Participial Structures and Participial Asymmetries

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1 Introduction

English has different types of participles:

(1) The door was smashed.

    a. **Eventive:** Someone smashed the door.

    b. **Stative:** The door is in a state of having been smashed.

Background I: Category-Changing

(cf. Wasow (1977): Verbal vs. Adjectival passives as evidence for a modular distinction in the grammar – formation in the syntax vs. formation in the Lexicon)

Levin and Rappaport (1986): Indicative of many preceding and subsequent characterizations of the differences in participles; reliance on Category-changing operations:

"...the rule of [Adjectival Passive Formation] consists solely of the conversion of a verbal passive participle into an adjective." (1986:646)

(2) Adjectival Passive Formation:

$$V_{[part]} \longrightarrow [\,V_{[part]}\,]_A$$

Idea: Specific syntactic effects are a consequence of the change in category. For a verbal participle, the internal argument raises in the syntax. Adjectivalization in the Lexicon forces an internal argument to be projected externally.
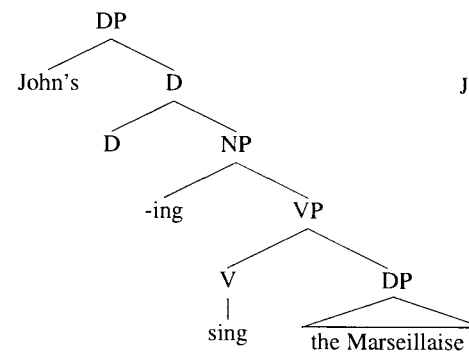
Question I: Are the differences in participles reducible to Category-change?

Answer I: *No;* Category-change does not play a role in determining differences in participles
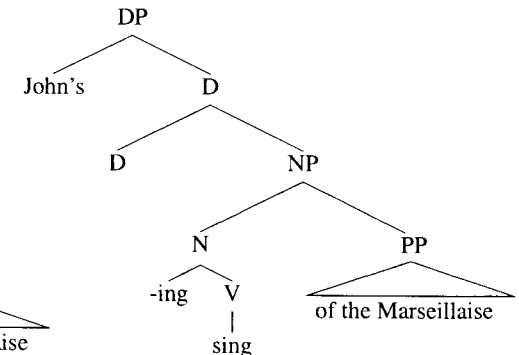
Background II: Height of attachment of functional heads determines syntactico-semantic properties; an example from the analysis of nominalizations in Abney (1987):

(3) POSS-ing and ING-of Nominalizations:

    a. POSS-ing: John's singing the Marseillaise...

    b. ING-of: John's singing of the Marseillaise...

E.g., nominalization at the level of V in ING-of strips V of Case-assigning properties, but higher nominalization in POSS-ing does not.

Question II: (for participles, now) Do differences in the height of attachment of Aspectual morphemes account for the differences in participles?

Answer II: *Yes, but not entirely;* Height of attachment does play a role in determining participial asymmetries, but something else is required

Goals:

Justify the answers to the two questions; i.e. show that:

1. Category-changing operations do not determine the differences in participles

2. Height of attachment in the spirit of Abney (1987) does play a certain role in participle systems, but something else is required.

2 Theoretical Assumptions

2.1 Theoretical Assumptions I: Morphology

Distributed Morphology (Halle and Marantz 1993, 1994), Bonet (1991), Noyer (1992) and subsequent work:

1. **Morphology interprets syntax:** Syntax manipulates abstract feature bundles. It does not manipulate full lexical items containing syntax, semantics, and phonology

2. **Vocabulary Insertion:** The morphological component interprets the output of the syntax by adding phonological content to the terminals.

   (4) Example with [PL] for plural

   In the syntax:

   $$\sqrt{\overline{\text{Dog}}} \quad \text{PL}$$
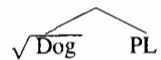
   In the morphology:

   [PL] $\leftrightarrow$ /-z/

Further Points about Vocabulary Insertion:

- *Vocabulary Items* are objects consisting of a phonological *exponent* or *signal* paired with conditions on insertion .

- Insertion proceeds under competition: the vocabulary item most highly specified for a subset of the features on a node is inserted

(5) Vocabulary Items

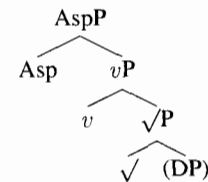[PL] $\leftrightarrow$ -en/__ox, child(r)...

