

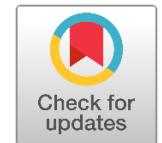
## Original Article

# SEMANTIC SHIFTS OF INDIAN LOANWORDS IN RUSSIAN: THE CORPUS AND ASSOCIATIVE ANALYSIS

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## ABSTRACT

The study presents a comprehensive analysis of semantic changes in Indian loanwords within the Russian language, employing a mixed-methods approach combining corpus linguistics and psycholinguistic experimentation. The research analyzes a systematically compiled dataset of 83 lexemes, examining their frequency, collocational behavior. To outline the cognitive representation in Russian consciousness 6 most frequent loanwords were subjected to a free-association experiment with 135 native speakers. Grounded in theoretical frameworks linking semantic change to cognitive factors, the study specifically investigates the roles of word frequency and concreteness.

The principal findings reveal a clear dichotomy in assimilation patterns. High-frequency, concrete loanwords demonstrate remarkable semantic stability, largely retaining their original meanings and showing predictable collocational patterns. In contrast, abstract and low-frequency terms, particularly from religious and philosophical domains, undergo profound semantic reconceptualization. The key transformations identified include: secularization of sacred concepts, metaphorical extension and semantic widening, development of pejorative connotations, and cultural re-attribution where modern Western cultural references displace original Indian cultural contexts.

The research confirms that loanwords follow the same cognitive principles of semantic change as native vocabulary, with frequency and concreteness being primary determining factors. Methodologically, the triangulation of corpus data with associative experiment results proved particularly valuable, capturing emerging semantic shifts not yet fully conventionalized in written texts. The study concludes that lexical borrowing represents an active process of cognitive and cultural adaptation rather than passive assimilation, fundamentally reshaping conceptual structures through interaction with the recipient language's cognitive and cultural environment. This research contributes to contact linguistics by providing an integrated framework for analyzing loanword assimilation across linguistic and cognitive dimensions.

**Keywords:** Loanwords, Russian, Indian, Semantic Change, Free Associative Experiment, Corpus Analysis

## INTRODUCTION

The intensification of Russian-Indian cultural contacts and the global dissemination of Indian spiritual practices have prompted the borrowed concepts of Indian origin to be widely used in everyday life. That entails a reconfiguration of these concepts through

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individual and societal usage within Russian linguistic context, a process involving not only semantic adaptation but also a transformation of the semantic structure itself. Positioned at the intersection of linguistics, cultural studies, and Russian language studies, this research offers a methodological framework for analyzing loanword assimilation across languages.

The historical trajectory of Indian loanwords in Russian reflects broader sociocultural exchanges, from Afanasiy Nikitin's 15-th century travels to post-Soviet globalization. Yet, prior studies remain fragmented, focusing narrowly on derivational or phonetic features [Akulenko and Leontieva \(2021\)](#) lacking systematic corpus analysis [Sharma \(1994\)](#) list of 800 words lacks frequency data); paying insufficient attention to semantic change of borrowed concepts.

Loanwords are a phenomenon that no language can avoid. The Routledge Dictionary of Language and Linguistics [Bußmann et al. \(2006\)](#) defines loanwords as "words borrowed from one language into another, which have become lexicalized (= assimilated phonetically, graphemically, and grammatically into the new language)" (2006). When functioning in a new language, loanwords often undergo conceptual semantic change – such as widening, narrowing, or shifting [Miller \(2015\)](#), [Julul et al. \(2020\)](#) – or associative meaning change, including metaphor, metonymy, pejoration, etc. [Yuniarto and Marsono \(2016\)](#).

The study holds interdisciplinary relevance as it examines a corpus of Indian terms in Russian, contributing to the understanding of language contact, and provides empirical data through corpus-based and psycholinguistic methods to track the semantic change of Indian concepts in Russian.

Thus, this paper aims to investigate the semantic change of Indian loanwords in Russian by means of corpus analysis and free association experiment. The study addresses the following research objectives:

- To identify the most frequent words of Indian origin in the National Corpus of Russian Language (NCRL).
- To reveal the most frequent collocations of these loanwords.
- To conduct an associative experiment to determine how Russian speakers perceive Indian loanwords.
- To classify the types of semantic changes these loanwords undergo in Russian cognition.

