Morphological Productivity

The term 'Morphological productivity' is used as one of the features that distinguishes an Inflectional affix from a Derivational one.

Despite its importance and requirement, the term remains quite vague in the literature and there has not been much effort to understand the issue in a proper context.

The present presentation is an effort to understand the nature and function of the term 'productivity' in morphology.

Before I start the investigation, I would like to clarify that there are two key issues concerning the confusion of the term 'productivity' and I would consider them worth explaining at the very outset of the discussion:

a. Productivity is not a matter of 'Yes' or 'No', rather it is an issue of 'more or less'.

What it means that we should not, in fact, can not say that this feature is 'NOT' productive or that feature is very productive in a language.

We, instead, examine and report about productivity as a feature in the language which is either LESS productive or MORE productive.

b. **Second important clarification is that 'productivity' is a matter of SYNCRONIC study of a feature.**

It is about some features being 'productive' at a given period of time.

There are features which have been very productive at some time in past but the same feature might be the least productive in the present.

There are lots of problem in the literature as many research try to examine the issue of 'productivity' in a DIACHRONIC framework. We should keep ourselves from such work and influence.

Morphological Productivity:

Productivity is also referred as 'creativity' in the literature.

A simple working definition of 'productivity' can be stated like "…productivity refers to the 'generality' or 'generalization' of a feature which should be measured by the number of linguistic items of a class it can occur with.

The more general a feature operates in 'word-formation processes' the more productive that feature will be assumed to be.

For example, we will examine the following data given in three tables and talk about the nature of the affixes being added to units in each of the tables:

- a. Divide the words in their morphemes and list the affixes.
- b. Write the meaning the morphemes, especially of the affixes.
- c. Add five more words into each SET from your side.
- d. State the word-class of the bases to which affixes are added.
- e. What is the word class of the resultant new words.
- f. Which SET gave you hard time to separate the base and the affixes?
- **Observation:**
- i. N→N-ist / Adj -ist : Meaning 'practitioner of X' (as in anarchist, communist, pianist, violinist [N-Adj: racist, fascist etc).
- ii. ??N→Adj -id : Meaning 'having the quality of X' (as in morbid, tepid, splendid etc.)
- iii. V→N -er : Meaning ' doer/agent of X' (as in worker, painter etc.)

Set:A	Set:B	Set:C
chartist	morbid	worker
communist	tepid	painter
racist	timid	swimmer
pianist	splendid	dancer
anarchist	horrid	jogger

Set:A	Set:B	Set:C
chart	morb-	work
commun(e)	tep-	paint
rac(e)	tim-	swim
pian(o)	splend-	danc(e)
anarch(y)	horr-	jog

There are three suffixes i.e. –ist, -er and –id.

The *Latinate* suffix '-ist' may be added to NOUN to form either a noun or an adjective.

The suffix '-id' is also of *Latin* origin and has come into English via French.

In Latin, '-id' is used to derive an Attributive Adjective from a word such as 'timidus' which also has a verb form 'tɪmər', 'to fear'.

In English, the Latinate suffix '-id' is added to the root of the word i.e. 'tim' and have given 'timid'.

The meaning is derived from the verb 'to fear' and then the attributive suffix gives us 'someone being attributed the quality of being afraid'.

Finally, the native Germanic suffix '-er' giving an agentive noun from the respective verbs it gets attached to.

Judgment about the productivity:

The suffix '-er' is most productive one amongst the three because almost any verb in English can take this affix and give an 'Agentive noun'.

The suffix '-id' is the least productive affix in English and we can say this because we do not have enough examples of such bases to which this affix can be added.

Second, the remnants do not exit in English as a free morpheme or a word.

The notion of 'Semi-productivity':

Some linguists like Matthews and Anderson recognize a special category which they term as 'Semi-productive'.

This cover those idiosyncratic affixes which fail to attach to apparent eligible forms.

When such affixes are used, the meaning of the resulting word may be quite unpredictable.

Look at the following data from English:

Set:A
dependant
defendant
assistant
inhabitant
accountant
applicant
contestant

Set:B
*writ(e)ant
*buildant
*shoutant
*destroyant
*adaptant
*teachant
*accomplishant

The suffix '-ant' turns a verbal base into an agentive nominal.

But it is very irregular in its occurrence. It accepts the base in Set-A, but does not accept the bases that are in Set- B.

The reason for such behavior of the suffix is historical.

It seems that it accepts the bases that are Latinate origin and fails to take the Germanic bases.

Even in case of its occurrence with the Latinate bases, the meaning of the resulting lexical item is quite irregular.

For example, a 'defendant' has the narrow interpretation of 'a person sued in a court, and not just any one who defends oneself from something'.

Nothing of such meaning is stipulated about the word 'accountant'.

Probably this is why Matthews terms such cases as 'semi-productive' and help us to examine the case of '-ant', and '-id' affixes in English.

Productivity and Creativity:

Some linguists like Hockett, Chomsky and others have termed productivity as 'creativity'.

They define 'creativity' as the capacity of all human languages to use finite means to produce infinite number of words and utterances.

In the realm of morphology dealing with 'productivity of a feature', creativity manifests itself in two distinct ways: Rule-governed creativity and Rule-bending creativity'.

