Visual and verbal associations to the same stimulus (word '24 hours')

KRASIMIRA ALEXANDROVA PETROVA
University of Sofia (Bulgaria)

The paper is a part of a comparative semasiologic study of groups of words, denoting parts of `24 hours` in Russian and Bulgarian. Semasiology in our work is considered as a part of semantics, as a discipline on the frontier of linguistics, psychology and philosophy. We study lexical items according to their individual meanings, as in dictionary. The analysis is from word to meaning(s)—> concept—> a «piece of reality». Our global goal is to describe the two corresponding parts of a «language picture» of the world which reflect the corresponding part of the «conceptual picture», cognitive mapping of the reality; to find out the common features and differences between two analogue groups as parts of lexical systems of two considered Slavonic languages.

We combine two types of methods:

a) traditional – method of componential analysis, based on dictionary definitions, observation on taxonomic operators in dictionary data, etc.;

b) experimental – psycholinguistic test, consisting of three tasks. They are: 1) «Draw `24 hours`» (see Enclosure 1); 2) «Divide `24 hours` into parts, name them and give their time reference»; 3) Free associative test, where words from two groups are given as stimuli (see Enclosure 2). The experiment is carried out with 25 native speakers of Russian and 25 Bulgarian ones.

The first part of the test is based on the psychosemantic model of integrative meaning of Johanes Engelkapm, which describes the relation between cognitive, visual and verbal systems; on the dual coding theory of Alan Paivio (picture-like and language-like representations of the same concept, relatively – object); on some ideas of Moscow psychosemantic school of Victor Petrenco (icons, pictograms are classified by hierarchical cluster analysis).

We consider pictures, or pictograms as a «visual association» to the verbal stimulus (there are single words for this period of time in both languages) in contrast with the verbal associations in free associative test (imagens and logogens after A.Paivio). It is interesting to compare how much and what kind of information is expressed in visual code or in verbal code, or in both of them. We try to describe which semes (components of meaning) are manifested in both codes of information, to observe which of them are expressed only in one code. Some verbal elements are used in pictures, and this fact proves the interference, interaction between two systems. We try to pick out words, collocations that refer to the ideas from pictures.

Visual representations are divided into groups by their graphical similarity and ideas they express. «Trees» of graphical elements and elementary meanings are made. The elementary, «atomic» items are considered as iconic sings: the information is condensed not only in particular elements, but more in their interaction. The symbolic meaning of each iconic sign is much more rich than the description of these elements.

Some of the «visual associations» are closer to the pictograms, they represent a story in a string of pictures, like comics (N 8, 11, 26, 45 – Encl.1); the others are more abstract – ideograms (N 1, 9, 19, 20, 23, 36, 38, 41, 50 – Encl.1).

Graphical material represents linear and cyclic model of Time. The graphic representation of Time is possible because of the similarity between Space and Time (continuity, discretion, one-dimensionality, indirectionality, segmentation, etc.).

The linear model is modified in the image of a band, a ribbon (N 25), sinusoid (N 10b), zigzag or seesaw line (N 18), spiral (N 22). `24 hours` are seen by respondents (people who took part in the experiment) as a segment of the line as a whole, as a circle, depicted from the tome continuum. Pictures N 10b, 25 contain the idea of discretion, possibility of division of the time period into equal parts, which represent possibility of practical measurement of time. On some representations of `24 hours` are given maximum (12.00 o'clock) and minimum (0.00 – See N 13), the beginning of this time period is pointed. Maybe this fact is connected with the obvious movement of the sun on the sky (N 17, 46). Verbal associations prove this feeling or view of rising up (for example, on the stimulus *polden`* (`noon`) in Russian there is a reaction *solnce v zenite* (`sun in its zenith`). The spiral also goes up (N 28), and the path of the person goes upwards (N 26). We might see in this fact more common association, «a visual-verbal synaesthezy» (after Cole and Scribner).

The cyclic model of Time is widely represented (N 1, 3, 4, 9, 14, 19, 27, 32, 33, 36, 41, 48). It is interesting that there is few, almost no lexical expressions of this idea. On some of them an arrow shows the direction of movement of the clock's hands (N 36, 41).

About 45% of pictograms of Bulgarian native speakers contain the idea of duality, two contrasting parts in etymology of Bulgarian word for '24 hours': *denonoshtie = den + nosht* ('day + night'). Dual pictures of Russians are about 20%, that resembles the etymology unclear to contemporary speakers of Russian.

Graphic material shows different levels and units of nomination of 24-hour time period. Some of the pictures contain words which explain the given «scheme». Antonyms are visually represented in opposite parts on the pictures (for example, N 1 – *den* ('day'), *night* ('night'); N 28 – *utro* ('morning') – *vecher* ('evening'), *polden'* ('noon') – *polnoch'* (midnight')). Different fonts (white for the daylight, black for the night) are used to refer the two parts of '24 hours' (N 14). The other graphical elements: black and white colour (N 9, 14, 19. 20, 23), shading with different density (N 32) show the flowing transition from one period of time to another within the 24 hours' space of time.