## THEORETICAL FRAMEWORK

Semantic change in words generally correlates with factors such as age of acquisition, concreteness /abstractness, emotionality, word length, and arousal [Li et al. \(2024\)](#). According to Li et al., the interplay of these factors suggests that words engaging broader and more elaborate cognitive processes are more resistant to change, thus influencing language evolution at both macro and micro levels (*ibid.*).

The present study of Indian loanwords in Russian focuses on several factors of the list above: word frequency, concreteness, and emotionality. [Li et al. \(2024\)](#) explain that frequently used words with concrete meanings and strong emotional connotations, being more cognitively grounded, are prone to retain their original meaning and change less over time. Conversely, words that are abstract, less emotional, and less frequent tend to undergo the more significant semantic changes.

Semantic changes can lead to conceptual shifts, such as re-categorization or change in a conceptual domain. Such changes are linked to processes of conceptualization which, according to [Moffat et al. \(2015\)](#), refer to the acquisition of conceptual knowledge through "situated conceptualization". This means that both external (agents, objects, events) and internal (emotions, introspections) environments are important in forming concepts [Barsalou \(2003\)](#). Conceptual knowledge encompasses the meanings and understandings we have about concepts, grounded in our experience and contexts in which those concepts appear. Thus, altering any constituent of the conceptualization process leads to reconceptualization and the emergence of new semantic meanings.

The study investigates whether loanwords behave according to the same mechanisms. To fulfill this aim and outline the current semantic state of Indian loanwords in Russian, a special methodology was developed.

## METHODOLOGY

The data for analysis were extracted from the most recent edition of the Dictionary of Foreign Words (2025). The dataset comprises 83 lexemes identified as loanwords from either Hindi (12 items) or Sanskrit (61 items). Given the historical relationship between Sanskrit and Hindi – where Sanskrit serves as the precursor language – both categories were consolidated under the broader classification of Indian loanwords for this study. It should be mentioned that the specific pathways borrowings (e.g., via English, as in 'jungle', or Portuguese, as in 'veranda') are not accounted for this analysis.

Subsequently, the lexical units were systematically categorized according to semantic fields (e.g., religious terminology, everyday vocabulary) and the concreteness / abstractness criterion. Each term was then subjected to corpus-based frequency analysis.

To identify semantic changes and reconceptualization (e.g., the secularization of sacred terms), an open associative experiment was conducted. The participants were divided into two age groups: 18-35 years (n 67) and 36+ years (n 68), with a total sample size of 135 participants. For the experiment, six Indian loanwords were selected: two abstract words (karma, nirvana), two concrete words (jungles, avatar), two words with both abstract and concrete meanings (guru, yoga). Six filler words were also included: three

non-borrowed words closely related to the loanwords (i.e. fate, teacher, fitness) and three general vocabulary words (i.e. яблоко [yabloko] – apple, деньги [den'gi] – money, река [reka] – river). The loanwords were selected based on two criteria: 1) semantic change probability, i.e. being marked in dictionary as having a transferred meaning 2) evidence of the transferred meaning's usage in the corpus compared to the dictionary definition.

To assess whether the degree of exposure to Indian culture influences the results, participants were asked to rate their frequency of encountering Indian culture on a scale from “never” to “very often”.

The stimuli were presented in written form and in randomized order to prevent sequence effects. The resulting list of associations was subjected to quantitative analysis (frequency of top associations per word) and qualitative analysis (identification of concreteness / abstractness and positive/negative valence; comparison of conceptual and associative meaning changes dictionary and corpus data).

The final stage involved visualization of semantic clusters and semantic changes for Indian loanwords.