[PL] $\leftrightarrow$ -s (= /-z/)

The phonological part of this, e.g. /-z/ in this example, will be referred to as an *exponent*

2.2 Theoretical Assumptions II: Syntax

A basic structure which appears in multiple environments:

(6) Basic Structure

$$
\begin{array}{c}
\text{AspP} \\
\diagup\diagdown \\
\text{Asp} \quad v\text{P} \\
\quad\;\; \diagup\diagdown \\
\quad v \quad \sqrt{\text{P}} \\
\qquad\; \diagup\diagdown \\
\qquad \sqrt{} \quad \text{(DP)}
\end{array}
$$

$\sqrt{}$**(Root)-Position:** The position of the (lexical) root

The verbal functional head v (motivation in argument structure in Hale and Keyser (1993), semantics of agentivity/external arguments in Kratzer (1993), syntax Chomsky (1995) and much related work):

(7) Some Properties of v

   a. Locus of Agentivity, i.e. of features relevant to the licensing and semantic interpretation of the external arguments; abbreviated as **AG** below, following Kratzer

   b. Case feature for the object

   c. Features relating to eventivity/stativity

   d. Morphosyntactically: verbalizes Roots

(8) **Note:** By combining (a) and (b), we obtain a means of stating Burzio's observations concerning the relationship between external arguments and Case

Overt realization of v in English with 'verbalizing' suffixes like *-ize, -en*:

(9) vapor, vapor-**ize**

   dark, dark-**en**

The Functional Head Asp(ect): Contains features that relate to the semantic properties of the event or state denoted by the verb; for instance, [perf(ective)] for a completed event, [prog(ressive)] for an ongoing event.

3 Initial Applications

Three languages, English, Chichewa (<Bantu), and Creek(<Muskogean), show different morphological realizations for Stative and Eventive syntax/semantics.

(10) Summary of English, Chichewa, and Creek Patterns

Syntax/Semantics	English	Chichewa	Creek
Perfect	-X	– –	– –
Eventive Passive	-X	-X	– –
Stative	-X	-Y	X
V-able	– –	-Y	X + Y
Exponents:	X = -en/-ed/-Ø	X = -idw	X = -ii
		Y = -ik	Y = e.g. -t

1. Eventive Passive and Stative are drawn from the same set of affixes in English, but are systematically different on the surface in Chichewa.

2. The same morphology that appears in Chichewa statives also appears with an interpretation of *V-able*. Creek, like Chichewa, also has a Stative. It also has a *V-able* form, which contains the morpheme found in the Stative. But further morphology distinguishes the Stative from the *V-able* in Creek.

Underspecification: Distinctions in Aspectual notions such as Stative vs. Eventive that are (1) morphologically identical or (2) not expressed in some languages are visible morphologically in others.

English: The familiar observation that Stative Passive and Eventive Passive are always identical:

(11) a. The glass was brok-**en** by John.

  b. The glass is brok-**en**.

(12) a. John was imprison-**ed** by the police.

  b. John is imprison-**ed**.

Identical again in the Perfect Participle:

(13) a. The glass was brok-**en** by John/The glass is brok-**en**.

  b. John has brok-**en** a lot of glasses in his time.

Chichewa: Eventive passive with the affixes *-idw/-edw*, and a stative with *-ik/-ek* (Dubinsky and Simango 1996):

(14) a. Nyemba zi-na-phik-**idwa**
      beans   AGR-PAST-cook-PASS
      'The beans were cooked.' (Eventive)

  b. Nyemba zi-na-phik-**ika**
      beans   AGR-PAST-cook-STAT
      'There beans were cooked.' (Stative)

The first of these, the eventive passive, refers to the beans having been cooked by some agent, whereas the stative only describes the state of the beans, without reference to an agent.

Note: Both are verbs (Dubinsky and Simango 1996).

When an overt copula is present, an ambiguity is revealed in the presence of a *Potential*, i.e. V-able, interpretation:

(15) Nyemba zi-na-li   zo-phik-**ika**
     beans   AGR-PAST-be AGR-cook-IK
     'The beans were cooked(STAT)/The beans were cookable.'

There are several components to this type of interpretation; consider the following from Creek (examples from Hardy (1994)):

Creek:

(16) Stative vs. 'Facilitative' in Creek

a. ani-t   ca-tonof   -k-   -ii-   -s
   1S-NOM 1S(II)-bruise<∅G> -MID- -STAT- -IND
   'I'm bruised'

b. ca-tonoof   -k- -ii- -t-   -oom- -s
   1S(II)-bruise<LG> -MID -STAT- -NOM(?)- -AUX- -IND
   'I bruise (i.e. I am bruisable).'