We also can observe some ethnolinguistic elements on the pictograms: a pot and a rooster on the fence, for example (the respondent is from a Russian village – N 45).

The «terms of folk astronomy» (after Klimenko 1979, 90), representing the day (the sun) and the night (the stars, the moon, the crescent) appear on the pictograms (N 5, 7, 8, 10a, 11, 16, 17, 47, 49). They represent naive and scientific explanation of the day-night cycle (N 8, 10, 17) (see Vosniadou, Brewer).

Different folklore (N 5, 7, 45), religious and philosophical (N 13, 19, 20) enrich the picture-like signs.

Summing up, we may conclude that the pictograms contain much more information than dictionary definitions.
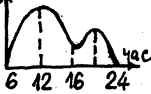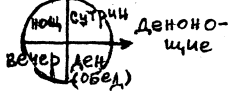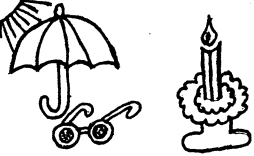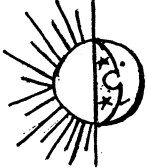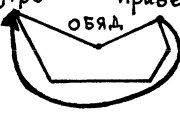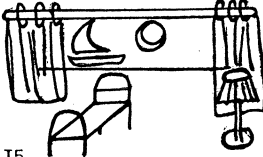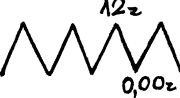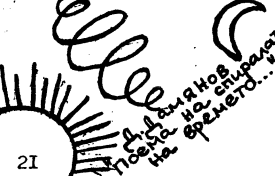
Graphic material or «visual associations» could be used for different purposes and aspects of analysis: to observe the imaginary, iconicity of a word, to compare visual/ verbal associations, to reconstruct the concepts, to define the proportion between encyclopaedic and so called naive knowledge of word meaning, to research the development of idea for Time in chil-

dren and adults' mind. Research of interaction and interrelation of visual and verbal thinking and representation of information by such combined methods could be applied in lexicography, in advertising, for possible improving mass media influence.

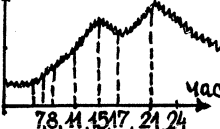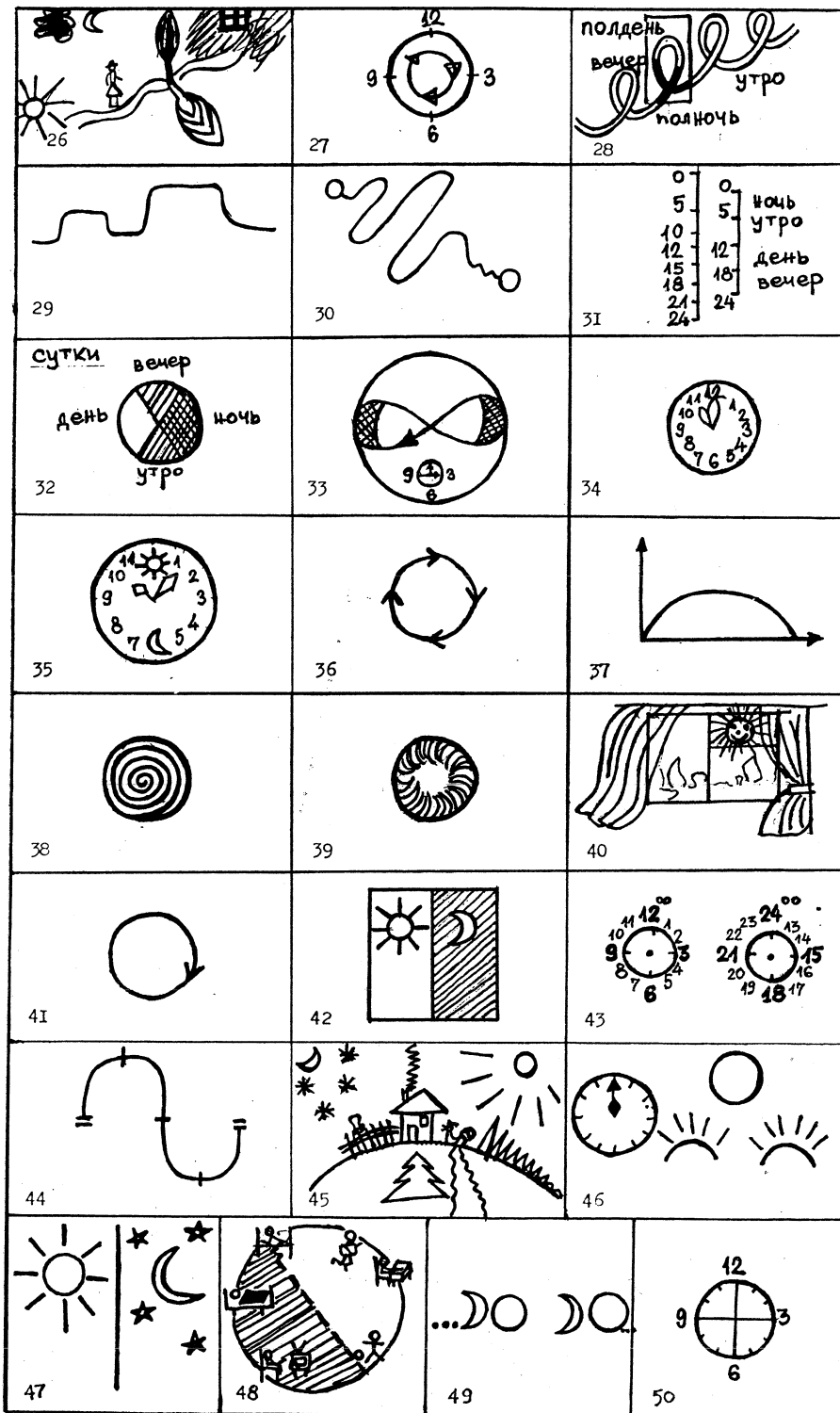So, the meanings are «produced» in society, but they are function of activity and mind of individuals. We try to find out peculiarities of images of consciousness, outlook and perception of representatives of two close cultures by the observation of individual representations in different codes. Combined methodology and results could be useful in semantic researches, foreign language teaching, improving cross-cultural communication, advertising and other disciplines, which studies iconicity.