## RESULTS AND DISCUSSION

### INDIAN LOANWORDS: CLASSIFICATION AND FREQUENCY PARAMETERS

The analysis began with a dataset of 83 Indian loanwords identification in the most relevant Dictionary of Foreign Words (2025). A lexico-semantic classification yielded five categories: religious terms (49 items, e.g., Рама [Rama] – Rama, Вишну [Vishnu] – Vishnu, карма [karma] – karma, сансара [sansara] – samsara, нирвана [nirvana] – nirvana, йога [ioga] – yoga), health-related terms (2 items, e.g., асана [asana] – asana, аюрведа [aiurveda] – ayurveda), musical terms (3 items, e.g., para [raga] – raga, bansuri [bansuri] – bansuri, ситара [sitara] – sitara) and general vocabulary (29 items, e.g., шаль [shal'] – shawl, шампунь [shampun'] – shampoo, джунгли [djungli] – jungles, веранда [veranda] – veranda). A subsequent classification based on the criterion of concreteness / abstractness resulted in 28 abstract words (predominantly from the religious sphere) and 55 concrete words (primarily from everyday vocabulary). In line with [Li et al. \(2024\)](#), we hypothesized that frequent, concrete words demonstrate greater semantic stability.

The next step implied the frequency analysis using General Subcorpus of National Corpus of Russian Language (NCRL) which contains 389 million and provides a representative sample of language usage. Frequency was measured using the Instances Per Million (IPM) metric. The analysis confirmed that most Indian loanwords exhibit low frequency, with IPM scores ranging from 0.01 (e.g., нансук – nainsook – [French: nansouk < Hindi] thin cotton fabric, similar in texture to linen, used for making linen) to 11,91 (e.g. веранда – veranda – [English, Portuguese: veranda < Hindi veranda fence, balustrade] a one-story unheated room with a roof, usually attached to a house along one of its walls). The corpus usage of the words is illustrated in the examples (1), (2).

(1) At home it had been so clear that for six dressing jackets there would be needed twenty-four yards of *nainsook* at sixteen pence the yard, which was a matter of thirty shillings besides the cutting-out and making, and these thirty shillings had been saved. [Tolstoy \(1878\)](#)

(2) But in the evening - in a carriage, we went into the fields. From there, we took a public ride, similar to our swing. From there to the Escola, there was ice cream. Then, we went to the square, where we listened to excellent regimental music. After that, we had dinner, drank tea, and sat on the *veranda*, admiring the tropical night. The night was moonlit and full of amazing stars. It was warm, even hot. [Goncharov \(1859\)](#)

From this dataset, 13 of the most frequent loanwords were selected for detailed collocational analysis. This subset comprised 7 religious terms and 6 general vocabulary items, representing a mixture of concrete and abstract concepts (e.g. шампунь [shampun'] – shampoo, шаль [shal'] – shawl, веранда [veranda] – veranda, лак [lak] – laquer, раджа [radja] – raja, гуру [guru] – guru, Будда [Buddha] – Buddha, Шива [Shiva] – Shiva, нирвана [nirvana] – nirvana, карма [karma] – karma, шаман [shaman] – shaman, джунгли [djungli] – jungle, йога [ioga] – yoga). It should be noted that this classification is not rigid; a word like ‘guru’ can possess both abstract and concrete meanings. The word ‘avatar’ was added to the list due to its notably higher frequency in newspaper (IPM 2,45) and social media (IPM) 7.3 subcorpus, despite its lower frequency in the General Subcorpus. Furthermore, the corpus shows the word is used in two grammatical genders: the masculine *avatar* and the feminine *avatara*, reflecting both secular and religious meanings.

### COLLOCATION ANALYSIS AND SEMANTIC CHANGES

A collocation analysis was performed using the NRC's Word Portrait Sketch tool, with the results summarized in [Table 1](#). The data reveal distinct patterns of assimilation.

**Table 1**

**Table 1 Collocations of the Most Frequent Loanwords of Indian Origin in Russian**

(IPM) Loanword	most frequent* collocations				
	modifier	Direct object verb	Indirect object verb	Predicate	Composed nouns

