VERBS OF SENSORY COGNITION: A SEMANTIC ANALYSIS OF A LEXICAL FIELD IN THE LEXICON OF ME

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1. Our analysis of verbs of sensory cognition (henceforth: VSC) in the lexicon of ME is based on the claims of componential analysis and the thesis of restricted linguistic universalism (cf. Lyons 1977: 331) as well as the *projection principle* of "core grammar" (cf. Chomsky 1981). In our version of componential analysis and the thesis of restricted linguistic universalism we adhere to the view that the meanings of particular lexemes may be decomposed into sense components (the minimal distinctive features of meaning) to represent the structure of a lexical field in terms of various kinds of opposition.

Accordingly, we propose an analysis of the VSC involving 1) the decomposition of predicates; 2) significant syntacto-semantic generalizations. The heterogeneous class of VSC contains verbs referring to the five senses employed in the process of human sensory cognition i.e. sight, hearing, smell, feeling and taste). The term used above (i.e. heterogeneous semantic class) will refer to a class of verbs that has been established rather arbitrarily on semantic grounds to provide the framework and data for further linguistic analysis. The task of such an analysis would consist, among other things, in the discovery of some homogeneous classes of verbs within the heterogeneous class, for example a natural syntacto-semantic class (NSSC), (cf. Kopytko 1983), i.e., a class of verbs whose syntacto-semantic behavior at a certain level of linguistic analysis will be exactly the same for each member of the class.

2. The class of VSC in ME contains the following lexical items: *beholden, felen, gapin, gasen, heren, listen, loken, savoren, scoulen, sen, senten, smellen, sounen, starin, stinken, tasten, touchen, wacchen.*

To analyze the meanings (in terms of sense-components) of the particular classes of the VSC we postulate the formulation of semantic representations (SRs) in terms of parameters characteristic of human sensory cognition. That is:

1) MANNER of PERCEPTION characterized by the feature [±ACTIVE] and/or [±INTENSIVE]
2) RESULT /SUCCESS/ of PERCEPTION characterized by the feature [±RESULT]
3) VOLITION of PERCEPTION characterized by the feature [±INTENT]
4) ATTITUDE of the PERCEIVER to the OBJECT of PERCEPTION characterized by the feature [±NEGATIVE]
5) STATE of AFFAIRS EXHIBITED by the OBJECT of PERCEPTION characterized by the feature [±STATE]

The three sense-components [±ACTIVE], [±RESULT] and [±INTENT account for the differences in meaning between the following sentences:

(1) I saw the hill *vs.* I looked at the hill

The use of verb *see* in the first sentence implies that the non-intentional act of perception (represented by the sense component [—INTENT] by an [—ACTIVE] act of perception was cognitively successful by producing a result [+RESULT], i.e. a perception or image of the object of perception in the mind of the "speaker-perceiver". In the case of the second sentence the result of the act of perception is irrelevant. It is the intention on the part of the perceiver that comes to the focus. To account for the meaning of verbs like *smell* in the sentence: *The flowers smell nice* (which may be paraphrased as [*X* SENSES (*Y* BE *Z*)] (cf. Kopytko 1983: 120)) the feature [±STATE] has to be introduced into the SR of *smell*. Furthermore, the feature [±STATE] has to be represented in the SRs of VSC (marked negatively) to account on semantic grounds for the ungrammaticality of the following sentences:

(2) *I saw she was pretty
*He saw John had a book in his hand
*He looked at Mary smells nice
*She looked at John is tall etc.
or *The flowers see nice (to me)
*The soup sees good (to me) etc.

As a result of our analysis we arrived at three subclasses of theVSC:

A) RESULTATIVE — VSC
B) INTENTIONAL — VSC
C) EXISTENTIAL — VSC

analyzed as follows:

(3) a) RVSC b) IVSC c) EVSC

X SENSES *Y*	*X* SENSES (*Y*)	*X* SENCES *Y*
+RESULT	—RESULT	+RESULT
—INTENT	+INTENT	—INTENT
—ACTIVE	+ACTIVE	—ACTIVE
—STATE	—STATE	+STATE
.....	.....	.....