Observations:

1. Each involves similar components:

    (a) The 'Middle' suffix *-kV-*, which signals configurations without external arguments (my interpretation of Martin (1991) and Hardy (1994))

    (b) Each contains the Stative suffix *-ii-*, along with a Stative semantic component:

    [stat] ↔ -ii

2. But the *V-able* structure also involves further overt morphology (e.g. the suffix *-t-*) that distinguishes it from the Stative on the surface

Returning to Chichewa:

(17) Nyemba zi-na-li   zo-phik-**ika**
      beans   AGR-PAST-be AGR-cook-IK
      'The beans are cooked(STAT)/The beans are cookable.'

Differences in what is spelled-out: Additional distinctions between simple State and the *V-able* interpretation are not realized on the surface; but there is a [stat] component in each interpretation.

Chichewa Stative/V-able syncretism: Only *-ik* is inserted, for the Stative Aspectual component; this occurs equally when Modality for the *V-able*:

[stat] ↔ -ik

There is no need to hold, with Dubinsky and Simango, that there are two distinct *-ik* suffixes – rather, the same exponent *-ik* appears in each environment, spelling out the [stative] feature.

A further point:

Category: The notion of what Categories we find on the surface, i.e. whether the Stativized predicate is a Verb or Adjective, is independent of e.g. Stativization:

(18) Categories and Features

	Eventive Passive	Stative
English	Participle	Participle
Chichewa	Verb or Part.	Verb or Part.
Creek	– –	Verb

1. **English:** Eventive Passive and Stative Passive both surface as participles

2. **Chichewa:** Both Eventive Passive and Stative can be just as verbal as anything else, although the Stative can also appear with 'be'

3. **Creek:** Stative is as verbal as anything else

If Category-change as intended by e.g. Levin and Rappaport were the deciding factor, then there should be a direct correlation between the syntax/semantics of stativization and surface Category.

Thus we have an answer to Question I, about Category: The syntactico-semantic properties of the aspectual heads is important; Category is independent.
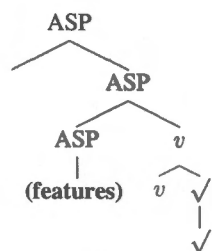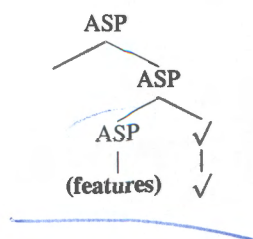
–Now for Question II: *Do differences in height of attachment play a role in determining participial asymmetries?*

4 English

Height of Attachment: Building on the intuition that height of attachment of aspectual morphemes determines certain syntactico-semantic and morphological properties (cf. Kratzer (1993, 1998), Marantz (2000)).

Applying the height idea, there are two initial possibilities: One case in which ASP is attached directly to the Root, one case in which it dominates *v*:

(19) **Structure 1: Asp directly on Root**   (20) **Structure 2: Asp above v**

```
        ASP                                ASP
       /    \                             /    \
           ASP                                ASP
          /    \                              /    \
       ASP      √                          ASP      v
        |       |                           |       /\
    (features)  √                       (features)  v  √
                                                        |
                                                        √
```

Predictions from Structure 1: Direct attachment to Root means no v, and thus

1. No eventive component

2. No Agentivity

(21) The door was closed.

    a. **Eventive Passive:** Someone closed the door. (Structure 2)

    b. **Stative Passive:** The door is in a state of having been closed. (Structure 2)

In addition: There is a third possibility for *closed*, based on Structure 1, and thus without reference to an event.

Diagnostic:[1]

Compare *open* and *open-ed*:

(22) a. This door was built open. (Not eventive: OK)

    b. ?*This door was built opened. (Eventive: Bad)

Now 'participial' *closed:*

(23) This door was built closed.

No contradiction – this is only Stative, and has no event; thus:

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[1]Environment after a verb of creation such as *build, create, make*: if the complement denotes a state resulting from a prior event, there should be a contradiction. For further morphological evidence showing that this Stative interpretation can be associated with distinct 'participial' morphology, Appendix §7.1.

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(24) *Open* and *Closed*

	Stative	**Stative Passive/Eventive Passive**
$\sqrt{\text{Open}}$	open-Ø	open-ed
$\sqrt{\text{Close}}$	close-d	close-d

Hereafter I will distinguish between *Stative* (no event) and *Stative Passive*.

