Attitudinal compounds in English

Chariton Charitonidis
University of Cologne
charitonidis@uni-koeln.de

Abstract
This paper deals with the empirical validation of evaluative operations in English compounds first presented in Charitonidis (2014). The object of investigation are 103 English compounds expressing positive or negative stance, taken from Algeo's (1991) dictionary of neologisms. In the validation task, the valence (emotional positivity) ratings in Warriner, Kuperman and Brysbaert (2013) are used. The non-compositional patterns are explained with reference to the difference rate between the mean values of constituents and/or negative standard-deviation shifts in the evaluative heads.

Keywords: compounding, socio-expressive meaning, evaluative heads, stance, emotion, pejoration

1. Evaluative and grammatical/categorial heads[1]

To address evaluative operations in morphology, Charitonidis (2012a, 2012b, 2013, 2014, 2015a, 2015b) introduced an extra level of meaning, i.e. the 'socio-expressive (SE) tier', that shows up parallel to the grammatical and/or categorial level, i.e. the 'denotational (DE) tier'. The SE tier emerges according to the interplay of three SE features, i.e. {measure}, {stance}, and {interpersonal}[2]. In this paper, I will focus on {stance} as it is the only SE feature that, through its +/– changing head-operations (+/–HO) sufficiently defines the English (EN) compounding classes (Charitonidis 2014). As regards the meaning of this feature, {+s} refers to a positive {stance} and {–s} refers to a negative {stance} towards a situation or entity. {stance} may also be underspecified, i.e. merely {s}[3].

In (1) I rephrase the properties of the SE tier in relation to compounding (Charitonidis 2014, 2015a) by narrowing their scope to {stance}.

(1) **The properties of the SE tier in relation to compounding**

a. Both constituents in the compounds refer to a {stance} value, i.e. {+s}, {–s}, or {s}.

[1] In this paper, the terms 'evaluative heads' and 'socio-expressive (SE) heads' are used indifferently.
[2] SE features are indicated with curly brackets.
[3] In simple terms, {+s} refers to lexemes with a positive meaning, and {–s} refers to lexemes with a negative meaning (for examples see below).

b. SE heads can be right-hand (RH) or left-hand (LH). Valued features in the SE heads are also heads.
c. Underspecified features in the first or second constituent are merged regardless of their head role.
d. The SE arguments – linked to the single compound referent – are addressed by the features throughout the derivation, i.e. the SE arguments are evaluated anew in every derivational step including output.

(1a) defines that every compound constituent (a major lexical category) bears a positive ({+s}), negative ({–s}), or underspecified meaning ({s}). For instance, in *brain drain, brain* is {+s} and *drain* is {–s}. In *automania, auto* is {s} and *mania* is {–s}. In *shadow factory* both constituents are {s}, etc.

(1b) suggests that a compound such as *brain drain,* etc. has a RH SE-head and a compound such as *idiot girl,* etc. has a LH SE-head. The position of the SE head emerges most clearly in +/–HO compounds. For instance, in the RH SE-head compound *brain drain,* {–s} in *drain* reverts {+s} in *brain,* and in the LH SE-head compound *idiot girl,* {–s} in *idiot* reverts {+s} in *girl,* etc.

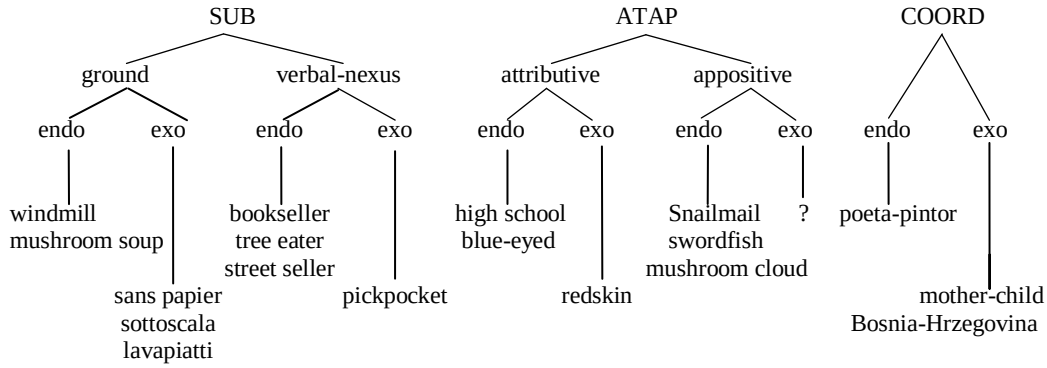
(1c) determines that when a compound constituent is underspecified, the SE-head position is irrelevant and the output is computed by means of a simple merging. For instance, in the {–s} compound *psychological warfare,* {s} in *psychological* is merged with {–s} in *warfare* by disregarding the fact that {s} is in the SE-head, etc.

The three-fold evaluation of the single compound referent referred to in (1d) calls for the application of the SE operations in a syntactic way. For instance, in *brain drain* three evaluations are necessary: the compound referent is first evaluated in the SE-nonhead *brain* as {+s}, in a second step the same referent is evaluated in the SE-head *drain* as {–s}, and in a third step the same referent is evaluated in the SE-output *brain drain* as {–s}, etc.

