

REVEALING FRAME DYNAMICS THROUGH COMPARING ASSOCIATIVE FIELDS IN DIACHRONY

Morel Morel D.A., Miroshnichenko N.S.

Belgorod National Research University, Belgorod city, Belgorod region, Russia

The article shows that the changes of an associative field in diachrony can somewhat schematically, but quite accurately reflect the dynamics of the corresponding frame over time. The undertaken comparative analysis of associative fields of stimuli ‘napitok’ (drink) and ‘pit’yo’ (drink(ing)) – as of 1988–1997 (the data of “Russian associative dictionary”) and 2013–2014 (the results of the author experiment) – helps to develop the model of the frame “drink” – to the extent of slots actualized through associative reactions – and reveals some changes in its structure. Ascertained dynamics implies variation in the relevancy of almost all slots. The revealed trends also reflect some harmonization of this frame with its Western analogues.

Keywords: frame; diachrony; comparative analysis; associative field; associate; drink.

Since the time of Marvin Minsky’s watershed publication [4] frames as one of the possible patterns of knowledge representation keep on attracting attention of researchers in different spheres. Cognitive linguists could not stand aside by definition, considering a frame as a type of concept (in terms of its inner structure) (e.g. [2]). Moreover, frames can embrace several concepts (as slots) forming complex structures [8: 112–113]. Frames proved to be in an intrinsic interconnection with stereotypes [4; 7: 108] which is of great importance to our current research.

Considering a concept as a frame and supposing the homomorphic relation between structures of a concept and the associative field of its name we suggested a hypothesis that alterations in the content and structure of this field over time reflect the dynamics of the corresponding concept in diachrony [5: 105].

To corroborate it we decided to compare the state of associative fields of the same stimuli at two stages: 1988–1997 (T_0) as fixed by “Russian Associative Dictionary” (RAD) [3], and 2013–2014 (T_1) as revealed during the author experiment. Thus, two samples (being of the same age group: 17–25) represent two different generations born and formed under two different social systems that have antipodal value systems and world outlooks thence divergent pictures of the world.

The subject of the present study is the frame “drink” in the Russian picture of the world, whereas the scope has been limited to associative fields of stimuli *napitok* (a drink) and *pit’yo* (a drink / drinking) (on choosing stimuli see [6: 56]). The raw data acquisition was under the procedure adopted in RAD [3: 3–4], then followed morphological and semantic clusterization [6] and “comparative analysis of the associative fields differing in the time of fixation” [1: 15].

The undertaken analysis revealed the following slots and subslots (in brackets) of the frame under question that are actualized by the associates forming the chosen fields:

key slots:

– “drinks names” → {“non-alcoholic drinks” → [“sweet sodas”; “juice”; “water”; “other refreshing drinks”; “hot tonic beverages”; “milk drinks”]; “alcoholic drinks” → [“hard liquor”; “wine”; “beer”]; “cocktails”; “undifferentiated denominations”};

– “characteristics of drinks” → {“characteristics of drinks by their psychophysiological effects”; “perceptual characteristics”; “modal and evaluative characteristics”; “characteristics by composition”};

– “psychophysiological states” → {“consumption”; “negative states”; “positive states”; “sensations”};
minor slots:

“drinks provisioning places”; “interpersonal relations, behavior”; “leisure”; “weather conditions”; “vessels”; “eatables”; “liquids”; “poisons”; “medicines”.

The analysis of the associative fields of the stimulus *napitok* helps us to reveal the following manifestations of the dynamics of the frame over the period under review.

Basic structural changes affect minor slots (with low representativity in corresponding associates and their utterances—reactions). We witness the actualization of such slots as “drinks provisioning places”, “liquids”, “leisure”, and the loss of relevance of “interpersonal relations, behavior”, “eatables”, “poisons”.

Quantitative changes affecting key slots are fundamental in nature and reflect the main trends in the dynamics of the frame under study.