(2,4) шампунь [shampun']-shampoo	Cosmetic (7), therapeutic (6,28), dog's (3,72)	Try IMPERF (5,41), recommend IMPERF (4,34)	wash PERF (10,45), IMPERF (8,85), lather PERF (8,41), IMPERF (9,19); wash oneself up (8,15)	-	Balm (11,22); Conditioner (10,09)
(8,95) шаль [shal'] - shawl	down (9,27); cashmere (9,2)	throw over PERF (9,51), IMPERF (8,16)	wrap in PERF (10,23); wrap up PERF (9,47); wrap up PERF (9,31); wrap IMPERF (8,3); wind over PERF (8,36); wind around PERF (8,32)	Drag IMPERF (7,45)	Overcoat (8,09)
(11,91) веранда [veranda] - veranda	Baalbeksky (8,61); covered (8,26); kitchen (7,51); of a dacha (7,24)	Build on PERF (6,33), rebuild PERF (6,18)	Serve at PERF (6,99); drink at IMPERF (5,98);	desert PERF (5,98);	Porch (7,73); annex (7,41)
(8,25) лак [lak] - laquer	Alcohol (8,99), made from shellac (8,9), colorless (8,61)	Boil (5,74)	Cover IMPERF (9,72), PERF (9,59); paint (8,92)	Gleam IMPERF (6,28)	Polish (9,47), enamel (9,06), paint (8,56)
(1,09) раджа [radja] - raja	Indian (7,59); hindu (7,56); independent (3,96); local (2,58); young (0,82)	-	-	-	-
(1,36) гуру [guru] - guru	Young people's (4,79); Indian (4,22); foreign (3,51), great (0,99) main (0,19)	-	-	Teach (4,23)	Teacher (4,69)
(5,24) Будда [Buddha] - Buddha	Emerald (7,03); bronze (5,32); golden (3,47); alive (2,53)	Meet (0,79)	-	Stand (0,67), sit (0,23)	Bodhisattva (9,49); buddha (9,36); God (4,25)
(1,03) Шива** [Shiva] - Shiva	-	-	-	-	God (0,04 IPM)
(1,58) нирвана [nirvana] - nirvana	Buddhist (7,81); full (0,85), real (0,06)	Obtain PERF (4,46), achieve PERF (4,46)	sink into PERF (6,58); plunge IMPF (6,51); be plunged IMPF (6,27); fall into IMPF (3,99). PERF (3,85)	-	Samsara (10,38); non-existence (8,940);
(1,92) карма [karma] - karma	Group (5,3); negative (5,22); bad (3,15); ill (2,61); personal (2,4); public (2,34); good (1,05); human's (0,95)	Work off IMPERF (6,38); correct IMPERF (4,73); spoil PERF (3,87); change PERF (3,21)	-	-	Reincarnation (10,89); karma (10,77)
(6) шаман [shaman] - shaman	Tuvian (9,57); buryat (8,2), altaic (7,43); tungus (7,22); Indian (6,29)	Call PERF (3,56); invite (3,04)	Dance IMPERF (4,63); hand in PERF (2,46); give PERF (1,49);	Perform the kamlanye ritual IMPERF (7,03); travel IMPERF (5,52)	Wizard (9,25); lady-shaman (9,09)
(4,49) джунгли [djungli] - jungle	Impassable (8,72); Peruvian (8,52), Amazonian (8,49);	Clear away IMPERF (6,93);	Get lost PERF (7,38); force one's way IMPERF (7,35)	Surround IMPERF (5,06)	Savanna (9,12); desert (6,67)

	impenetrable (7,94); tropical (7,94); African (7,35); Australian (7,28); grassy (7,15); neon (7,05)	inhabit IMPERF (5,74)			
(2,61) <i>йога</i> [ioga] - <i>yoga</i>	Indian (7,08); Tibetan (6,39)	Practice IMPERF (7,47)	Go in for IMPERF (4,13); be keen on IMPERF (3,98)	Help IMPERF (2,94)	Meditation (8,88); starvation (8,84); Buddhism (7,89); physical training (7,33)
(2,45**, 7,3***) Аватар [avatar] - <i>avatar</i>	Cameron's (9,2); three- dimensional (6,48)	acquire PERF (7,05)	Stay PERF (3,69)	Force out PERF (6,07); retain IMPERF (4,55);	Titanic (11,2); overlord (10,52); avatar (9,42); mongrel (9,03)