As shown in Charitonidis (2014), the linking of DE and SE heads yields two main classes of EN attitudinal compounds, i.e. subordinate (SUB) compounds (class A_{EN}) and attributive/appositive (ATAP) compounds (class B_{EN}), in accord with the first two classes in Scalise and Bisetto's (2009) classification, see (2)[4] .

[4] For details on the labels used in (2) see Scalise and Bisetto (2009: 50-52).

(2)



Scalise & Bisetto (2009: 50)

For instance, in the compounds in (3) and (4), the RH constituent is the DE head. In the A_{EN} compound *brain drain* in (3), the RH constituent is also the SE head. In contrast, in the B_{EN} compound *idiot girl* in (4), the SE head is the LH constituent. As can be seen, in both (3) and (4), {–s} survives in competition with {+s} according to the properties of the SE tier in (1)[5].

(3)	[NONHEAD]		[HEAD]		[OUTPUT]
	brain	+	*drain*	→	*brain drain*
	{+s}		**{–s}**		{–s}

(4)	[NONHEAD]		[HEAD]		[OUTPUT]
	idiot	+	*girl*	→	*idiot girl*
	{–s}		{+s}		{–s}

Charitonidis (2014) assumed that there is a third class of attitudinal compounds (class C_{EN}) that corresponds to the third main category in Scalise and Bisetto's (2009) classification, i.e. the coordinate (COORD) compounds. These attitudinal compounds have syntactically identical constituents in alternating order and are double-headed (two DE heads). {–s} in one constituent results in {–s} in the output. Accordingly, a RH or LH SE-head can be defined, see *toy* in the compounds *boy toy* and *toy boy* in (5a) and (5b), respectively.

(5a)	[HEAD]		[HEAD]		[OUTPUT]
	boy	+	*toy*	→	*boy toy*
	{+s}		**{±s}**		{±s}

[5] Hitherto, all {stance} values are adopted from Charitonidis (2014) and are in accord with the valence ratings in Warriner, Kuperman and Brysbaert (2013).

(5b)	[HEAD]		[HEAD]		[OUTPUT]
	toy	+	*boy*	→	*toy boy*
	{±s}		{+s}		{±s}

Let us now see whether or not the SE operations and the classes of attitudinal compounds presented in this section are validated empirically.

2. Attitudinal compounds with a compositional meaning

The object of investigation are 103 EN compounds (neologisms) originated between 1941 and 1991, taken from Algeo's (1991) dictionary. All compounds have a clearly positive or negative meaning. They are a subset of the 132 compounds examined in Charitonidis (2014). All compounds in Charitonidis (2014) could not be examined, because some compound constituents are not listed as words in Warriner, Kuperman and Brysbaert's (2013) database. The validation of the output was not possible because in Warriner, Kuperman and Brysbaert (2013) only a small number of non-spaced compounds are considered. Accordingly, a positive or negative value was assigned to the compounds mainly according to the definitions in Algeo (1991).

2.1 The mapping of valence onto {stance} and the input parameters

In visual recognition tasks **(**Kuperman 2013; Warriner, Kuperman & Brysbaert 2013; etc.), *valence* (emotional positivity) is a semantic variable gauging the amount of pleasantness or discomfort that a person feels when reading a word. The informants are asked to give a rating for presented words by referring to a scale from 1 (happy) to 9 (sad, unhappy). For technical reasons, reported in Warriner, Kuperman and Brysbaert (2013), and in the present study, the reverted ratings are used whereby 1 refers to the most negative and 9 to the most positive value.

For the validation of the SE operations in (1), the following mappings between {stance} and valence are defined[6]:

(6)	Valence (Warriner et al. 2013)	{Stance} (Charitonidis 2014)
	1 – 4.4	{–s}
	4.5 – 5.4	{s}
	5.5 – 9	{+s}

[6] The mappings in (6) consider the valence rating 5 as directly corresponding to {s} while rounding the proximate ratings. An almost identical mapping for {s}, i.e. 4.44-5.56, shows up by considering each scale point covering 11.11 % of the nine-point scale.

The comparison (input) parameters are EC (exact correlation of the {stance} values in Charitonidis 2014 with the valence ratings in Warriner, Kuperman and Brysbaert 2013), VO (valid operations, i.e. compositional operations between the compound constituents according to the valence ratings in Warriner, Kuperman and Brysbaert (2013) and the properties of the SE tier in (1)), and +/–HO (see section 1).

2.2 Exact correlation between {stance} and valence

Table 1 shows that when there is an exact correlation (EC) between {stance} and valence values together with +/– changing head-operations (+/–HO), the properties of the SE tier in relation to compounding hold (VO). It should be noted that in this full set of compounds (six compounds, 5.83%) only two classes show up[7]. In the first column of Table 1, 'C' refers to the {stance} values in Charitonidis (2014) and 'V' refers to the valence ratings in Warriner, Kuperman and Brysbaert (2013). The SE heads are indicated with bold face[8].

