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VERBS OF SENSORY COGNITION: A CONTRASTIVE ANALYSIS OF A LEXICAL FIELD IN THE LEXICON OF POLISH AND ENGLISH

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1. The present analysis of verbs of sensory cognition (henceforth: VSC) in the lexicon of Polish and English, is based on the claims of componential analysis and the thesis of restricted linguistic universalism (cf. Lyons 1977:33). Accordingly, I subscribe to the view that the meanings of particular lexemes may be decomposed into sense components (the minimal distinctive features of meanings) to represent the structure of a lexical field in terms of various kinds of opposition.

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, touch and taste). The term used above (i.e. heterogeneous semantic class) will refer to a class of verbs that has been postulated 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 semantically homogeneous classes of verbs within the heteregeneous class (cf. Kopytko 1983, 1986).

2. The lexicon of English contains the following VSC: eye, feel, finger, gape, gaze, glance, glare, glimpse, handle, harken, hear, listen, look, notice, observe, palpate, peak, peep, peer, perceive, reek, ring, savor, scowl, see, smell, sound, squint, stare, stink, tongue, taste, touch, view, watch.

To analyze the meanings of the particular classes of the VSC (in terms of sense-components) I postulated (cf. Kopytko 1983, 1986) the formulation of semantic representations in terms of parameters characteristic of human sensory cognition. A modified and expanded version of the set of parameters includes the following items:

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- 1. SPECIFICITY of PERCEPTION characterized by the feature [± SPE-CIFIC]
- 2. RESULT /SUCCESS/ of PERCEPTION characterized by [± RESULT]
- 3. VOLITION of PERCEPTION characterized by [±INTENT]
- 4. STATE of AFFAIRS EXHIBITED by the OBJECT of PERCEPTION characterized by [±STATE]
- 5. ATTITUDE of PERCEIVER to the OBJECT of PERCEPTION characterized by the feature [±NEGATIVE]
- 6. MANNER of PERCEPTION characterized by the following features:
 - (a) [± DIRECT]
 - (b) [± INTENSIVE]
 - (c) [± FURTIVE]
 - (d) [± ACTIVE]
- 7. DURATION of PERCEPTION characterized by [± MOMENTARY]

The set of semantic features characterizing human sensory cognition in (1-7) above seems to be universal, i.e. it may be applied to the analysis of a number of languages. However, it is, by no means, an exhaustive set. It is possible, if the need should arise, to modify and expand it. Nonetheless, the set of features in (1-7) seems to be sufficient to characterize the semantic structure of VSC in Polish and English.

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

(8) I saw a house vs. I looked at a house.

The use of the verb see in the first sentence implies that the non-component [-INTENT] by an [-ACTIVE] act of perception was cognitively successful by producing a result (represented by [+ RESULT]) i.e. a perception or image of the object of perception in the mind of the "speaker-perceiver". In the case 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 by paraphrased as X SENSES (Y BEZ) (cf. Kopytko 1983)) the feature [± STATE] has to be introduced into the SR of smell. This feature refers to the state of affairs exhibited by the object of perception, i.e. the object of perception requires perception verb complements (PVCs) to states not to activities. 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:

- (9) (a) I saw her was pretty
 - (b) He looked at Mary smells nice

- (c) She looked at John is tall
- (d) The flowers see nice to me
- (e) The soup sees good to me, etc.

As a result of my analysis I arrived at three major subclasses of the VSC:

- (A) RESULTATIVE VSC
- (B) INTENTIONAL VSC
- (C) EXISTENTIAL VSC analyzed as follows:
- (10) (a) RVSC
 - (b) IVSC
 - (c) EVSC

X SENSES Y	[X SENSES Y]	[X SENSES Y]
+ RESULT	- RESULT	+ RESULT
- INTENT	+ INTENT	- INTENT
- ACTIVE	+ ACTIVE	- ACTIVE
- STATE	- STATE	+ STATE

(for verbs see, look and 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:

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

The three subclasses of VSC in (10) contain, respectively, the following lexical items:

RUSC: $Feel_R$, $Glimpse_R$, $Hear_R$, $Notice_R$, $Observe_R$, $Perceive_R$, See_R , $Smell_R$, Taste_R.

