paradigm as illustrated in Table 6. The paradigmatic nature of indirect relations such as COMMUNISM and COMMUNIST has been highlighted in numerous studies, including Roché (2011a) for French and Booij & Masini (2015) for Dutch. Booij

(2017) proposes a treatment for similar data within the framework of construction morphology (CxM), based on second-order schemas. The cases of multiple affixation studied by Stump in this volume and analyzed in terms of *rule conflation* are also included in this class of phenomena.

In a nutshell, paradigmatic analysis is a device that aims to maximize the consistency of the paradigms that structure the lexicon. Paradigms structure the derivational families in order to allow their arrangement. They support the semantic motivations of the relations between lexemes non-directly derived from one another (e.g. MARXISM \leftrightarrow MARXIST) or between formally distant ones (e.g. PAPE \rightarrow PONTIFICAT in French). Maximizing consistency also motivates the inclusion of partial paradigms in more complete paradigms.

Several other questions regarding the *modus operandi* of the derivational paradigms have not been addressed in the above. How are they activated in the mental lexicon for the analysis of a form, i.e. to find the place, within the paradigms that populate the lexicon, of the most appropriate lexeme the form may realize? How could paradigms be used to produce a (new) lexeme, i.e. to calculate the meaning and form of a lexeme that could optimally occupy a given cell in a paradigm? How to model the way speakers interpret and produce lexemes in a paradigmatic framework of derivational morphology? A first answer to these questions is proposed in Hathout (2009, 2011). The advances in the definition and characterization of paradigms presented in the current special issue will contribute to the proposition of new answers and more complete ones and will allow the mechanisms and tools needed to carry out these operations to be designed more precisely.

3 Defining paradigms for derivation

The previous discussion suggests that derivational paradigms seem to be more complex than inflectional ones. The description of their structure requires the use of objects and concepts that are left implicit in inflectional paradigms. The fundamental notions for the definition of derivational paradigms are, in addition to the *paradigms* themselves, the *derivational families* and the *arrangement relations*.

Derivational families are well-known structures (Bauer 1997, Roché 2011b) that were formalized by Bochner (1993) as cumulative sets. Families are usually conceived as sets of lexemes derived from a same simplex word (NATION, NATIONAL, NATIONALIZE, INTERNATIONAL, etc). However, some families do not meet this definition because they lack a common base word such as (PRÉDATEUR ‘male predator’, PRÉDATRICE ‘female predator’, PRÉDATION ‘predation’) in French, because the verb PRÉDER ‘prey on’ is not attested. To override this difficulty, derivational families

can be more simply defined as sets of derivationally related lexemes. The derivational relations can be direct (e.g. ADVERTISE \rightarrow ADVERTISER in Table 2) or indirect (ADVERTISEMENT \rightarrow ADVERTISER). Derivational families are the equivalents of lexemes in inflection. However, while lexemes have a clear and widely accepted definition, the contours of the concept of family has yet to be clarified. Its extent varies significantly depending on whether families are conceived as sets of lexemes interconnected by regular morphological relations established in synchrony (WASH_V : WASHING_N) or whether they include etymologically related lexemes (ESTABLISH_V : STABLE_A) or borrowings (HORSE_N : EQUESTRIAN_A), whether they are conceived as based on forms (PROFESS_V : PROFESSOR_N) or on meaning (e.g. the relation between TOMBER ‘to fall’ and its action noun CHUTE ‘fall’ in French). For example, having PAPE and PONTIFICAT as members of the same derivational family, as proposed in section (2), is only possible if we adopt this last (and more extended) conception. Families can be radial (i.e. centered on one base lexeme as in the first row of Table 2 where all the lexemes directly derive from the verb ADVERTISE) or be closed under transitive closure, or have a more complex organization of connected subfamilies that overlap partially. The notion of derivational families is introduced and used in many works such as Štekauer (2014) or Roché (2010, 2011b) to cite just a few. Families are explicitly represented in some models (e.g. Bochner’s (1993) cumulative patterns) and implicit in other as in Construction Morphology (Booij 2010) where they can be reconstituted from the network of first and second order derivational relations.