						S&B (2009)	EC	+/– HO	VO
1	*brain*	+	*drain*	→	*brain drain*	SUB			
C	{+s}		**{–s}**		{–s}				
V	6.22 ({+s})		3.8 **({–s})**		({–s})		x	x	x
2	*plea*	+	*bargain* (V)	→	*plea-bargain* (V)	SUB			
C	{–s}		**{+s}**		{+s}				
V	4.35 ({–s})		7.63 **({+s})**		({+s})		x	x	x
3	*empty*	+	*nest*	→	*empty nest*	ATAP			
C	**{–s}**		{+s}		{–s}				
V	3.78 **({–s})**		5.65 ({+s})		({–s})		x	x	x
4	*gray*	+	*market*	→	*gray market*	ATAP			
C	**{–s}**		{+s}		{–s}				
V	3.68 **({–s})**		6.21 ({+s})		({–s})		x	x	x
5	*idiot*	+	*girl*	→	*idiot girl*	ATAP			
C	**{–s}**		{+s}		{–s}				
V	3.03 **({–s})**		7.15 ({+s})		({–s})		x	x	x
6	*loyal*	+	*opposition*	→	*loyal opposition*	ATAP			
C	**{+s}**		{–s}		{+s}				
V	7.31 **({+s})**		3.21 ({–s})		({+s})		x	x	x

Table 1: EC-VO-HO compounds (full set, 5.83%)

Table 2 shows that the properties of the SE tier in relation to compounding hold (VO) even when there are no +/– changing head-operations (+/–HO). As in the EC-+/–HO-VO class (Table 1), in this full set of EC-VO compounds (22 compounds, 21.36%) only two classes show up.

[7] In this paper all percentages are rounded up to the second decimal point.
[8] In the first row of Table 1, 'S&B (2009)' stands for 'Scalise & Bisetto (2009)' (see section 1).

						S&B (2009)	EC	+/– HO	VO
1	*auto*	+	*mania*	→	*automania*	SUB			
C	{s}		**{–s}**		{–s}				
V	5 ({s})		3.62 **({–s})**		({–s})		x		x
2	*death*	+	*squad*	→	*death squad*	SUB			
C	{–s}		**{s}**		{–s}				
V	1.89 ({–s})		5.35 **({s})**		({–s})		x		x
3	*empty nest*	+	*depression*	→	*empty nest depression*	SUB			
C	{–s}		**{–s}**		{–s}				
V	3.78_5.65 ({–s})		2.44 **({–s})**		({–s})		x		x
4	*empty nest*	+	*syndrome*	→	*empty nest syndrome*	SUB			
C	{–s}		**{–s}**		{–s}				
V	3.78_5.65 ({–s})		4.33 **({–s})**		({–s})		x		x
5	*shooting*	+	*war*	→	*shooting war*	SUB			
C	{–s}		**{–s}**		{–s}				
V	x (shoot: 3.5) ({–s})		2.23 **({–s})**		({–s})		x		x
6	*Catholic*	+	*baiter*	→	*Catholic-baiter*	SUB			
C	{s}		**{–s}**		{–s}				
V	4.95 ({s})		x (bait: 4) **({–s})**		({–s})		x		x
7	*fag*	+	*bashing*	→	*fag-bashing*	SUB			
C	{–s}		**{–s}**		{–s}				
V	2.05 ({–s})		x (bash: 3.68) **({–s})**		({–s})		x		x
8	*cold*	+	*war*	→	*cold war*	ATAP			
C	**{–s}**		{–s}		{–s}				
V	4.32 **({–s})**		2.23 ({–s})		({–s})		x		x
9	*dirty*	+	*trick*	→	*dirty trick*	ATAP			
C	**{–s}**		{s}		{–s}				
V	3.17 **({–s})**		4.89 ({s})		({–s})		x		x
10	*dry*	+	*drunk*	→	*dry drunk*	ATAP			
C	**{s}**		{–s}		{–s}				
V	4.86 **({s})**		4.06 ({–s})		({–s})		x		x
11	*hard*	+	*sell*	→	*hard sell*	ATAP			
C	**{–s}**		{s}		{–s}				
V	4.35 **({–s})**		5.33 ({s})		({–s})		x		x
12	*idiot*	+	*board*	→	*idiot board*	ATAP			
C	**{–s}**		{s}		{–s}				
V	3.03 **({–s})**		5.33 ({s})		({–s})		x		x
13	*phoney*	+	*war*	→	*phoney war*	ATAP			
C	**{–s}**		{–s}		{–s}				
V	2.52 **({–s})**		2.23 ({–s})		({–s})		x		x
14	*psychological*	+	*warfare*	→	*psychological warfare*	ATAP			
C	**{s}**		{–s}		{–s}				
V	4.77 **({s})**		3.14 ({–s})		({–s})		x		x
15	*reversed*	+	*discrimination*	→	*reversed discrimination*	ATAP			
C	**{s}**		{–s}		{–s}				
V	x (reverse: 5.2) **({s})**		2.45 ({–s})		({–s})		x		x
16	*silent*	+	*virus*	→	*silent virus*	ATAP			