Legend: \* LogDice metric is used; PERF – perfective form of the verb; IMPERF – imperfective form of the verb; Shiva is not represented in Word Portrait Sketch of National Corpus of Russian language; \*\* IPM and collocations in Table are presented according to Word Portrait Sketch in newspaper corpus; \*\*\* data presented according to Word Portrait Sketch in social networks corpus

The collocation analysis shows that some loanwords, particularly anthroponyms like 'Shiva' and 'Buddha' preserve their original meaning and do not undergo any changes. Similarly, as predicted in [Li et al. \(2024\)](#), high-frequency concrete nouns like 'shawl', 'laquer', 'veranda', 'shampoo', exhibit no semantic changes, collocating primarily with words related to their core functions and properties.

However, the concrete noun 'jungles' demonstrate a significant semantic extension. While the dictionary defines its transferred meaning as referring to dangerous urban neighborhoods or environments of moral degradation, the corpus data reveal a more nuanced picture. The metaphor is frequently neutralized, used to describe dense or illuminated cityscapes without inherent negative connotations, as seen in Examples (3) and (4).

(3) We wandered with Panyushkin through the stone jungle of the multilevel Monte Carlo, watched the changing of the guard at the Grimaldi Palace, and saw the antique cars of Prince Rainier. [Karabash \(2002\)](#)

(4) Herman drove through Moscow at night and admired its lights and neon jungle, brightly glowing-colored signs and advertisements. [Rostovsky \(2000\)](#)

Furthermore, the term underwent abstraction, metaphorically describing complex and impenetrable systems, such as "the mathematical jungles of quantum string theories" (Example 5):

(5) Explaining how three-dimensional membrane worlds "crystallize" in a multidimensional space with six or seven extra dimensions would lead us into the mathematical jungle of quantum string theory, various ways of compactifying (convolving) extra dimensions, topological features of extra dimensions, and other very difficult and abstract problems. [Barashenkov \(2003\)](#)

The abstract loanwords, such as 'nirvana' and 'karma', which have low frequency ranks, show clear signs of semantic shift, consistent with the hypothesis. The collocation profile of 'nirvana' centers on the conceptual frame of a "state" that one can "sink into", "plunge into" or "fall into". This has facilitated a shift from religious term to a general one for a state of bliss or relaxation, as in the Example (6).

(6) At this time, their precious little feet are washed, massaged, cajoled and in every possible way appealed to the full state of foot nirvana. [Shigapov \(2013\)](#)

Similarly, 'karma' was assimilated into common lexis, developing a pronounced negative connotation (e.g., collocations bad, wrong). It frequently collocates with adjectives like group, folk, human, personal. This reflects a reinterpretation where 'karma' signifies not just personal consequence, but also collective responsibility (Example 7). In many contexts, it overlaps with the Russian key cultural concepts of fate [Stepanov \(2004\)](#), which implies predestination rather than self-determined consequence (Example 8). In other instances, it is used synonymously with удача [udacha] – luck, as seen in the phrase карма подмигнёт [karma podmignyot] – karma will wink (Example 9), a calque of the Russian idiom удача улыбнется [udacha ulibnyotsya] – fortune smiles upon someone, that means «to be on roll».

(7) The real spirit that gave rise to the idea of group karma is the spirit of nationalism. [Pomerants \(1980\)](#)

(8) Mousie Rex: Oh, I guess that's my karma — I've been on the editorial board all my life...; -) [Nashi Deti: Podrostki \[Our Children: Teenagers\] \(2004\)](#)

(9) Damn it. Okay, karma will wink at her again. I bargain and discount an art album to a regular customer. [Permyakov \(2016\)](#)

The loanwords, 'guru' and 'yoga', which straddle abstract and concrete meanings, exhibit complex changes. The collocation analysis for 'guru' indicates a semantic widening from a strictly religious "spiritual teacher" to a secular "mentor" in "gurus of the information world" (Example 10).

(10) Also, one of the undisputed gurus of the information world, one of the creators of the Apple computer, Steve Wozniak, did not disdain to take part in the show. [Latkin \(2003\)](#)

Concurrently the corpus provides evidence of pejoration, where the term is used ironically or critically within quotation marks to denote a charlatan or leader of dubious sect (Example 11). In spoken language that is marked by the context and the prosody.