Arrangement relations define how derivational families structured by the same derivational relations are arranged into paradigms (they play the same role as the *alignment relations* proposed by Bonami & Strnadová, this volume). Basically, arrangement relations connect the lexemes that occur in the same columns in paradigms. In particular, they connect the lexemes formed by a same derivational process. Arrangement relations can also be defined in extension as derivational series, i.e. the sets of lexemes they connect (Hathout 2009, 2011, Fradin 2018). Just as with families, various criteria can be used to define arrangement relations. They can be conceived as relations between lexemes derived by the same morphological process (e.g. between the adjectives in *-able* ADVERTISABLE, EMPLOYABLE, ADDRESSABLE, PLAYABLE in Table 2), or between lexemes that stand in the same morphosemantic relations with the other members of their derivational families, such as the profession nouns (INSPECTOR, TEACHER, GUARD)³. Whatever the option chosen, arrangement relations are homomorphic, i.e. if two lexemes of a family *A* (e.g. ADVERTISE, ADVERTISEMENT) are in relation with two lexemes of a family *B* (e.g. EMPLOY, EM-

³These nouns respectively belong to the derivational family (INSPECT, INSPECTOR, INSPECTION), (TEACH, TEACHER, TEACHING) and (GUARD, GUARD, \emptyset).

PLOYMENT), the derivational relation between the lexemes of A (a suffixation in *-ment*) is the same as the derivational relation between the lexemes of B (the same suffixation in *-ment*).

Derivational paradigm is the third notion we need in the paradigmatic approach of derivational morphology. It corresponds to the notion of paradigm_2 in inflection and is formally defined as an arrangement of derivational families. These families are arranged with respect to a set of arrangement relations. The notion of paradigm_1 as illustrated in Table 3 corresponds to Bochner’s (1993) cumulative patterns, i.e. abstractions of the relations that hold between the lexemes in derivational families.

4 Content of the special issue

The special issue consists of five articles that give a good idea of how derivational paradigms are considered in modern morphology. These articles present both a homogeneity in their conception of the notion of derivational paradigm and a real diversity in the perspective from which this notion is approached.

Bonami & Strnadová. The first article of the issue develops a complete proposal for a fully functional model of paradigmatic derivational morphology. The starting points of the proposal are the inflectional paradigms as proposed by Wunderlich & Fabri (1995) and Carstairs-McCarthy (1994). Bonami & Strnadová generalize them and consider that a derivational paradigm is a set of aligned derivational families, that is families with strictly identical structures. In this model, the alignment is based on meaning; formal variations are disregarded (in line with Štekauer (2014) and Antoniova & Štekauer (2015)). Defined in this way, inflectional and derivational paradigms have identical structures, allowing inflectional and derivational relations to be represented in the same morphological paradigms. This erases, in a way, the classical separation between inflectional and derivational morphology. Bonami & Strnadová confront their model with a set of phenomena whose analysis in derivational morphology is difficult, in particular overabundance (Thornton 2012), defectiveness and suppletion. The article also has an experimental dimension. The authors show how the PCFP (*Paradigm Cell Filling Program*, see Ackerman et al. (2009)) and the description of the predictability between paradigm cells in terms of conditional entropy (Ackerman & Malouf 2013) can be adapted to the derivation. The experiment is based on French derivational data extracted from *Démonette* (Hathout & Namer 2014). The results they obtained are similar to those obtained by Bonami &

Beniamine (2016) for inflectional paradigms.

Boyé & Schalchli. The second article is part of the theoretical framework defined by Bonami & Strnadová (2018) and complements it. The authors consider the structures and mechanisms of inflectional and derivational paradigms to be identical. Their main claim is that paradigms must not be considered as defined by grammar but that they emerge from usage: speakers construct morphological (inflectional and derivational) paradigms for the data present in observable language productions. The article convincingly argues for this approach, which the authors call ‘realistic data’. For inflection, they present data that show that speakers are likely to encounter only a small subset of the word forms of a given lexeme and that the contrasting inflectional features of these forms vary from one lexeme to the other. They propose an original method for constructing paradigms called *Paradigm Cell Finding Problem* which determines the optimal morphological paradigm to account for all the contrasts encountered in a given corpus. The method is used on French inflectional data from Lexique (New et al. 2004), a database that contains frequency information. The authors show that the construction of optimal paradigms converges rapidly by randomly drawing samples of increasing size. They demonstrate that it is possible to apply the same method to form paradigms that include French verbs and their derived adjectives in *-able*. The experiment suggests that derivational relations contribute to the formation of these paradigms in the same way as inflectional relations do.