C	**{s}**		{–s}		{–s}				
V	5.14 **({s})**		1.71 ({–s})		({–s})		x		x
17	*soft*	+	*landing*	→	*soft landing*	ATAP			
C	**{+s}**		{s}		{+s}				
V	7.13 **({+s})**		5.09 ({s})		({+s})		x		x
18	*soft*	+	*sell*	→	*soft sell*	ATAP			
C	**{+s}**		{s}		{+s}				
V	7.13 **({+s})**		5.33 ({s})		({+s})		x		x
19	*total*	+	*war*	→	*total war*	ATAP			
C	**{s}**		{–s}		{–s}				
V	5.32 **({s})**		2.23 ({–s})		({–s})		x		x
20	*white*	+	*market*	→	*white market*	ATAP			
C	**{+s}**		{+s}		{+s}				
V	6.18 **({+s})**		6.21 ({+s})		({+s})		x		x
21	*bonanza*	+	*baby*	→	*bonanza baby*	ATAP			
C	**{+s}**		{+s}		{+s}				
V	6.09 **({+s})**		6.67 ({+s})		({+s})		x		x
22	*shadow*	+	*factory*	→	*shadow factory*	ATAP			
C	**{s}**		{s}		{s}				
V	5.07 **({s})**		4.95 ({s})		({s})		x		x

Table 2: EC-VO compounds (full set, 21.36%)

Let us now summarise the results shown in Tables 1 and 2. Table 3 displays the EC and NON-EC patterns of 40 R[DE] ~ R{SE} and 63 R[DE] ~ L{SE} compounds (103 compounds, full set).

Compounds	**EC-VO-HO**	**EC-VO**	**NON-EC**
R[DE] ~ R{SE}: 40	2	7	31
R[DE] ~ L{SE}: 63	4	15	44
103 (100%)	6 (5.83%)	22 (21.36%)	75 (72.82%)

Table 3: Correlation between Charitonidis's (2014) {stance} values and Warriner, Kuperman and Brysbaert's (2013) valence ratings

The high percentage of NON-EC compounds (72.82%) in Table 3 suggests major differences between the {stance} values in Charitonidis (2014) and the valence ratings in Warriner, Kuperman and Brysbaert (2013). However, these differences do not call for the rejection of either framework – note that in Warriner, Kuperman and Brysbaert (2013) grammatical operations, such as negative {stance} assignment of the grammatical [HEAD] to the grammatical [NONHEAD][9], heavy SE shifts before compounding[10], etc., are not taken into account. However, I grant that Warriner,

[9] In Charitonidis (2014, 2015a) it is assumed that in R[DE] ~ R{SE} compounds the RH {–s} constituent can impose {–s} on the LH constituent, as in the Modern Greek (MG) compound *ghero-paráksen(os)* 'old geezer', etc.

[10] In Charitonidis (2014, 2015a) it is assumed that a word can acquire an explicit {±s} value in combination with another word. For instance, in the compound *black market*, *black* does not enter the

Kuperman and Brysbaert's (2013) ratings are more far-reaching since they are based on a large number of native speakers' evaluations as opposed to a single man's evaluations, i.e. the author's (Charitonidis 2014). On top of this, Warriner, Kuperman and Brysbaert (2013) offer explicit values even for words indicated as underspecified in Charitonidis (2014). For instance, *television* shows up with a valence rating of 7.18 in Warriner, Kuperman and Brysbaert (2013), i.e. as a very positive concept, whereas the same concept is regarded as underspecified ({s}) in Charitonidis (2014), etc.[11]

2.3 No exact correlation between {stance} and valence

Table 4 shows that when there is no exact correlation (EC) between {stance} and valence values (Charitonidis 2014 vs. Warriner, Kuperman & Brysbaert 2013, respectively), the valence ratings sufficiently address the properties of the SE tier (VO). Table 4 also shows that, in the presence of +/– changing head-operations (+/– HO), only two classes show up (19 compounds, 18.45%, full set). This is a strong indication that Warriner, Kuperman and Brysbaert's (2013) and Charitonidis's (2014) systems are compatible.

						S&B (2009)	EC	+/– HO	VO
1	*computer*	+	*virus*	→	*computer virus*	SUB			
C	{s}		**{–s}**		{–s}				
V	6.84 ({+s})		1.71 **({–s})**		({–s})			x	x
2	*date*	+	*rape*	→	*date rape*	SUB			
C	{s}		**{–s}**		{–s}				
V	7.18 ({+s})		1.54 **({–s})**		({–s})			x	x
3	*energy*	+	*crisis*	→	*energy crisis*	SUB			
C	{s}		**{–s}**		{–s}				
V	6.9 ({+s})		2.05 **({–s})**		({–s})			x	x
4	*pot*	+	*vague*	→	*pot vague*	SUB			
C	{s}		**{–s}**		{–s}				
V	5.81 ({+s})		4.29 **({–s})**		({–s})			x	x
5	*energy*	+	*guzzler*	→	*energy guzzler*	SUB			
C	{s}		**{–s}**		{–s}				
V	6.9 ({+s})		4.42 **({–s})**		({–s})			x	x
6	*granny*	+	*bashing*	→	*granny-bashing*	SUB			
C	{s}		**{–s}**		{–s}				
V	5.71 ({+s})		x (bash: 3.68) **({–s})**		({–s})			x	x
7	*captive*	+	*audience*	→	*captive audience*	ATAP			
C	**{–s}**		{s}		{–s}				
V	3.27 **({–s})**		5.89 ({+s})		({–s})			x	x

compound as an underspecified ({s}) constituent (the default value for *black*) but as a {–s} constituent (with the meaning ''illegal').

[11] Charitonidis (2014) adopts a compromised strategy in words denoting artefacts.