Thus, the representativity (both in associates and reactions) of the slot “drinks names” has increased significantly over the period under review. It led representatives of this slot to the first place in the T_1 -field. The increment rate ($R_I = y_i / y_0 - 1$) in the share of associates is +0.97, the one in the share of reactions is +0.72. The representation of the slot “characteristics of drinks” reduced proportionately, although somewhat slower. The increment rates are -0.46 in the share of associates and -0.52 in the share of reactions. The slot “psychophysiological states”—ranking third in terms of representativity—strengthens significantly showing +0.43 and +1.95 increment rates in the shares of associates / reactions.

Interesting processes also occur at the level of subslots.

The total growth of the slot “drinks names” is ensured mainly by its first-order subslot “non-alcoholic drinks” (with +0.97 and +1.33 increment rates in the shares of associates / reactions). Leaders in terms of increase are second-order subslots “hot tonic beverages” (+8.7), “water” (+3.27), “juice” (+1). We also witness the actualization of the second-order subslot “milk drinks”.

The dynamics of the second-order subslot “sweet sodas” has differently directed trends: a small increase in the share of associates and the reduction in the share of reactions (+0.14 and -0.21 increment rates, respectively).

A similar, but more pronounced dynamics is traced in the case of the first-order subslot “alcoholic drinks”. Its increment rates are +2 in the share of associates and -0.27 in the share of reactions. Such a divergence is conditioned, on the one hand, by a significant expansion of the second-order subslot “hard liquor”, on the other hand, by the loss of relevance of subslots “wine” and “beer”.

As for the second key slot “characteristics of drinks”, the reduction of its importance in T_1 was accompanied by the reduction in the share of 3 its subslots out of 4. Increment rates in their shares of associates and reactions vary from -0.67 to -0.51. Significant growth of the subslot “characteristics of drinks by their psychophysiological effects”—high increment rate in the share of its associates (+3.88) and moderate one in the share reactions (+0.37)—could not compensate for this decline.

There are some trends worthy of being noted: “perceptual characteristics” shrank in number of actualized senses, “modal and evaluative characteristics” lost negative evaluations, “characteristics by composition” were cut down on the range. The increasing role of the dichotomy “alcoholic vs. non-alcoholic” should be also mentioned. The percentages of these two characteristics mentioning in the total amount of produced reactions are, respectively, 1.0% / 2.0% in T_0 and 2.1% / 2.6% in T_1 (increment rates are +1.1 / +0.3).

A significant increase in the relevance of the slot “psychophysiological states” (+1.44 and +4.65 increment rates in the shares of its associates / reactions) is provided by the actualization of 3 subslots (“consumption”, “negative states”, “positive states”) which recovered manifold the consequences of losing relevance by the originally single subslot “sensations”.

The fact that the organization of the associative field of second words-stimulus *pit'yo* has not presented considerable from the previously analyzed is very significant. Key slots stay the same; moreover, the set of revealed slots is almost identical (a minor slot “medicines” is additionally actualized). This fact instantiates the contiguity of *napitok* and *pit'yo* in the linguistic consciousness.

The main differences lie expectedly at the substantial level. Thus, the primary meaning of the last word – “PIT'YO 1. *only sg. Action according to verb* drink. 2. That is drinkable, a drink.” [9] – could not but show up in the emergence of a specific pattern of associative linking: “drinking [of what?] of water, vodka, beverages”. In addition, rhymed reactions – *bit'yo* (spanking), *brit'yo* (shaving), *byt'yo*, *zhit'yo* (life), *zhrat'yo* (gobbling), *lit'yo* (molding), *myt'yo* (washing), *nyt'yo* (nagging), *shit'yo* (sewing) – are regular to the given stimulus.

As for alterations of this associative field in diachrony, here are found both similarities and some differences from the field of the word-stimulus *napitok*.

The dynamics of two key slots is not so clearly expressed: “drinks names” show the growth of stereotyped reproducibility over time (the share of associates shrinks (increment rate is -0.08) and the one of reactions inflates (+1.01)), whereas “characteristics of drinks” reproducibility declines (there is some increase in the number of representatives (increment rate in the share of associates is +0.14) with a significant reduction in their frequency (increment rate in the share of reactions is -0.3).

The internal dynamics of “drinks names” is much similar to the one in the field considered first. The reproducibility of its representatives soars as well as the relevance of second-level subslots “water”, “juice”, “tea” (the increment rates of the share of reactions are +3.78, +2.6, +2.6, respectively); the subslot “beer” cluster runs out of mentioning.