(for verbs *see*, *look*, *smell* respectively).
The paraphrase [X SENSES Y] stands for a general SR for the lexical field of sensory cognition. The predicate *sense* is a composite one and may be analyzed as follows:

SENSE → [PERCEIVE BY A HUMAN SENSE]

In other words, the perceiver uses one of his senses in the process (act) of sensory cognition.

3. On the basis of the ME attested data the three subclasses of VSC in (3) contain the following lexical items respectively:

ME-RVSC: *Beholden*$_{R}$, *Felen*$_{R}$, *Heren*$_{R}$, *Sen*$_{R}$, *Smellen*$_{R}$, *Tasten*$_{R}$.
the subscript **R** stands for 'Resultative').

ME-IVSC: *Beholden*$_{I}$, *Felen*$_{I}$, *Gapin*$_{I}$, *Gasen*$_{I}$, *Heren*$_{I}$, *Listen*$_{I}$, *Loken*$_{I}$, *Savoren*$_{I}$, *Scoulen*$_{I}$, *Sen*$_{I}$, *Senten*$_{I}$, *Smellen*$_{I}$, *Starin*$_{I}$, *Tasten*$_{I}$, *Touchen*$_{I}$, *Wacchen*$_{I}$.

Mc-EVSC: *Loken*$_{E}$, *Savoren*$_{E}$, *Senten*$_{E}$, *Smellen*$_{E}$, *Sounen*$_{E}$, *Stinken*$_{E}$.

The VSC analysed in terms of the five human senses to which they refer, i.e. sight, hearing, smell and touch, will yield the following subclasses of verbs:

(a) RESULTATIVE VERBS OF SEEING — (RVS)
(b) INTENTIONAL VERBS OF SEEING — (IVS)
(c) EXISTENTIAL VERBS OF SEEING — (EVS)

On the basis of the ME data these subclasses of verbs contain the following lexical items:

ME-RVS: *Beholden*$_{R}$, *Sen*$_{R}$
ME-IVS: *Beholden*$_{I}$, *Gapin*$_{I}$, *Gasen*$_{I}$, *Loken*$_{I}$, *Scoulen*$_{I}$, *Sen*$_{I}$, *Starin*$_{I}$, *Wacchen*$_{I}$
ME-EVS: *Loken*$_{E}$

1. Rebecca, Isaac *biholdyd*$_{R}$, descendide of the camel. 1382, Wyclif, Gen. 64
2. He *seos*$_{R}$ Jhesu crist in a sad Roode. 1375, Joseph Arim. 258
3. The maiden hym *beheilde*$_{I}$ moche and he her. 1450 Merkin 225
4. On hire *gapede*$_{I}$ alday muche folc... 1290, S. Eng. Leg. 108/66
5. The peple *gazed*$_{I}$ vp and doun. For they were glad...
   To han a newe lady. 1386, Chaucer Clerk's T. 1003
6. On ous he *lokyde*$_{I}$ with love. 1393, Langl. P. Pl. 164
7. Devels sal... raumpe on him and *skoul*$_{I}$ and stare.
   1340 Hampde. Pr. Consc. 2225
8. Come ze and *seeth*$_{I}$ the place. 1382, Wyclif Matt. 6
9. M. with ee *starith*$_{I}$. 1340, Nominde 176.
10. That made him for to waite and *wache*$_{I}$. Be alle weies how it ferde. 1390, Gower Conf. 163.
11. So hungriliche and holwe sire Henry him *loked*$_{E}$.
    1377, Langl. P. Pl. 189

The ME-Verbs of Seeing may be analyzed into three (homogeneous) Natural Syntacto-Semantic classes (NSSC) (i.e. classes of verbs which exhibit the same syntactic and semantic behavior):

ME-Verbs of Seeing: NSSC-1: (*Beholden*$_{I}$, *Sen*$_{I}$)
NSSC-2: (*Loken*$_{I}$, *Wacchen*$_{I}$)
NSSC-3: (*Gapin*$_{I}$, *Gasen*$_{I}$, *Starin*$_{I}$)

The ME-Verbs of Hearing contain the following lexical items:

ME-RVH: *Heren*$_{R}$
ME-VIH: *Heren*$_{I}$, *Listen*$_{I}$
ME-EVH: *Sounen*$_{E}$