8	*cold*	+	*call* (V)	→	*cold-call* (V)	ATAP			
C	**{–s}**		{s}		{–s}				
V	4.32 **({–s})**		6.18 ({+s})		({–s})			x	x
9	*dim*	+	*viewer*	→	*dim-viewer*	ATAP			
C	**{–s}**		{s}		{–s}				
V	3.37 **({–s})**		5.53 ({+s})		({–s})			x	x
10	*hot*	+	*shot*	→	*hotshot*	ATAP			
C	**{+s}**		{s}		{+s}				
V	5.73 **({+s})**		2.82 ({–s})		({+s})			x	x
11	*ultimate*	+	*weapon*	→	*ultimate weapon*	ATAP			
C	**{+s}**		{s}		{+s}				
V	5.74 **({+s})**		3.95 ({–s})		({+s})			x	x
12	*courtesy*	+	*patrol*	→	*courtesy patrol*	ATAP			
C	**{+s}**		{s}		{+s} (euph., Algeo)				
V	6.79 **({+s})**		4.04 ({–s})		({+s})			x	x
13	*crash*	+	*show* (or TV)	→	*crash show* (or TV)	ATAP			
C	**{–s}**		{s}		{–s}				
V	2.9 **({–s})**		5.91 (or 6.05) ({+s})		({–s})			x	x
14	*gunboat*	+	*diplomacy*	→	*gunboat diplomacy*	ATAP			
C	**{–s}**		{s}		{–s}				
V	3.58 **({–s})**		5.53 ({+s})		({–s})			x	x
15	*power*	+	*user*	→	*power user*	ATAP			
C	**{+s}**		{s}		{+s}				
V	5.97 **({+s})**		3.67 ({–s})		({+s})			x	x
16	*spaceman*	+	*economy*	→	*spaceman economy*	ATAP			
C	**{s}** (error in C)		{s}		{s} (error in C)				
V	6.14 **({+s})**		3.64 ({–s})		({+s})				
17	*trash*	+	*sport*	→	*trash-sport*	ATAP			
C	**{–s}**		{s}		{–s}				
V	2.74 **({–s})**		6.95 ({+s})		({–s})			x	x
18	*trash*	+	*television*	→	*trash television*	ATAP			
C	**{–s}**		{s}		{–s}				
V	2.74 **({–s})**		7.18 ({+s})		({–s})			x	x
19	*wonder*	+	*drug*	→	*wonder drug*	ATAP			
C	**{+s}**		{s}		{+s}				
V	6.68 **({+s})**		4.11 ({–s})		({+s})			x	x

Table 4: VO-HO compounds (full set, 18.45%)

Concluding, I would like to mention that there is a considerable number of only-VO compounds (i.e. non-EC, non-±HO compounds, in which the valence ratings in Warriner, Kuperman and Brysbaert (2013) yield an output according to the properties of the SE tier in (1)), whose treatment in this section would impede the flow of reading. The full set of these compounds can be found in the Appendix (33 compounds, 32.04%).

2.4 Attitudinal compounds with a compositional meaning: overview

Let us now consider all compounds with reference to the VO parameter, i.e. compounds in which the valence ratings in Warriner, Kuperman and Brysbaert (2013)

yield an output according to the properties of the SE tier in (1). Table 5 displays the VO and NON-VO patterns in 40 R[DE] ~ R{SE} and 63 R[DE] ~ L{SE} compounds (103 compounds, full set).

Compounds	**VO**	**NON-VO**
R[DE] ~ R{SE}: 40	28 (70%)	12 (30%)
R[DE] ~ L{SE}: 63	52 (82.54%)	11 (17.46%)
103 (100%)	80 (77.67%)	23 (22.33%)

Table 5: The validity of SE operations by considering Warriner, Kuperman and Brysbaert's (2013) valence ratings

The high percentage of VO compounds (80 compounds, 77.67%), suggests that the properties of the SE tier in (1) largely hold. I assume that the lower validity rate in R[DE] ~ R{SE} compounds (70%, class percentage) as compared to R[DE] ~ L{SE} compounds (82.54%, class percentage), is due to the unification of the DE and SE head into a single constituent (see section 1). This unification may induce a stronger operational complexity.

3. Attitudinal compounds with a non-compositional meaning

Let us now examine the compounds in which the valence ratings in Warriner, Kuperman and Brysbaert (2013) do not yield the attested negative output according to the properties of the SE tier in (1), i.e. the NON-VO compounds. As already shown in Table 5 this applies to 22.33% of the whole sample.

Tables 6 and 7 display the patterns of 12 R[DE] ~ R{SE} and 11 R[DE] ~ L{SE} compounds with a non-compositional negative meaning, respectively[12]. Each table contains the following information. In the first row, the respective compounds are given. In the second row, the mean valence-values for each compound constituent show up. '>' indicates that the first compound constituent has a higher mean-value than the second one and '<' indicates the opposite. In the parentheses, the standard-deviation (SD) values for each constituent are given. In the third row, the difference rate between the lower and the higher mean-value of the compound constituents shows up. In the fourth row, the mean valence-values from the second row are displayed as {stance} values (see (6)). In each case, the first {stance} value refers to

[12] It should be noted that *police state* in Table 7 was originally a positive concept (see Tipton 2012: 14-16).

the LH constituent and the second {stance} value refers to the RH constituent. In the same row 'BL' (balanced) indicates that the difference rate between the mean valence-values of constituents is below 1. In the fifth row, SD1 refers to the SD value of the first constituent, and SD2 refers to the SD value of the second constituent (as already mentioned, both SD values are given in parentheses in the second row of both tables)[13]. 'V2' in Table 6 refers to the verbal base of the second constituent of *name dropper*, i.e. *drop*. This special reference was necessary because, in its common use, *dropper* refers to an artifact only remotely associated with the action reading of the same word in *name dropper*. The sixth row displays the number of the compounds examined in each column. In both tables, the combinations of BL difference-rates and negative SD shifts are indicated with bold face.