Further Prediction: When ASP attaches to v, the purely Stative interpretation should not be possible; thus verbs in which overt v-suffixes like *-ize* and *-en* appear:

Reasoning:

1. Verbs with *-ize, -en*, etc. must have v, because these signals spell-out v

2. The presence of the verbalizing head v in such cases forces an eventive interpretation

3. Therefore this eventivity should be incompatible with the environment requiring the Stative interpretation

Application:

(25) Verbs with v in Stative environment

    a. ?*This substance was created vaporized.

    b. ?*This paper was created darkened.

The contradiction here results from (1) the requirement of no event, and (2) the presence of v, the eventive head.

Thus: Structure 1, for Statives, does do some work:

1. Attaches to Root, so no v

2. No v, no eventive interpretation

Question II: (for participles, now) Do differences in the height of attachment of Aspectual morphemes account for the differences in participles?

Yes: Attaching ASP to the Root, excluding v, does do some work for us.

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4.1 Not Height

Back to Structure 2: Asp above v is required in both Stative Passives and Eventive Passives; thus height does not account for the differences in these two.

(26) Structure 2: Asp above v

```
        ASP
       /  \
         ASP
        /  \
     ASP     v
      |      /\
  (features) v  √
               |
               √
```
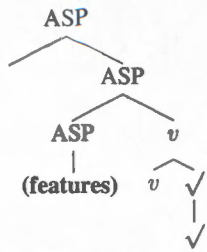
Point: Both Eventive and Stative Passive are formed from verbs with verbalizing suffixes *-ize, -en* etc.; hence each is related to Structure 2:

(27) black ~ black-en

   a. The paper was black-en-ed by the sun. (Eventive Passive)

   b. This paper is black-en-ed. (Stative Passive)

   c. The black-en-ed paper didn't impress anyone. (Stative Passive)

(28) item ~ item-ize

   a. The substance was vapor-ize-d by John. (Eventive Passive)

   b. The substance is vapor-ize-d. (Stative Passive)

   c. The vapor-ize-d substance impressed everyone. (Stative Passive)

Conclusion: Aspect in both Eventive Passive and Stative Passive attaches above v. The difference between these two is therefore not a matter of height.

Implementation:

Stative Passive: Aspectual head is for a state, and requires an event in its complement (Kratzer 1993)

Eventive Passive: Aspectual head is for completive interpretation: [perf], for Perfective

(cf. Pesetsky (1995) for the relevance of differences in Aspect)

In addition to the Aspectual differences, Stative Passive and Eventive Passive involve distinct types of v; this is stated in terms of a selectional relationship between Asp and v:
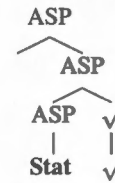
(29) Selection

   a. **Stative Passive:** Asp[Result] requires v[–AG]

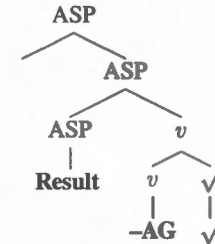   b. **Eventive Passive:** Asp[Perf] requires v[AG]

Note: This does not rule out the existence of the Active Perfect, which might contain these (or similar) Aspectual features; the selectional restrictions have to be constrained further. This raises interesting questions about selection...
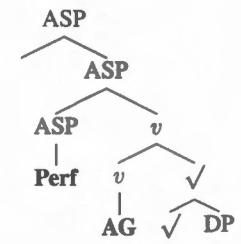
Tying things together:

(30) Stative

```
     ASP
    /  \
      ASP
     /  \
   ASP    √
    |     |
   Stat   √
```

(31) Stative Passive

```
       ASP
      /  \
        ASP
       /   \
     ASP     v
      |      /\
   Result   v  √
            |
           –AG  √
```

(32) Eventive Passive

```
       ASP
      /  \
        ASP
       /   \
     ASP     v
      |      /\
    Perf    v  √
            |
           AG  √  DP
```

Features on Aspect	*Features on v*
[Stat]: Simple state; no implication of prior event	**Stative:** No v is present; hence no event
[Result]: State resulting from event in complement	**Stative Passive:** v is present, but no **AG**
[Perf]: Completive aspect: perfective	**Eventive Passive:** v is present with **AG**

1. **Syntactico-Semantically:** There are different abstract morphemes here, with distinct syntactic and semantic properties,