(the subscript R stands for Resultative).

IVSC: Eye, Feel, Finger, Gape, Gaze, Glance, Glare, Handle, Harken, Hear, Listen, Look, Notice, Observe, Peek, Peep, Peer, Palpate, Savor, Scowl, See, Smell, Squint, Stare, Tongue, Taste, Touch, View, and Watch₁.

(the subscript I stands for *Intentional* and the subscript E for Existential (below)).

EVSC: Feel_E, Look_E, Reek_E, Ring_E, Smell_E, Sound_E, Taste_E.

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

- (11) (a) Resultative Verbs of Seeing (RVS)
 - (b) Intentional Verbs of Seeing (IVS)
 - (c) Existential Verbs of Seeing (EVS).

The subclasses of verbs in (11) contain, respectively, the following lexical items:

(12) RVS: $Glimpse_{R}$, $Notice_{R}$, $Observe_{R}$, $Perceive_{R}$, See_{R} .

IVS: Eye, Gape, Gaze, Glance, Glare, Look, Notice, Observe, Peak, Peep, Peer, Scowl, See, Squint, Stare, View, and Watch,

EVS: Look_E.

The sentences illustrating the use of the lexical items in (12) and their Polish equivalents shall be presented below:

(14) Resultative sentences:

- (A) (a) I noticed_R a surprising change in their behavior.
 - (b) Zauważyłem_R zaskakującą zmianę w ich zachowaniu.
- (B) (a) I have never observed_R him do otherwise.
 - (b) Nigdy nie widziałem_R, żeby postępował inaczej.
- (C) (a) I at once $perceived_R$ him to be a gentleman.
 - (b) Od razu $spostrzeglem_R$, że był dżentelmenem.
- (D) (a) I have never seen, her smiling.
 - (b) Nigdy nie widziałem_R, żeby się uśmiechała.
- (E) (a) He glimpsed_R up the narrow lanes as the train rushed through the village.
 - (b) Gdy pociąg pędził przez wioskę spostrzegł wąskie wiejskie drogi.

(15) Intentional sentences:

- (A) (a) He liked eying, pretty girls dancing in the show.
 - (b) Lubił patrzeć, na ładne dziewczyny tańczące w przedstawieniu.
- (B) (a) His gaping, at the picture made everybody laugh.
 - (b) Jego gapienie się, na obraz rozśmieszyło wszystkich.
- (C) (a) They were $gazing_I$ at the display for quite a while.
 - (b) Wpatrywali się, w wystawę od dłuższego czasu.
- (D) (a) She glanced, over the letter not reading it at all.
 - (b) Rzuciła okiem, na list nie czytając go wcale.
- (E) (a) They stood glaring, at each other.
 - (b) Stali patrząc gniewnie, jeden na drugiego.
- (F) (a) She was fond of looking, at the sun-sets.
 - (b) Lubiła patrzeć, na zachody słońca.
- (G) (a) Notice, how crazy she is being!
 - (b) Popatrz, jak ona szeleje!
- (H) (a) He observes, precisely but says nothing.
 - (b) Obserwuje, dokładnie ale nic nie mówi.
- (I) (a) I saw him *peaking*₁ through a keyhole.
 - (b) Widziałem, jak podglądał przez dziurkę od klucza.