1	brain wash couch potato name calling	dollar gap notch baby soap opera sofa spud	name dropper	gender gap	domino theory spud suit	notch year
2	6.22 > 6 (1.63|2.07) 6.52 > 6.4 (1.44|2.21) 5.62 < 6.18 (1.56|1.84)	7.39 > 4.91 (1.51|1.54) 5.32 < 6.67 (1.57|2.36) 7.1 > 5.68 (1.41|1.59) 6.26 > 5.05 (1.69|2.16)	5.62 > 5.05 (N) or 4.23 (V) (1.56|2.12 (N) or 1.57 (V))	5.05 > 4.91 (1.35|1.54)	5 < 5.65 (1.52|1.3) 5.05 < 5.89 (2.16|1.97)	5.32 < 5.75 (1.57|1.29)
3	**0.22, 0.12, 0.56**	2.48, 1.35, 1.42, 1.21	**0.57** or 1.39	**0.14**	**0.84, 0.65**	**0.43**
4	**BL** {+s}{+s} **BL** {+s}{+s} **BL** {+s}{+s}	{+s}{s} {s}{+s} {+s}{+s} {+s}{s}	**BL** {+s}{s} or {+s}{–s}	**BL** {s}{s}	**BL** {s}{+s} **BL** {s}{+s}	**BL** {s}{+s}
5	**–SD2: {–s}**	–SD2: {–s}	**–SD2: {–s}** or V2 {–s}	**–SD2: {–s}**	**–SD2: {–s}**	–SD1: {–s} AND **–SD2: {s}**
6	3	4	1	1	2	1

Table 6: 12 R[DE] ~ R{SE} compounds with a non-compositional negative meaning

[13] It should be noted that in the compounds *creative accounting* and *egghead* in Table 7 the –SD1 shift corresponds to a slightly lower value (see the indication 'forced assignment' under Table 7).

1	big lie	black spot	creative accounting	defensive medicine spin doctor	eager beaver	yellow market baseball diplomacy	police state	sandwich generation	egg head
2	5.64 > 2.39 (1.73|1.43)	5.4 > 5.12 (2.14|1.54)	7.06 > 4.42 (1.55|2.09)	4.65 < 5.9 (1.81|2.39) 4.9 < 5.93 (0.89|1.89)	6.37 > 5 (1.38|1.84)	6.09 < 6.21 (1.82|1.68) 5.79 > 5.53 (1.93|2.48)	4.59 < 5.73 (2.4|1.32)	7.18 > 6.08 (1.33|1.77)	5.95 > 5.86 (1.43|1.32)
3	3.25	**0.28**	2.64	1.25, 1.03	1.37	**0.12, 0.26**	1.14	1.1	**0.09**
4	{+s}{–s}	**BL** {s}{s}	{+s}{–s}	{s}{+s} {s}{+s}	{+s}{s}	**BL** {+s}{+s} **BL** {+s}{+s}	{s}{+s}	{+s}{+s}	**BL** {+s}{+s}
5	–SD1: {–s}	**–SD1: {–s}**	–SD1: {s} (5.51)	–SD1: {–s}	–SD1: {s}, –SD2: {–s}	**–SD1: {–s}**	–SD1: {–s}	no resort	**–SD1: {–s} (4.52)**
6	1	1	1	2	1	2	1	1	1

creative accounting –SD1: {s} (forced assignment / 5.51 = {+s})
egghead –SD1: {–s} (forced assignment / 4.52 = {s})

Table 7: 11 R[DE] ~ L{SE} compounds with a non-compositional negative meaning

The comparison of the patterns of 12 R[DE] ~ R{SE} compounds with the patterns of 11 R[DE] ~ L{SE} compounds yields two distinct patterns. In almost all (11/12) R[DE] ~ R{SE} compounds (Table 6), it suffices to assume a negative SD shift in the second constituent, i.e. the SE head, to obtain a negative output. Most notably, this negative SD2 shift is often (7/11) accompanied by BL mean-values, i.e. proximate-value combinations of positive/positive, positive/underspecified or underspecified/ underspecified constituents.

In the R[DE] ~ L{SE} compounds (Table 7) these levelled patterns do not show up. On the one hand, in 9 out of 11 compounds, it suffices to assume a negative SD shift in the first constituent, i.e. the SE head (the –SD1:{–s} assignment in *egg* of *egghead* is forced). On the other hand, this negative SD1 shift is randomly (4/9) accompanied by BL mean-values (actually 3/9 – consider again the exceptional case of *egghead*).

I do not have a ready-made explanation for these two distinct patterns. I would only like to make the following assumption by referring to both the DE and SE tier.