Considering the dynamics of “characteristics of drinks” we should note the following tendencies and features:

1) reduction of the importance of “perceptual characteristics” (-0.23 and -0.30 increment rates in shares of associates / reactions), mainly due to the taste characteristics;

2) increase of the representation of “modal and evaluative characteristics” (mainly due to positive assessment representatives).

It should be noted that the absence of direct means actualizing the slot “medicines” in T_1 is compensated to some extent by representatives of “negative states”, i.e. *pit'yo* continues to be associated with means of removing or soothing painful conditions (with a symptomatic action medicine, intrinsically) in the linguistic consciousness.

Another important aspect in studying associative field dynamics is the comparison of top-associates at different stages of fixation.

By the end of the period under review the top three – by frequency – of reactions to the stimulus *napitok* has changed completely. Nonalcoholic drinks of everyday use (*sok* (juice), *voda* (water), *chay* (tea)) are put in the forefront increasing their frequency dramatically (with the highest increment rates). Originally top associates (*sladkiy* (sweet), *pivo* (beer), *fanta* (Fanta)) lose – in full or in part – their relevance showing the lowest increment rates. *Zhazhda* (thirst) and *pit'* (to drink) – absent in the T_0 -respondents' responses—also appear among the high-frequency associates.

Comparable figures of frequency are retained by associates *vkusnyy* (tasty) and *kholodnyy* (cold), however, they lose their leading positions in the ranking.

With regard to associations to the word-stimulus *pit'yo, voda* (water) which was originally one of the two most high-frequency associates, becomes the absolute dominant, demonstrating maximum indices both in absolute change and in increment rate. Other positive increment rate associates – *kholodnoye* (cold), *zhazhda* (thirst), and *sok* (juice) – lag behind.

The idea of drinking as an action loses currency significantly with time (the negative increment rate of the associate *vody* (of water) frequency). Associates *sladkoye* (sweet), *vodka, yeda* (food) demonstrate steady decline in their frequency.

The undertaken study lets us come to the following conclusions.

1. The suggested hypothesis has been fully confirmed. Changes of an associative field in diachrony somewhat schematically, but quite accurately reflect the dynamics of the corresponding frame.

2. On the one hand, the frame “drink” proved to have a rather stable organization inclusive of three complex hierarchical slots and a number of minor slots.

Both T_0 - and T_1 -respondents' associative links represent the following structure of the knowledge of drinks: 1) there are many different **kinds of drinks** (generic, specific, individual); 2) they have different **characteristics**; 3) they interconnect with a human **psychophysiological state** somehow (cause it or are caused by it); 4) they are an integral part of the **social life**; 5) they are available in special **places**; 6) there are special **vessels** for their preparing, serving, consuming and storing; 7) they are consumed along with **food** or can involve some **eatable ingredients** being prepared; 8) they are related with **other liquid or semi-liquid substances** that are not intended to be swallowed to quench thirst, for refreshment or nourishment; 10) their consumption depends on **weather conditions**.

3. On the other hand, the frame “drink” demonstrates rather obvious and lasting changes in relevancy of slots over time.

Through their associative reactions T_0 - and T_1 -respondents actualize slightly different sets of slots and subslots. It reflects structural alterations of the frame. Thus, the T_1 -language consciousness tends to neglect the relations of drinks with poisons and medicines, nevertheless references to other – not drinkable – liquids have become relevant.

But more prominent changes are quantitative ones. The main trend is that drinks names gain – whereas drinks characteristics lose – in relevance for the language consciousness. Thus, the linguistic consciousness while building associative relations with the name of the concept focuses on the drinks per se (on their subcategories and individual denominations), but not on their properties. Consequently, the most productive model of establishing associative links becomes rather genus-species than attributive (that is proper to the similar English associative field and, to a lesser extent, to the French one – see: [6]).