In general, the words that are formed following general and clear rules and principles are known as the Rule-governed creativity.

For example, the affix '-ly' when attached to an adjective brings an adverb and an affix 'post-' when get attached to words like 'war, dinner-walk, and election', the affix gives a meaning to the word which is similar to 'after X'.

However, speakers have the ability to extend the stock of words idiomatically by producing words without following the general rules or the norms of the language and come up with words like 'lazybones, bluenose, stoolpigeon, and deadline', where the meaning of the items in the compounds does not match with the resulting words. This is what is called 'Rule-bending creativity'.

Constraints on Productivity:

The constraint which is more commonly known as 'blocking' might take place in the language due to its specific phonological, morphological and semantic reasons.

For example, blocking may take place in certain formation of word due to the prior existence of a word which will be equivalent to the resulting word after some affixation take place.

The word 'thief' already exists in English and therefore it blocks the formation of a very productive affix '-er' to a verb 'steal' and thus we do not have a word as 'stealer'. Even if the word 'stealer' is there, it can not replace 'thief'.

Second, if there are two semantically similar affixes which bring the words of same 'grammatical class' and one of them is more productive than the other one, the blocking will take place with the less productive 'affix'.

This can be seen in case of the affixes, e.g. '-ity' and '-ness' in English.

Aronoff (1976) has shown that the suffixation of '-ness' is more productive then the suffixation of '-ity' in English.

He gives an explanation for it and says that where there is an existing noun that has been derived from an adjective and the base that ends in '-ous', it is not possible to create a new noun by adding '-ity'.

However, in such cases, the suffixation of '-ness' to those adjective bases are possible.

Thus, '-ness' is treated more productive then '-ity' in English. Look at the data given below:

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X-ous(adj)	Pre-existing Nouns	Noun ('-ity')	Noun ('-ness')
acrimonious	acrimony	*acrimoniousity	acrimoniousness
glorious	glory	*gloriousity	gloriousness
fallacious	fallacy	*fallaciousity	fallaciousness
spacious	space	*spaciousity	speciousness
furious	fury	*furiousity	furiousness

Phonological Factor:

Blocking can take place due to the phonological constraint.

Siegel (1971) and Halle (1973) have observed that verbs with an inchoative meaning, roughly interpretable as to 'having the quality of X' can be formed by adding a suffix **'-en'** to some adjective bases.

This rule, however, has to meet the following phonetic conditions:

I.   the adjective base should be monosyllabic;

II.   the base must end in an **obstruent** (i.e. stop, fricative or affricate) and optionally preceded by a **sonorant** (i.e. a nasal or lateral) consonant.

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Rule governed examples		*Cases suffering the phonological-blocking*	
black-en,	white-en	*dry-en,	*green-en
damp-en,	quite-en	*lax-en,	*dimm-en
tough-en,	soft-en		

Morphological factor:

Morphological properties of a base may prevent the application of any morphological rule.

Remember what we said earlier in case of a suffix '-ant' and its selection of the base to which this gets attached.

We said that '-ant' being a Latinate suffix, it can only select a base which has Latinate origin. Look the examples given below:

Rule governed examples	Cases suffering morphological-blocking
depend -ant	*writ(e)ant
defend -ant	*buildant
assist -ant	*shoutant
inhabit -ant	*destroyant
account -ant	*adaptant
contest -ant	*accomplishant

Another case of morphological (actually morphophonemic) block is known as ***Velar Softening***:

Rule:
$$\{ /k/ \rightarrow [s] / \underline{\quad} \underset{\sim}{V}[-low] \text{ i.e. } i\}$$
$$\{*/k/ \rightarrow [s] \quad \underline{\quad} \underset{\sim}{V}[+low] \text{ i.e. } a\}$$

The rule must be read as the sound /k/ changes into /s/ if it is followed by a non-low vowel /i/.
This, however, does not happen when the following vowel in a low vowel as in case of a suffix '-al' in English. Look at the examples given below:

Rule governed examples	Cases suffering the morphological-blocking
cynic- cynic$_{[s]}$ism	cynic- al = cynic$_{[k]}$al
critic- critic$_{[s]}$ism	critic- al = critic$_{[k]}$al
fanatic-fanatic$_{[s]}$ism	

Semantic factor:

Semantic factor also brings the case of blocking for some word-formation processes.

For example, the suffix '-ed' is added to noun, which then becomes the part of a compound word with a 'participle form'.

Ultimately, this compound word brings an adjective to us.

This process is governed by a semantic requirement of 'inalienable possession' (i.e. obligatory possession).

But in case of a compound-word which lacks such relation does not take this suffix '-en'.

Look at the examples given below:

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Rule governed examples	Cases suffering the semantic-blocking
short-sleeved = shirt	* two-cared
blue-eyed = boy	* three-daughter-ed
short-sighted = man	*big-housed

Another instance of the semantic factor blocking the productivity takes place when there is an equivalent linguistic item for a word and thus there is no need obtain similar words through some word-formation processes. For example:

Rule governed examples	Cases suffering the semantic-blocking
un-well	*un-ill
un-wise	*un-sad
un-clean	*un-dirty

That's all ☺