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1 ден / нощ	**2** творческа активност на човека, час, 6 12 16 24	**3** нощ / сутрин / вечер / ден (обед) → денонощие
4 а) утро ◠обяд◡ вечер б) утро △обяд вечер в) утро ◠обяд◡ вечер / полунощ	**5**	**6**
7	**8**	**9**
10 а) луна / слънце б) 12 / 12 / 0 / 0	**11** нощ / ден	**12** утро / привечер / обяд
13 Ecce homo	**14** ДЕНОНОЩИЕ	**15**
16	**17**	**18** 12ч / 0,00ч
19 ≠ 20	**21** Д. Дамянов "Бягах на спиралата на времето..."	**22**
23	**24** живот, час, 7,8,11,15,17, 21,24	**25** 0 12 24

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Enclosure 2. An excerption from Free Associative Test

Word – Stimulus in Bulgarian: **Денонощие** '24 hours'; Reactions:	Word – Stimulus in Russian: **сутки** '24 hours'; Reactions:
1 – кръговрат (circle, rotation)	26 – утро (morning)
2 – месец (month)	27 – почему-то это слово ассоциируется с чем-
3 – 24 часа (24 hous)	-то вроде таза
4 – ден (day)	(I don't know why but this word is associated
5 – светло (light)	with something like dish, plate, bowl)
6 – (Единица жизнен цикъл, слънцебягане,	28 – разорванность (tearing into pieces)
живот) (a unit of life, sunrunning, life	29 – утки (ducks – *the word is a rhyme to the*
7 – ден, нощ (day, night)	*word – stimulus*)
8 – нощ (night)	30 – ночь (night)
9 – 24 часа (24 hours)	31 – светло (light)
10 – 24 часа, нощ, ден (24 hours, day, night)	32 – ——
11 – работя (I am working)	33 – восход, заря... (sunrise, daybreak)
12 – ——, сутки (*translation into Russian*)	34 – ночь, утро... (night, morning)
13 – лози (grapevines)	35 – напролет (throughout)
14 – (рисунка) (*a drawing is given*)	36 – цикл (cicle)
15 – (обяснение) (*an explanation*)	37 – восход (sunrise)
16 – луна, слънце и луна (moon, sun and moon)	38 – сумерки (twilight)
17 – кръг (circle)	39 – 1-ая половина дня (the first half of the day)
18 – работа (work)	40 – часы (clock)
19 – кръг (circle)	41 – текут (are flowing)
20 – ден и нощ (day and night)	42 – ——
21 – ——	43 – су-, су-, ... (su-, su- *the first part of the word*
22 – спирала на времето (the spiral of the time)	*– stimulus*)
23 – ——	44 – бегу (I am running)
24 – живот (life)	45 – вчера (yesterday)
25 – днес-утре (today-tomorrow)	46 – день (day)
	47 – 24 часа (24 hours)
	48 – время идет (the time is going)
	49 – радио (radio)
	50 – утро (morning)