Common trends also include the inflation of the subslot “nonalcoholic drinks” representativity (its share in the total number of reactions is bigger and grows faster than the one in associates) along with the stable and fast growth of “water”, “juice” and “hot tonic beverages” relevancy and the actualization of the subslot “milk drinks”. At the same time the subslot “alcoholic drinks” is prone to differently directed tendencies with “hard liquor” extension and “beer” – as well as “wine” – drastic lost of relevancy. The revealed tendencies are likely to evidence some drift of social focus of attention from alcoholic drinks to nonalcoholic ones of everyday consumption.

We also eyewitness the reduction of the representation of “perceptual characteristics” (mainly taste ones) of drinks and the increase of the representation of “negative psychophysiological states” which can

be removed by consuming drinks. In this regard we should note the fact that the investigated material is free from any “alcohol intoxication” representatives that are actively actualized in similar French and English associative fields [6].

It should also be noted that for the T_1 -language consciousness relations of drinks with weather conditions, eatables and interpersonal relations have become less relevant, whereas the link with vessels has been reinforced.

4. The undertaken comparison of the chosen associative fields can also provide us with existing stereotype ideas about drinks.

As for T_0 -respondents such an “ideal” drink must be non-alcoholic refreshing (juice or sweet soda) rather than (low-)alcohol, tasty and sweet, chilled.

According to T_1 -respondents a prototypical drink is non-alcoholic (refreshing noncarbonated (juice, water) rather than carbonated (Coca-Cola) or hot (tea)), chilled rather than heated, tasty, consumed (drunk) to quench one’s thirst.

Thus, notions of prototypical *napitok* (drink) have not drastically changed for the quarter of a century; according to the respondents such a drink should be non-alcoholic, tasty, chilled.

5. In terms of content a marked increase in the share of foreign drinks loanwords (strong liquor and alcoholic cocktails) draws attention. This indicates that the appropriate realities, due to changes of the state of the domestic consumer market, find the sustained reflection in the Russian cognitive picture of the world, and their verbal representatives became firmly entrenched in the Russian language picture of the world. However, they played a peripheral role in the structure of the concept “drinks” (as indicated by a low frequency of such associates), because they do not belong to the products of everyday consumption. Exceptions, for obvious reasons, are brands of sodas.

It is obvious that the consumer behavior of the Russians approached to the Western models under the influence of modern marketing policy. And the relevant portion of the naïve picture of the world with a complex of means of representation including sets of stereotypical associative reactions has evolved with it, hence some observed trends in the dynamics of the frame “drink”.

References

1. Alimushkina, O. A. (2010). “Vozmozhnosti izucheniya stereotipov v assotsiativnykh polyakh”. *Al'manakh sovremennoy nauki i obrazovaniya*, 2 (33), Part II, 14–15.
2. Babushkin, A. P. (1996). *Tipy kontseptov v leksiko-frazeologicheskoy semantike yazyka*. Voronezh: VGU.
3. Karaulov, Yu. N., et al. (2002). *Russkiy assotsiativnyy slovar'*. M.: Astrel' – AST. Vol. 1.
4. Minsky, M. (1975). “A framework for representing knowledge”. In P. H. Winston (Ed.), *The Psychology of Computer Vision* (pp. 211–277). N.Y.: McGraw-Hill.
5. Morel Morel, D. A. (2014). “Issledovanie dinamiki kontsepta na materiale assotsiativnogo polya ego imeni”. *Filologicheskie nauki. Voprosy teorii i praktiki*, 1 (31), Part 1, 104–109.
6. Morel Morel, D. A. (2012). “Napitki vo frantsuzskom, angliyskom i russkom assotsiativnykh slovaryakh (stimul -> reaktsiya)”. *Filologicheskie nauki. Voprosy teorii i praktiki*, 3 (14), 55–59.
7. Pimenova, M. V. (2014). “Vozvrashchenie k voprosu o metode opisaniya kontseptual'nykh struktur (na primere kontsepta nadezhda)”. *Aktual'nye problemy filologii i pedagogicheskoy lingvistiki*, 16, 101–109.
8. Prikhod'ko, A. I. (2014). “Freym kak tip leksicheskogo kontsepta”. *Aktual'nye problemy filologii i pedagogicheskoy lingvistiki*, 16, 110–113.
9. *Tolkovyy slovar' Ushakova onlayn*, available at: <http://ushakovdictionary.ru/>