Gaeta & Angster. In this article, Gaeta & Angster address issues relatively similar to those addressed in the two previous articles from a different perspective. They are interested in German composition and in how it fits into a paradigmatic description of morphology. This study is conducted within Construction Morphology (Booij & Masini 2015, Booij 2017) and it is also based on ideas proposed by Bauer (1997), Štekauer (2014) and Antoniova & Štekauer (2015). In particular, they adopt the idea that derivational paradigms are structured horizontally (by association relations that define derivational series) and vertically (into derivational families in the usual sense of the term). In the first part of the article, Gaeta & Angster compare inflectional and derivational paradigms. They describe the former as *narrow sense* paradigms and the latter as *broad sense* paradigms insofar as the units that compose the former fill them totally while they only partially fill the latter (the make-up of derivational families is *lexically-determined*). They show, as Boyé & Schalchli, that the difference between inflectional and derivational paradigms is mainly quantitative and that they are basically of the same nature. Just as Bonami & Strnadová and

Boyé & Schalchli, they assume that morphological paradigms allow the description of inflection and derivation within the same structures. In the second part of the paper, the authors focus on the place and on the description of compounds within morphological paradigms, and more particularly on German AN-*ig* compounds such as *hochwertig* ‘having a high value’. They show that compounds are organized into paradigms whose horizontal and vertical dimensions fulfill similar roles. One consequence of this observation is that, within families, the compounds define sub-schemas that correspond to series.

Stump. The study by Stump focuses on missing links in derivational families like (CHARACTER, CHARACTERISTIC) and (CAJUN, CAJUNIZATION) where the non attested words CHARACTERIST and CAJUNIZE are missing. These families can be compared to (CAPITAL, CAPITALIST, CAPITALISTIC) and (PASTEURIZED, PASTEURIZE, PASTEURIZATION) respectively, where all the cells are filled. Stump proposes an analysis based on a rule conflation mechanism that he initially proposed for inflection in (Stump 2017a, b). This proposal avoids the need to stipulate unattested lexemes, and allows the derivatives in *-istic* or *-ization* to be directly connected to their noun base. The article provides a complete and detailed characterization of conflation at the formal, categorial, semantic levels and of its domain of application. It also shows that the rules formed by conflation are similar in every respect to the usual simple rules of derivation morphology. The study also has a more empirical dimension. In particular, Stump shows on the basis of data from the COCA corpus, that the productivity of the affixation in *-ization* is higher than that of the simple affixations *-ize* and *-ation* and he concludes that *-ization* is available as an affixation distinct from the composition of *-ize* and *-ation*. This study shows how derivational paradigms make the analysis of this phenomenon more compelling.

Dal Maso & Giraud. The paradigmatic organization of derivational morphology is based on two fundamental structures: derivational families and derivational series. While the psycholinguistic effects of morphological families are well known, particularly those induced by family size (*family size effect*, see (Schreuder & Baayen 1997)) and by the frequency of the words of the derivational family (*entropy effect*, see (Moscoso del Prado Martin et al. 2004)), derivational series effects are less easy to detect. The article by Dal Maso & Giraud addresses this difficult issue. The authors use masked priming, but replace the classic lexical decision task by a semantic categorization task. More specifically, they propose to measure the strength of the representation of a series in the mental lexicon by its consistency (i.e. its morphographic, morphosemantic and categorial transparency). They then compare

the processing of derived words that belong to series that have either a strong or a weak representation. The results show a differential effect between the two groups of series. The authors also show that formal priming gives rise to stronger effects in series with a low consistency than in the ones with a high consistency. These results suggest that semantic properties play a more important role in consistent series and, conversely, that the formal properties are more important in series with low consistency. Even if, as the authors indicate, the observed effects are statistically weak, the evidence of an effect of derivational series in the processing of complex words is a notable contribution of this work.

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