- (J) (a) He was peeping, at them from behind the curtain.
 - (b) Zerkal₁ na nich zza firany.
- (K) (a) Peering, at the manuscript he would hardly read the illegible characters.
 - (b) Wpatrując się, w manuskrypt nie mógł odczytać nieczytelnych liter.
- (L) (a) The accused scowled, at the witness.
 - (b) Oskarżony spojrzał spode łba, na świadka.
- (M) (a) See, here they come!
 - (b) Popatrz, oto nadchodzą!
- (N) (a) Hearing a knock she squinted, at the door.
 - (b) Słysząc pukanie, wlepiła wzrok, w drzwi.
- (O) (a) They stared, at the scuffle thoughtlessly.
 - (b) Bezmyślnie gapili się, na bójkę.
- (P) (a) The general viewed, the battle from a safe distance.
 - (b) Generał patrzył, na bitwę z bezpiecznej odległości.
- (O) (a) They watched, TV all day long.
 - (b) Cały dzień oglądali, telewizję.

(16) Existential sentences:

- (A) (a) After finishing the work they looked_E tried.
 - (b) Po skończeniu pracy wyglądali_E na zmęczonych.

As was the case with the verbs of seeing (cf. (11) above) the verbs of hearing fall into three classes:

- (17) (a) Resultative Verbs of Hearing (RVH)
 - (b) Intentional Verbs of Hearing (IVH)
 - (c) Existential Verbs of Hearing (EVH)

The subclass of verbs of hearing contains the following lexical items:

(19) RVH: Hear_R

IVH: Harken, Hear, Listen

EVS: Ring_E, Sound_E

- (20) Resultative sentences:
 - (A) (a) Have you $heard_R$ the news on the radio?
 - (b) Czy słyszałeś, wiadomości w radiu?
- (21) Intentional sentences:
 - (A) (a) They harkened, attentively to his tale.
 - (b) Uważnie przysłuchiwali się, jego opowieści.
 - (B) (a) You would better hear, what they have to say.
 - (b) Lepiej posluchaj, co oni mają do powiedzenia.
 - (C) (a) I listened, attentively but heard nothing.
 - (b) Słuchałem, uważnie ale nie usłyszałem niczego.

- (22) Existential sentences:
 - (A) (a) His words rang_E false.
 - (b) Jego słowa zabrzmiały_E fałszywie.
 - (B) (a) It sounds_E true.
 - (b) To brzmi_E prawdziwie.

The three subclasses of the verb of feeling i.e.:

- (23) (a) Resultative Verbs of Feeling (RVF)
 - (b) Intentional Verb of Feeling (IVF)
 - (c) Existential Verbs of Feeling (EVF)

contain the following lexical items:

(24) RVF: $Feel_{\mathbb{R}}$

IVF: Feel, Finger, Handle, Palpate, Tongue, Touch

EVF: Feel_E

- (25) Resultative sentences:
 - (A) (a) She felt_R something tickle her ear.
 - (b) Poczuła, jak coś połaskotało_R ją w ucho.
- (26) Intentional sentences:
 - (A) (a) The doctor was feeling, his pulse.
 - (b) Doktor macal_I jego puls.
 - (B) (a) He fingered, the cloth softly.
 - (b) Delikatnie pomacal, materiał.
 - (C) (a) Wash your hands before you handle, the books.
 - (b) Umyj ręce, zanim będziesz dotykalı książek.
 - (D) (a) The doctor palpated, the sick.
 - (b) Doktor obmacywał, chorego.
 - (E) (a) He tongued_I a sore tooth.
 - (b) Dotykał językiem, obolały ząb.
 - (F) (a) Do not touch, me!
 - (b) Nie dotykaj_I mnie!
- (27) Existential sentences:
 - (A) (a) Your hands feel_E cold.
 - (b) Czuję, że twoje ręce są zimne.