Since in the R[DE] ~ R{SE} compounds the DE and SE heads coincide, a combined strategy is necessary for triggering output shifts. In contrast, in the R[DE] ~ L{SE} compounds, the SE head, by being uniquely mapped onto the LH constituent, allows for a stronger SD shift.

sandwich generation (Table 7) is the only compound in which a negative SD shift in the first (*sandwich*; Valence: 7.18, SD: 1.33) and/or second constituent (*generation*;

Valence: 6.08, SD: 1.77) cannot yield the attested negative output. This is obviously due to the high mean-value of the SE head *sandwich*[14].

As regards the triggers of negative SD shifts in the compounds examined in this section, I assume that negative semantic/pragmatic residues in the meaning of compound constituents interfere. In this context, I would like to mention the empirical studies of Ungerer and Schmid (1998, 2006). By asking EN native speakers and second-language learners of EN to list attributes for specific concepts, the experimenters ended up with lists in which negative attributes cluster together with positive or underspecified ones. For instance, in Ungerer and Schmid (1998: 93) the concept *rain* showed up with positive attributes, such as 'waterproof', 'umbrella', etc., but also with negative ones, such as 'does not warm well', 'storm', 'bad weather', etc. (translation from German by CC). I argue that these negative residues are activated by means of SE shifts before compounding (see f. 10).

4. Is there a third class of attitudinal compounds?

As regards the single compound with an alternating constituent order, i.e. *toy boy / boy toy*, the SE operations referred to in section 1 are not confirmed, see Table 8[15].

1	*toy boy*
2	7.29 > 5.84 (1.47|1.7)
3	1.45
4	{+s}{+s}
5	–SD2: {–s}
6	1

Table 8: The profile of 'toy boy' according to valence ratings

Table 8 shows that *boy* is positive (5.84) and *toy* strongly positive (7.29). Accordingly, the alternating constituent order cannot be explained according to a possible negative reading of *toy* in LH or RH position yielding a negative output (cf. (5a) and (5b) in section 1). The negative interpretation of the output rather refers to a negative SD shift in *boy* – from the analysis so far we know that SD shifts standardly occur inside SE heads (see row 5 in Table 8). These premises suggest that *toy boy* is basically a R[DE] ~ R{SE} compound – though this assumption does not call for the metaphorical reading of the first constituent (a pattern canonically associated with the

[14] To which extent such a pattern can call for ironic readings is an open issue.
[15] The notation used in Table 8 is explicated at the onset of section 3.

R[DE] ~ L{SE} compounds)[16]. This analysis is supported by the semantics of the non-alternating compound *boy toy* referring to a female person ('the toy of the boy'). To put it in technical terms, the juxtaposed reference of *toy boy* (male person) and *boy toy* (female person) sufficiently differentiates the respective compounds at DE level. Concluding, according to the valence ratings in Warriner, Kuperman and Brysbaert (2013), *toy boy* / *boy toy* is not a copulative compound. Class C_{EN} proposed in Charitonidis (2014) cannot be validated.

5. Conclusions

The analysis in this paper has shown that the properties of the SE tier in relation to compounding (Charitonidis 2014) largely hold. On the one hand, Warriner, Kuperman and Brysbaert's (2013) valence ratings yield two main classes of attitudinal compounds in accord with the analysis in Charitonidis (2014). On the other hand, the third class of attitudinal compounds, i.e. the coordinate (copulative) compounds (ibid.), could not be validated.

The cases in which the valence ratings in Warriner, Kuperman and Brysbaert (2013) do not yield the attested negative output can be explained with reference to the difference rate in the mean values of constituents and/or negative SD shifts in the SE (evaluative) heads.

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Appendix

The full set of only-VO compounds referred to in section 2.3.