   (a) Stative attaches to the Root

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(b) Stative Passive [Result] and Eventive Passive [Perf] attach above v, and impose selectional relationships on the content of v

2. **Morphologically:** The overt spell-out in each of these three environments is of the same type: *-(e)d/-t/-en/-Ø*; Underspecification:

(33) Spell-out of Aspect

[pres] $\leftrightarrow$ -ing
ASP $\leftrightarrow$ -en/___{$\sqrt{\text{break}}$, $\sqrt{\text{speak}}$, ...}
ASP $\leftrightarrow$ -Ø/___(List)
ASP $\leftrightarrow$ -(e)d/

3. **Identity:** The Eventive and Stative Passive participle affix are always identical (e.g. Lieber (1980), Bresnan (1982), Levin and Rappaport (1986) for attempts to characterize this); the Underspecification of Participial exponents accounts for this. Further conditions on insertion required for some pure Statives (e.g. *rott-ed* vs. *rott-en*).

Question II: (for participles, now) Do differences in the height of attachment of Aspectual morphemes account for the differences in participles?

Conclusion: Height does something, but selection is needed as well.

Now: driving home the point that there are selectional relationships between Aspect and its complement.

5 An Asymmetry in Latin Past Participles

Illustrating Selection Again: A further case in which selection between a type of ASP and the features of ASP's complement is required.

The 'Past Passive' Participle, formed with the affixes *-t-/-s-*:

(34) laudō 'praise'; laudā-t-us 'praised'
iubeō 'order'; ius-s-us 'ordered'

Found in the Perfect Passive:

(35) laudā-t-us   sum
praise-PART-MASC.SG.NOM be-PRES.1S
'I was praised'

Pattern: Normal verbs form only Passive Perfect Participles; another class of verbs, the *deponents*, form Active Perfect Participles (cf. Varro; all grammars/handbooks):

(36) Synopsis

	Active	Passive
Normal	– –	+
Deponent	+	+

Deponent Verb: Passive form, but active syntax; the requirement for passive morphology is an idiosyncratic property of these verbs (Draeger (1878), Meillet (1966), Baldi (1976), Embick (2000) (among others) for versions of this position).

(37) Present Active

laud-ō 'I praise'
laud-ā-s 'You praise'
laud-a-t 'He/she praises'
laud-ā-mus 'We praise'
laud-ā-tis 'You praise'
laud-a-nt 'They praise'

(38) Present Passive

laud-or 'I am praised'
laud-ā-ris 'You are praised'
laud-ā-tur 'He is praised'
laud-ā-mur 'We are praised'
laud-ā-minī 'You are praised'
laud-a-ntur 'They are praised'

(39) <No Corresponding Active Forms>

– –
– –
– –
– –
– –
– –

(40) Present of Deponent

hort-or 'I exhort'
hort-ā-ris 'you exhort'
hort-ā-tur 'he/she exhorts'
hort-ā-mur 'we exhort'
hort-ā-minī 'you exhort'
hort-a-ntur 'they exhort'

Representation: $\sqrt{\text{Hort}}$ [pass]

I.e., the Root is inherently specified for the [pass] feature (Embick (1997), Embick (2000))

Now for the Participles:

Normal verbs: Normal verb *recitō* 'read out'

(41) Hīs   letterīs   recitātīs...
      these-ABL.PL letter-ABL.PL read.out-ABL.PL

      'This letter having been read out...'

Deponent Verbs:

Ablative Absolute: Deponent verb *polliceor* 'promise'

(42) ... Sullā   omnia   pollicitō...
      ... Sulla-ABL   everything-NEUT-ACC   promise-PART-ABL.SG.MASC

      'Sulla having promised everything...'

      Sall., *Jug.* CIII,7; Brugmann (1895:137)

Appositive: Deponent verb *hortor* 'exhort'

(43) Sabinus   suōs   hortātus   cupientibus signum   dat.
      Sabinus-NOM his-ACC.PL exhort-PART-NOM   eager-DAT   signal-ACC give-3S

      'Sabinus, having exhorted his (troops), gives the eagerly awaited signal.'