(11) Hence the prosperity of all kinds of "gurus", psychoanalysts, sects and other saviors of people from themselves, without whom, it seems, a good third of the American population cannot do. [Vzglyad Vladimira Bukovskogo \(1997\)](#).

The loanword 'yoga' retains conceptual link to Indian culture in its collocations (e.g., индийская [indiyskaya] – Indian) [Table 1](#). However, its primary meaning in the corpus has shifted decisively toward the second dictionary definition: a system of physical exercises. It is now firmly fixed in the semantic field of fitness and wellness, often mentioned alongside athletics and other fitness programs (Example 12), while its meaning as a spiritual practice appears less frequently (Example 13).

(12) It's almost impossible to isolate something. Some people like yoga, others like athletics. I can list only a few successful programs that are currently in demand by the fitness audience. [Gurova and Lukashov \(2014\)](#)

(13) Yoga in this case is considered as a spiritual practice in general. [Rogov \(2012\)](#)

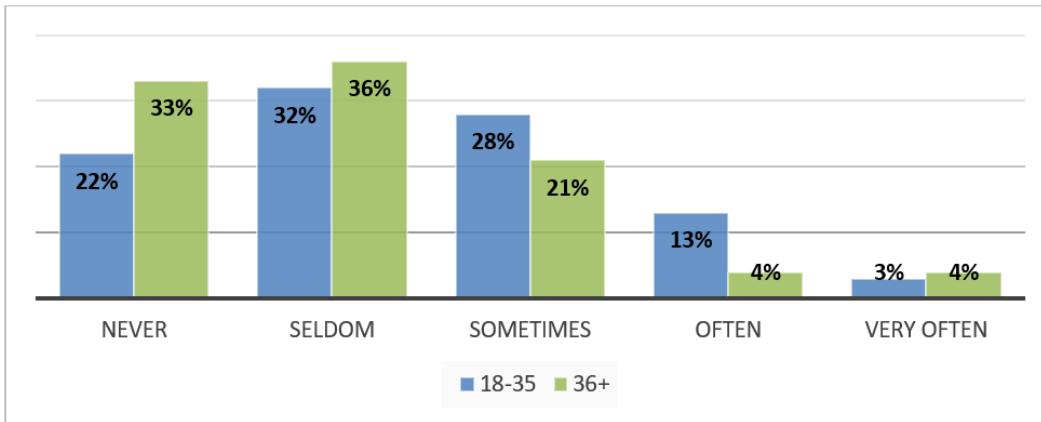
In summary, corpus data reveal a spectrum of semantic changes, ranging from stability in high-frequency concrete terms to significant reconceptualization in abstract and less frequent words. The following section investigates whether these documented semantic changes are reflected in the language consciousness of native speakers.

## OPEN ASSOCIATIVE EXPERIMENT: RESULTS AND ANALYSIS

The open associative experiment yielded a total of 2,810 reactions, of which 1,746 were reactions to the six target Indian loanwords' stimuli (an average of approximately 300 responses per stimulus). While most reactions were single words, some participants provided phrases. All responses were included in the analysis, even if participants provided fewer than the requested three associations. Some of them (in personal feedback) attributed this to inattention when reading the task instructions, as the experiment was conducted online via link without direct researcher supervision.