12. He *hurde*$_{R}$ angles synge an hey. R. Glouc. (1724) 279
13. He ... *lystnyt*$_{I}$ full entenily... 1375, Barbour Bruce 72
14. Spek, Lord, for thi seruant *herith*$_{I}$ Wyclif. Som. 9
15. I non other place ... Feele I no wynde that *souneth*$_{E}$ so lyke peyne... 1374, Chaucer, Troyles 678

The verbs *Heren*$_{I}$ and *Listen*$_{I}$ belong to the same NSSC:

ME-Verbs of Hearing: NSSC-1: (*Heren*$_{I}$, *Listen*$_{I}$)

The ME-Verbs of Feeling contain the following lexical items:

ME-RVF: *Felen*$_{R}$
ME-IVF: *Felen*$_{I}$, *Tasten*$_{I}$, *Touchen*$_{I}$
ME-EVF: Ø

16. The deth he *feeleth*$_{R}$ thurgh his herte smite. 1386, Chaucer, Knt. T. 362
17. Whanne he hade *feelid*$_{I}$ him, Isaac seide... 1388, Wyclif, Gen. 22
18. Who shal *touche*$_{I}$ pich, shal be defoulid of it. 1382, Wyclif, Eccl.
19. He *tasted*$_{I}$ his pous... He seide he new his medycyn. 1330 Brunne Chron. Wace 904

The verbs *Felen*$_{I}$, *Tasten*$_{I}$, and *Touchen*$_{I}$ belong to the same NSSC:

ME-Verbs of Feeling: NSSC-1: (*Felen*$_{I}$, *Tasten*$_{I}$, *Touchen*$_{I}$)

The ME-Verbs of Smelling contain the following lexical items:

ME-RVSm: *Smellen*$_{R}$
ME-IVSm: *Smellen*$_{I}$, *Senten*$_{I}$
ME-EVSm: *Savoren*$_{E}$, *Senten*$_{E}$ *Smellen*$_{E}$, *Stinken*$_{E-1}$, *Stinken*$_{E-2}$

20. Of al et ich abbe... with neose *ismelled*$_{R}$. 1240 Ureisun in OE Hom. 153
21. To pulle a rose of al that route... And *smellen*$_{I}$ to it wher I wente. Rom. Rose 1669
22. Whan hares be ygete with the kynde of a conynge... the houndes lust nor *sentith*$_{I}$ hem nought so welc. 1400 Master of Game
23. Hire herbes *smulle*þ$_{E}$ swete. 1300, Lyric P. 88
24. This gardeyn is ... ful of may flouris ... the which been so redolent and *sentyn*$_{E}$ so aboate. 1400, Beryn. 2765
25. To strawwen gode gresess þer, at *stunnkenn*$_{E-1}$ swiþe swete. Ormin. 8194
26. How his brethe *stinkyth*$_{E-2}$. 1450 Mirk's Festial 84
27. As a medue hyt was grene... and *sauerydE* swete as spycerye. 1303 R. Brunne Hand Synne 1396

The ME verbs *Smellen*$_{I}$ and *Senten*$_{I}$ as well as *Smellen*$_{E}$, *Senten*$_{E}$, *Savoren*$_{E}$ and *Stinken*$_{E-1}$ belong to the same NSSCs:

ME-Verbs of Smelling: NSSC-1: (*Senten*$_{I}$, *Smellen*$_{I}$)
NSSC-2: (*Savoren*$_{E}$, *Senten*$_{E}$, *Smellen*$_{E}$, *Stinken*$_{E-1}$

The ME-Verbs of Tasting contain the following lexical items:

ME-RVT: *Tasten*$_{R}$
ME-VIT: *Savoren*$_{I}$, *Tasten*$_{I}$
ME-IVT: *Savoren*$_{E}$

28. ... In tendre touchinge of þing and *tastinge*$_{R}$ of swete. 1340 Alex and Dind. 952
29. þat bitter drinc ... He *tasted*$_{I}$ it bot noght dranc. Cursor Mundi 16773
30. And j shulde nevere be at ese if j *sauowrede*$_{I}$ swete thing.
    1430 Pilgr. Lyf Manhode (1869)
31. For soothly, there is no thyng that *sauoureth*$_{E}$ so well to a child as the Milk of his Norice 1386, Chancer, Pars. T. 48.