   C. *B.G.* iii.17.2

5.1 Aspect and Passive

Capturing the Asymmetry: The pattern is stated in terms of selection:

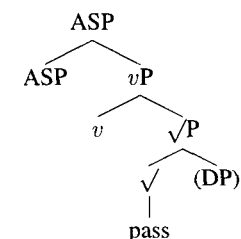(44) Asp[Perf], if it is not selected by T, selects [pass]

The requirement can be met in one of two ways:

1. By virtue of the presence of a [pass] feature on v, associated with the syntax of passivization

2. By virtue of the presence of a deponent verb, specified for [pass] inherently, in the complmement

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(45) Normal Verb
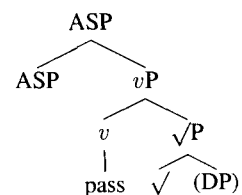
(46) Deponent Verb

When [pass] is on v, it has a real syntactic effect, in that no external argument is projected. Now Burzio's generalization:

(47) **Burzio's Generalization:** Correlation between (1) absence of an external argument, and (2) inability to assign Accusative case

(48) **The Burzio Property** (v version, cf. Chomsky (1998)): When [pass] appears on v, there is no Case feature for the object.

Using [±**ext argument**] to indicate the presence or absence of an external argument (cf. the [± logical subject] property of Marantz (1984)):

(49) [pass] on v is associated with no external argument; [–ext argument] means no Case, and thus passive syntax.

Recalling the two ways the selection of [pass] can be met:

1. **Normal Verbs:** The [pass] feature must be on v; therefore the syntax is necessarily passive – no external argument, no Case

2. **Deponent Verbs:** The [pass] feature is a property of the Root. Thus v can be of the normal, active variety. Active syntax is therefore possible.

Conclusion: The selectional relationship between Asp[Perf] and the feature [pass] in its complement is responsible for the Normal/Deponent asymmetry.

6 Conclusions

Recall that we began with two questions:

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Question I: Are the differences in participles reducible to Category-change?

Question II: Do differences in the height of attachment of Aspectual morphemes account for the differences in participles?

1. Differences in the behavior of participles is not determined by Category-Change.

2. Height of attachment of Aspectual morphemes accounts for some participial asymmetries, but not all.

3. There are selectional relationships between varieties of Aspect and features in the complement of Aspect (v or Root).

7 Appendices

7.1 Appendix: Allomorphy for State

Sometimes the Stative and Stative/Eventive Passive have distinct allomorphs – e.g., *rott-en* vs. *rott-ed*). In a further set of cases, the purely Stative is distinguishable from Eventive and Stative Passive morphologically (cf. Dubinsky and Simango, who, however, treat the *-èd* forms as Adjectival Passives):

(50)   bless ~ bless-ed ~ bless-èd

   a. The books were blessed by the priest.

   b. *The books were blessèd by the priest.

   c. The quickly blessed books sold faster than the others.

   d. The *quickly blessèd books sold faster than the others.

Note: De-nominal Adjectives in Old English with the suffix *-ede-* became indistinguishable from the participial ending in *-(e)d* (see e.g. Visser (1972) §1126 sqq. for examples). **Result:** Purely 'adjectival' (= Stative) suffixes with 'participial' endings, because the *-ed* exponents were often identical on the surface; then residual 'participial' endings in the purely Stative environment.

7.2 Appendix: *-t-/-s-* as Default Exponents of Aspect

Point: *-t-/-s-* in the Latin Past Participle are not sensitive to voice, or aspect (cf. Matthews (1972), Aronoff (1994) for this position; Benveniste (1948) for the nominalizations with *-t-/-s-*).

Rationale: The same *-t-/-s-* component appears in other de-verbal forms, such as the Future Active Participle, which is neither past nor passive:

(51)   Perfect and Future Active Participles

Verb	Past	Future	Translation
vehere	vec-t-us	vec-t-ūr-us	'carry'
haerēre	hae-s-us	hae-s-ūr-us	'stick'
premere	pres-s-us	pres-s-ūr-us	'press'
ferre	lā-t-us	lā-tūr-us	'bear'

Also in 'pure stative' environments, with nouns forming adjectives with the interpretation 'provided with' (like English *beard/beard-ed*):

(52)   fūnus 'death': fūnes-t-us 'deadly'
       honor 'honor': hones-t-us 'honorable'
       barba 'beard': barb-ā-t-us 'bearded'
       turris 'tower': turr-ī-t-us 'turreted'
       cornū 'horn': corn-ū-t-us 'horned'

(Leumann et al. §.299; Allen and Greenough p. 149; Gildersleeve and Lodge p.130; also Brugmann (1895) and Joffre (1986) for aspect of *-t-us* forms.)

Analysis: *-t-/-s-* are the default realizations of ASP; hence their distribution (Embick 2000).

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