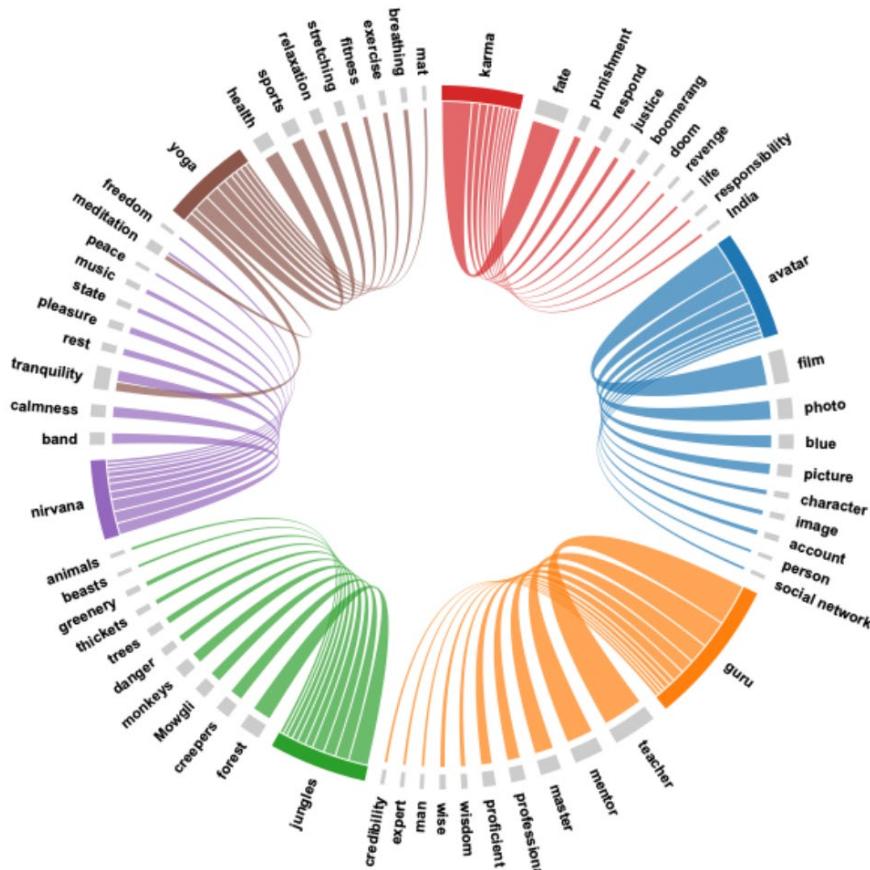
An initial analysis of participants' self-reported exposure to Indian culture revealed minor differences between age groups, with a general trend of younger participants reporting slightly higher exposure [Chart 1](#). However, as the majority of participants (about 60 %) across all groups reported rare exposure, age and cultural familiarity were not treated as primary variables for the subsequent association analysis.

**Chart 1**



**Chart 1 Exposure to Indian Culture Among Age Groups**

For each loanword, the ten most frequent associations were analyzed quantitatively, while the full set of responses, including single-occurrence associations, was subjected to qualitative thematic analysis. The results are summarized below and visualized (Mauri et al. 2017) in a network diagram [Figure 1](#).

**Figure 1****Figure 1 Network of Associations to Indian Loanwords in Russian Language**

### **JUNGLE (CONCRETE)**

The associative field for 'jungles' is dominated by its primary meaning. It is perceived as a hyponym of лес, (forest' – 10%), with associations clustering around its physical constituents: geography and terrain type (e.g. tropics, amazon, Amazonia, Africa, Vietnam); flora (e.g. palm trees, fruits, orchids, bushes), fauna (snakes, tigers, crocodile, parrots, elephant, panther), and atmosphere (e.g. dampness, rain, darkness, humidity, heat, warmth). A significant cluster of associations (Mowgli (6%); Balu, Bagheera, Kipling – single-occurrence associations) stems from Redyard Kipling's The jungle book, indicating the profound grounding of the concept as this literary work is taught in primary schools of Russia. Popular culture (media), especially the images of Mowgli and Tarzan, had a huge impact on perception and reflected in the corresponding associations (e.g. Mowgli, Tarzan, Jumanji). The negative transferred meaning ("a dangerous environment") is represented in the reactions: danger (4%), fear, impassability, unknown, death. Notably a positive, romanticized cluster emerged (e.g. nature, adventure, mystery, vacation, hunting, hiking), which is not yet evident in the corpus data, suggesting an emerging connotative shift.

### **AVATAR (CONCRETE)**

The associative field of 'avatar' is divided between two modern, secular meanings, with its original religious sense nearly eclipsed. The dominant cluster is media related, driven by James Cameron's film Avatar (e.g., film – 16%, blue – 7%) and the animated series Avatar: The Legend of Aang (e.g., Aang, Cartoon, Element, Water, Magic, Legend, Anime). The second major cluster is digital, relating to online identity (e.g., photo – 8%, picture – 6%, account – 3%, social network – 2%, character – 3%). The original religious meaning (incarnation of a deity) was found only in single-occurrence responses (e.g., deity, incarnation, Buddhism, Hinduism, God, spirit, body), confirming a near-complete semantic shift in popular consciousness from sacred to digital and cultural spheres.