The verbs *Savoren*$_{I}$ and *Tasten*$_{I}$ belong to the same NSSC:

ME-Verbs of Tasting: NSSC-1: (*Savoren*$_{I}$, *Tasten*$_{I}$).

The Natural Syntacto-Semantic Classes (NSSC) in the lexical field of sensory cognition in ME may be summarized as follows:

ME-VSC: NSSC-1: (*Beholden*$_{I}$, *Sen*$_{I}$)
NSSC-2: (*Loken*$_{I}$, *Wacchen*$_{I}$)
NSSC-3: (*Gapin*$_{I}$, *Gasen*$_{I}$, *Starin*$_{I}$)
NSSC-4: (*Heren*$_{I}$, *Listen*$_{I}$)
NSSC-5: (*Felen*$_{I}$, *Tasten*$_{I}$, *Touchen*$_{I}$)
NSSC-6: (*Senten*$_{I}$, *Smellen*$_{I}$)
NSSC-7: (*Savoren*$_{E}$, *Senten*$_{E}$, *Smellen*$_{E}$, *Stinken*$_{E-1}$)
NSSC-8: (*Savoren*$_{I}$, *Tasten*$_{I}$)

As can be seen from the summary given above the VSC belonging to the subclass of the RVSC do not form any NSSC. That is, they are not substitutable by any syntacto-semantic synonyms as is the case with the IVSC and EVSC.

The semantic behavior of the ME-VSC may be summarized in the following way:

ME-VSC	RVSC	IVSC	EVSC
Beholden	+	+	−
Felen	+	+	−
Gapin	−	+	−
Gasen	−	+	−
Heren	+	+	−
Listen	−	+	−
Loken	−	+	+
Savoren	−	+	+
Scoulen	−	+	−
Sen	+	+	−
Senten	−	+	+
Smellen	+	+	+
Sounen	−	−	+
Starin	−	+	−
Stinken	−	−	+
Tasten	+	+	−
Touchen	−	+	−
Wacchen	−	+	−

4. If we adhere to the thesis that the *Lexicon* (of a TGG) consists of a number of lexical fields as for instance that of VSC, it should be stipulated that the

lexical entry will assume the following general form:

[PR
+V
Syn. Strc.
θ-strc.
RR
SR
NSSC
.....]

i.e. it will consist of (1) PR — Phonological Representation, (2) the Category Symbol, (3) Syntactic Structure, (4) Thematic Structure, (5) SR — Semantic Representation, (6) RRs — Redundancy Rules, (7) NSSCs — Natural Syntacto-Semantic Classes

(other semantic phenomena could be added to the list if necessary).

The ME-VSC *Loken*$_{I}$ and *Loken*$_{E}$ will assume the following general forms, respectively:

A) [(Loken)
+VSC
Syn. Strc.
θ-Strc.
SR-IVS
NSSC-2
.....]

B) [(Loken)
+VSC
Syn. Strc.
θ-Strc.
SR-EVS
NSSC-Ø
.....]

That is, they will exhibit different syntactic structures, thematic structures, SRs, RRs, and NSSCs. Thus, a lexical entry for ME-*Loken*$_{I}$ would be the following:

C) [(Loken)
+VSC
NP_1 ——— (NP'_2)
| |
A (Ø)
[X SENSES (Y)]
[+ACTIVE
+INTENT
−RESULT
−STATE]
NSSC-2 — (Loken, Wacchen)
.....]

The variables *X* and *Y* in SR assume the values represented in θ-structure i.e. *A* and *O* respectively. A structure like the one in (C) would be projected from the *Lexicon* to the categorial component by means of the *Projection Principle* (cf. Chomsky 1981); where the lexical insertion would take place.

Index of abbreviations

VSC — Verbs of Sensory Cognition
RVSC — Resultative VSC
IVSC — Intentional VSC
EVSC — Existential VSC
RVS — Resultative Verbs of Seeing
IVS — Intentional VS
EVS — Existential VS
RVH — Resultative Verbs of Hearing
IVH — Intentional VH
EVH — Existential VH
RVSm — Resultative Verbs of Smelling
IVSm — Intentional VSm
EVSm — Existential VSm
RVT — Resultative Verbs of Tasting
IVT — Intentional VT
EVT — Existential VT
NSSC — Natural Syntacto-Semantic Class
SR — Semantic Representation

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