						S&B (2009)	EC	+/– VO	VO
1	*acquaintance*	+	*rape*	→	*acquaintance rape*	SUB			
C	{s}		**{–s}**		{–s}				
V	5.58 ({+s})		1.54 **({–s})**		({–s})				x
2	*boy*	+	*toy*	→	*boy toy* (female person)	SUB			
C	{+s}		**{±s}**		{±s}				
V	5.84 ({+s})		7.29 **({+s})**		({+s})				x
3	*daddy*	+	*track*	→	*daddy track*	SUB			
C	{+s}		**{s}**		{+s}				
V	7.27 ({+s})		5.78 **({+s})**		({+s})				x
4	*elder*	+	*care*	→	*elder care*	SUB			
C	{s}		**{+s}**		{+s}				
V	6.11 ({+s})		7.64 **({+s})**		({+s})				x
5	*gas*	+	*hog*	→	*gas hog*	SUB			
C	{s}		**{–s}**		{–s}				
V	4.06 ({–s})		4.55 **({s})**		({–s})				x
6	*libel*	+	*sue* (V)	→	*libel-sue* (V)	SUB			
C	{–s}		**{s}**		{–s}				
V	3.68 ({–s})		2.18 **({–s})**		({–s})				x
7	*mall*	+	*rat*	→	*mall rat*	SUB			
C	{s}		**{–s}**		{–s}				
V	4.45 ({–s})		3.21 **({–s})**		({–s})				x
8	*roid* (=steroid, Algeo)	+	*rage*	→	*roid rage*	SUB			
C	{s}		**{–s}**		{–s}				
V	3.62 ({–s})		2.5 **({–s})**		({–s})				x
9	*security*	+	*blanket*	→	*security blanket*	SUB			
C	{+s}		**{s}**		{+s}				
V	6.41 ({+s})		7.05 **({+s})**		({+s})				x
10	*terror*	+	*bombing*	→	*terror bombing*	SUB			
C	{–s}		**{s}**		{–s}				
V	2.75 ({–s})		2.1 **({–s})**		({–s})				x
11	*T-V* (total victory)	+	*day*	→	*T-V day*	SUB			
C	{+s}		**{s}**		{+s}				
V	5.32_7.59 ({+s})		6.36 **({+s})**		({+s})				x
12	*boob*	+	*baiting*	→	*boob-baiting*	SUB			
C	{–s}		**{–s}**		{–s}				
V	5.29 ({s})		x (bait: 4) **({–s})**		({–s})				x
13	*revenue*	+	*enhancement*	→	*revenue enhancement*	SUB			
C	{s}		**{+s}**		{+s}				
V	7 ({+s})		6.29 **({+s})**		({+s})				x
14	*affirmative*	+	*action*	→	*affirmative action*	ATAP			
C	**{+s}**		{s}		{+s}				
V	5.94 **({+s})**		6 ({+s})		({+s})				x
15	*double*	+	*think*	→	*doublethink*	ATAP			
C	**{–s}**		{s}		{–s} (error in C)				
V	5.78 **({+s})**		6.68 ({+s})		({+s})				x
16	*fair*	+	*trade*	→	*fair trade*	ATAP			
C	**{+s}**		{s}		{+s}				
V	7.14 **({+s})**		5.91 ({+s})		({+s})				x
17	*feminine*	+	*hygiene*	→	*feminine hygiene*	ATAP			
C	**{s}**		{+s}		{+s}				

V	7.33 **({+s})**		6.38 ({+s})		({+s})				x
18	*free*	+	*spinner*	→	*free spinner*	ATAP			
C	**{+s}**		{–s}		{+s}				
V	8.25 **({+s})**		4.58 ({s})		({+s})				x
19	*hidden*	+	*hunger*	→	*hidden hunger*	ATAP			
C	**{–s}**		{s}		{–s}				
V	x (hide: 4.9) **({s})**		3.2 ({–s})		({–s})				x
20	*hot*	+	*pants*	→	*hot pants*	ATAP			
C	**{+s}**		{s}		{+s}				
V	5.73 **({+s})**		5.62 ({+s})		({+s})				x
21	*lunatic*	+	*fringe*	→	*lunatic fringe*	ATAP			
C	**{–s}**		{–s}		{–s}				
V	3.47 **({–s})**		5.16 ({s})		({–s})				x
22	*nuclear*	+	*blackmail*	→	*nuclear blackmail*	ATAP			
C	**{s}**		{–s}		{–s}				
V	4.3 **({–s})**		2.59 ({–s})		({–s})				x
23	*orphan*	+	*drug*	→	*orphan drug*	ATAP			
C	**{–s}**		{s}		{–s}				
V	2.9 **({–s})**		4.11 ({–s})		({–s})				x
24	*protective*	+	*custody*	→	*protective custody*	ATAP			
C	**{+s}**		{–s}		{+s}				
V	6.53 **({+s})**		4.74 ({s})		({+s})				x
25	*starry*	+	*eyed*	→	*starry-eyed*	ATAP			
C	**{+s}**		{s}		{+s}				
V	7.4 **({+s})**		x (eye: 6.18) ({+s})		({+s})				x
26	*subterranean*	+	*economy*	→	*subterranean economy*	ATAP			
C	**{–s}**		{s}		{–s}				
V	4.75 **({s})**		3.64 ({–s})		({–s})				x
27	*goulash*	+	*communism*	→	*goulash communism*	ATAP			
C	**{–s}**		{s}		{–s}				
V	4.86 **({s})**		2.94 ({–s})		({–s})				x
28	*phantom*	+	*limb*	→	*phantom limb*	ATAP			
C	**{–s}**		{s}		{–s}				
V	4.26 **({–s})**		4.42 ({–s})		({–s})				x
29	*shriek* (V)	+	*alarm*	→	*shriek alarm*	ATAP			
C	**{–s}**		{s}		{–s}				
V	3.45 **({–s})**		3.86 ({–s})		({–s})				x
30	*seed*	+	*money*	→	*seed money*	ATAP			
C	**{s}**		{+s}		{+s}				
V	6.38 **({+s})**		7.1 ({+s})		({+s})				x
31	*spin*	+	*control*	→	*spin control*	ATAP			
C	**{–s}**		{s}		{–s}				
V	4.9 **({s})**		4.43 ({–s})		({–s})				x
32	*vaccination*	+	*program*	→	*vaccination program*	ATAP			
C	**{+s}**		{s}		{+s}				
V	4.56 **({s})**		5.5 ({+s})		({+s})				x
33	*yuppie*	+	*disease*	→	*yuppie disease*	ATAP			
C	**{–s}**		{–s}		{–s}				
V	4.64 **({s})**		1.68 ({–s})		({–s})				x

Only-VO compounds (full set, 32.04%)