The three subclasses of the verbs of smelling i.e.:

- (28) (a) Resultative Verbs of Smelling (RVSm)
 - (b) Intentional Verbs of Smelling (IVSm)
 - (c) Existential Verbs of Smelling (EVSm)

contain the following lexical items:

(29) RVSm: Smell_R

IVSm: Smell_I, Stink_I

EVSm: Smell_E, Reek_E, Stink_E

- (30) Resultative sentences:
 - (A) (a) I can smell_R something burning.
 - (b) Czuję, jak coś się przypala.
- (31) Intentional sentences:
 - (A) (a) The dog was smelling, the tree.
 - (b) Pies obwąchiwał, drzewo.
 - (B) (a) He stunk up_1 the room with his pipe.
 - (b) Swoim oddechem zasmrodził, pokój.
- (32) Existential sentences:
 - (A) (a) He often reeked_E of alcohol.
 - (b) Często śmierdziało_E od niego alkoholem.
 - (B) (a) The flowers smell_E nice.
 - (b) Te kwiaty ładnie pachną_E.
 - (C) (a) That fish stinks_E /smells_E/.
 - (b) Ta ryba *śmierdzi*_E.

The subclass of the verbs of tasting in (33)

(33) Resultative Verbs of Tasting — (RVT)

Intentional Verbs of Tasting — (IVT)

Existential Verbs of Tasting — (EVT)

contain the following lexical items:

(34) RVT: $Taste_{R}$

IVT: Savor_I, Taste_I

EVT: Taste_E

- (35) Resultative sentences:
 - (A) (a) Can you taste_R anything strange in this soup?
 - (b) Czy czujesz_R coś dziwnego w tej zupie?
- (36) Intentional sentences:
 - (A) (a) I would like to savor, the French wine first.
 - (b) Najpierw chciałbym posmakować, francuskiego wina.
 - (B) (a) Ask her to taste₁ the soup.
 - (b) Poproś ją, aby posmakowała, zupę.
- (37) Existential sentences:
 - (A) (a) The soup tastes_E bitter.
 - (b) Zupa smakuje_E gorzko.

So far I have analyzed the VSC in terms of four parameters characteristic of human sensory cognition, i.e. Result of Perception $- [\pm RESULT]$. Volition of Perception $[\pm INTENT]$. State of Affairs Exhibited by the Object of Perception $- [\pm STATE]$ and Manner of Perception $[\pm ACTIVE]$.

Now I shall proceed with the analysis of the lexical field of VSC in terms of other parameters specified in (1-7) above i.e. Specificity of Perception [\pm SPE-CIFIC]. Attitude of Perceiver to the Object of Perception — [\pm NEGATI-VE]. Manner of Perception — [\pm DIRECT], [\pm INTENSIVE], [\pm FUR-TIVE] and Duration of Perception — [\pm MOMENTARY].

The parameter of Specificity of Perception indicates the difference between a specific act of perception and a general ability of perceiving exemplified in (38):

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- (38) (A) (a) She could see when he did it: not until later did she lose her sight.
 - (b) Widziała $\begin{cases} gdy \\ jak \end{cases}$ on to zrobił dopiero później straciła wzrok.
 - (B) (a) I heard well before the accident.
 - (b) Słyszałem dobrze przed wypadkiem.
 - (C) (a) I could smell, taste and feel better when I was younger.
 - (b) Miałem lepszy węch, smak i czucie gdy byłem młodszy.

The VSC in (38) have to be marked as [-SPECIFIC] because they refer to a general ability rather than to a specific act of perception. It seems that only feel, see, hear, taste and smell can be marked for that feature. As can be seen in Polish only hear and see have verbal equivalents. The verbs feel, smell and taste require substantives as translational equivalents.

The parameter of Manner of Perception - [\pm DIRECT] indicates the difference between a direct and indirect perception. In the case of indirect perception the acquisition of a mental state (knowledge) is not direct (i.e. acquired by an act of perception) but inferred by means of indirect evidence as in the sentences below:

- (39) (A) (a) I see that you are in trouble.
 - (b) Widzę, że jesteś w kłopotach.
 - (B) (a) I heard that she sang worse than ever before.
 - (b) Słyszałem, że śpiewała gorzej niż kiedykolwiek.
 - (C) (a) I could feel that she was standing near me.
 - (b) Czułem, że stała blisko mnie.

The VSC in (39) expressing indirect perception have to be marked as [-DIRECT]. It seems that only see, hear, and feel require that kind of specification.

A group of verbs including: Glare, Reek, Scowl, Smell and Stink require a specification in terms of Attitude of Perceiver to the Object of Perception – [+ NEGATIVE] as follows:

- (40) (a) Glare: IVS [+ NEGATIVE] (cf. (15) (E) above)
 - (b) Reek: EVS [+ NEGATIVE] cf. (32) (A)
 - (c) Scowl: IVS [+ NEGATIVE] cf. (15) (M)
 - (d) Smell: EVSm [+ NEGATIVE] cf. (32) (C)
 - (e) Stink: EVSm [+ NEGATIVE] cf. (32) (C)

The verbs peak and peep are marked for the furtive manner of perception as [+ Furtive] as in (41):

- (41) (a) Peak: IVS [+ FURTIVE] cf. (15) (J)
 - (b) Peep: IVS [+FURTIVE] cf. (15) (K)

There is a group of verbs including: gape, gaze, stare. peer and squint, that requires specification of the intensity of perception $- [\pm INTENSIVE]$ as follows:

- (42) (a) Gape: IVS [+INTENSIVE] cf. (15) (B)
 - (b) Gaze: IVS [+INTENSIVE] cf. (15) (C)
 - (c) Peer: IVS [+INTENSIVE] cf. (15) (L)
 - (d) Squint: IVS [+ INTENSIVE] cf. (15) (O)
 - (e) Stare: IVS [+ INTENSIVE] cf. (15) (P)

Finally, a group of verbs including: glance, glimpse, notice and perceive are marked for Duration of Perception as + MOMENTARY as in (43):

- (43) (a) Glance: IVS [+ MOMENTARY] cf. (15) (D)
 - (b) Glimpse: RVS [+ MOMENTARY] cf. (15) (F)
 - (c) Notice: IVS and RVS -[+MOMENTARY] cf. (14) (A) and (14) (H)
 - (d) Perceive: RVS [+ MOMENTARY] cf. (14) (C)

Other verbs of sensory cognition i.e. those not specified positively for the feature in (38-43) are marked negatively for the features analysed above.

Two verbs of intentional hearing overhear, and eavesdrop, seem to be marked for $[\pm FURTIVE]$ as in the sentences below:

- (44) (a) I overheard eavesdropped their conversation.
 - (b) Podsłuchałem ich rozmowę.

IAH: Overhear - [+FURTIVE]

IVG: Eavesdrop - [+FURTIVE]

Overhear may be also used as a resultative verb of hearing as in (45):

- (45) (a) Incidentally, I overheard their conversation.
 - (b) Przypadkowo słyszałem ich rozmowę.

RVH: Overhear - [-FURTIVE]

An overall view of the distribution of semantic features (including: $[\pm SPECIFIC]$, $[\pm DIRECT]$, $[\pm NEGATIVE]$, $[\pm INTENSIVE]$, $[\pm FURTIVE]$, $[\pm MOMENTARY]$ in the lexical field of VSC) is represented in table 1 below:

	1	2	3	4	5	. 6
VSC	[± DIR]	[± SPEC]	[± NEG]	[±INT]	[± MOMENT]	[+ FURT]
Eavesdrop	+	+	-			+
Eye	+	+	_			
Feel	(±)	(±)				
Finger	+	+				
Gape	+	+		. +		
Gaze	+	+		+		
Glance	+	+	_		+	
Glare	+	+	+	+		

<i>;</i>	1	2	3	4	5	6
VSC	[± DIR]	[± SPEC]	[± NEG]	[±INT]	[± MOMENT]	[± FURT]
Glimpse	+	+	<u> </u>	_	+	
Handle	+	+				. ——
Harken	+	+				
Hear	\oplus	\oplus	_			
Listen	+	+				
Look	+	+	_			_
Notice	+	+	_		+	
Observe	+	+		_		
Overhear	+	+		_		\oplus
Palpate Peak	+	+				
Peak	+	+				+
Peep	+	+		_		+
Peer	+	+				
Perceive	+	+			+	
Reek	+	+	+			
Ring	+	+	- ·			
Savor	+	+				
Scowl	+	+	+	_		
See	\oplus	(±)				
Smell	+	(±)	\oplus			_
Sound	+	+		· —		
Squint	+	+	 .	+		_
Stare	+	+		+	· —	
Stink	+	+	+			
Tongue	+	+		_		
Taste	+	\oplus				
Touch	+	+				
View	+	+				
Watch	+	+				
			4	• •		

Table 1

The encircled " \pm " specifier (in table 1) indicates that the verb, contextually, admits of both features. In Table 2, the lexical field of VSC in English and Polish is analysed in terms of three basic semantic subcategories of VCC (i.e. RVSC, IVSC and EVSC).

[English]	RVSC	IVSC	EVSC	[Polish]	RVSC	IVSC	EVSC
Eavesdrop		+		Ο			—
Eye		+	_	Ο			
Feel	+	+	+	Dotykać		+	
Finger	_	+		Ο			
Gape		+		Gapić się		+	

[English]	RVSC	IVSC	EVSC	[Polish]	RVSC	IVSC	EVSC
Gaze		+		Ο	_	+	_
Glance		+		Ο	_		
Glare	_	+		Ο	_		_
Glimpse	+			Ο		_	_
Handle	_	+		Ο			
Harken	_	+		Przysłuchiwać się		+	
Hear	+	+	_	Słyszeć	+	+	
Listen		+		Słuchać	_	+	
Look	_	+	+	Patrzeć		+	+
Notice	+	+		Zauważyć	+	+	_
Observe	+	+		Obserwować	+	+	_
Overhear	_	+		Podsłuchiwać		+	
Palpate		+		Obmacywać		+	
Peak		+	_	Zerkać		+	
Peep		+	_	Podglądać		+	
Peer		+	_	Wpatrywać się		+	-
Perceive	+			Spostrzegać	+		·
Reek	_		+	Śmierdzieć			+
Ring			+	Brzmieć			+
Savor	· ——	+		Smakować		+	
Scowl		+		Ο			 .
See	+	+		Widzieć	+	+	
Smell	+	+	+	Wąchać		+	+
Sound	_		+	Brzmieć		+	
Squint		+		Ο	_		
Stare		+		Ο			
Stink	_		+	Śmierdzieć			+
Tongue	_	+		Ο	<u></u> -		_
Taste	+	+	+	Smakować		+	+
Touch		+	 -	Dotykać		+	
View		+		O	_	+	
Watch		+		Oglądać	_	+	

Table 2

The "O" specification of some Polish VSC indicates the absence of a literal translational equivalent of the English verb (i.e. a lexical gap in the lexical field of Polish VSC). Those gaps are filled by close semantic equivalents which assume two forms: the first consists of a single verb closely related in meaning as in (46):

(46) eavesdrop – podglądać, finger – macać, eye – patrzeć, gaze – gapić się, etc.

The second consists of a verb followed by an NP or a modifier as in (47):

(47) tongue – dotykać językiem, scowl – patrzeć spode łba, glance – rzucić okiem, etc.

For other examples (cf. 14-39 above).

Another striking thing in Polish is the absence of the resultative verbs of feeling, smelling and tasting (i.e. RVF, RVSm, RVT). The same verbs are missing in Polish when they are marked as [-SPECIFIC] (cf. (38) (C) above).

The lexical field of sensory cognition in Modern English compared with ME lost the following verbs: ME - RVSC - beholden, MR - IVSC - beholden, ME - EVSC - Savoren, (cf. Kopytko 1986). The verbs acquired since ME (i.e. 1 ca. 1500) include the following: eavesdrop, eye, glance, glimpse, notice, observe, peep, pear, perceive, squint, view, ring, finger, handle, reek, tongue, palpate.

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