### **GURU (CONCRETE/ABSTRACT)**

The associations for 'guru', confirm its metaphorical widening to secular contexts. The most frequent responses, teacher (21%) and mentor (14%), align with its dictionary definition as a transferred meaning (2. Transfer. About the teacher, mentor [Dictionary of Foreign Words 2025]). A strong cluster signifies someone of high expertise (master – 10%, professional – 7%, expert, credibility – 2%, proficient – 6%, trainer <1%, etc.), who leads, teaches and transmits knowledge (wisdom (3%), wise (3%), knowledge (<1%),

experience (<1%), intelligence (<1%), smart (<1%), cognition (<1%), philosopher (<1%), visionary (<1%), prophet (<1%) etc.). However, a distinct pejorative cluster also emerged (e.g. charlatan, conman, sect, jerk, scam, submission), indicating a critical or skeptical view of self-proclaimed experts. Associations related to the original Indian context (e.g. India, yoga, meditation, philosophy, East, religion, monk, Tibet, Zen, lotus, enlightenment, spirituality) were minor and of single-occurrence, highlighting the concept's detachment from its cultural origins.

### ***YOGA (CONCRETE/ABSTRACT)***

The associative field for 'yoga' demonstrates a clear dominance of its concrete, secular meaning. The largest cluster frames it as a fitness activity (e.g., sport – 7%, stretching – 7%, exercise – 3%, body flexibility <1%, body, pilates, gymnastics, physical education, endurance, strength, exercise, aerobics) with associations related to practice (e.g., breathing – 3%, mat – 2%, practice – 4%, pose – 1%, asanas, group, hobby – 1%, coach) and physical / mental benefits (e.g., health – 8%, tranquility – 5%, relaxation – 5%, Meditation – 3%, harmony – 2%, balance, confidence, beauty, benefit, stability, resilience, peace of mind, rest, pacification, peace, enjoyment, happiness, freedom). However, there is a number of negative responses (e.g. heresy, hard, sectarians, difficulties, a type of body abuse), that reveal skepticism towards the practice and the philosophy. The abstract, philosophical meaning associated with Indian spirituality was a minor cluster, represented by single-occurrence words (e.g. Zen, nirvana, India, spirituality, hatha, wisdom, Hinduism, Buddhism, mindfulness, asceticism, purification, philosophy of being, self-discipline, east, lotus (symbol)). This confirms a major conceptual shift where 'yoga' is primarily understood as a wellness practice rather than a spiritual discipline.

### ***NIRVANA (ABSTRACT)***

The associations for 'nirvana' are split between two unrelated semantic poles. The first, and dominant refers to the American rock band Nirvana and its leader Kurt Cobain (e.g., band – 6%, music – 3%, Cobain, Kurt Cobain <1%, rock, song, Pank, scene, t-shirt), sometimes with negative reactions (e.g., bullshit, cheating, dope, drugs, addict, get drunk, forget). The second pole represents a simplified, psychological understanding of the term as a state of extreme calm, bliss and relaxation (e.g., state – 3%, calmness – 6%, tranquility – 6% (shared with stimuli 'yoga')), peace – 2%, rest – 4%, blissout / pleasure – 6%). The nirvana state is understood by means of related concepts like meditation (2%), astral, trance, purification, self-discovery. This pole is represented by a group of reactions that reveal the metaphoric comprehension of the notion (e.g. harmony, freedom, goal, achievement, paradise, emptiness, nothingness, everything, being, utopia, non-existent, detachment, indifference – like a lack of passion) that range from neutral to meliorative. The original Buddhist meaning of cessation of sufferings was found only in the periphery of associative field (e.g., Buddhism, enlightenment, Zen, buddha, extinction – the key aspect of nirvana is the extinction of suffering, samsara, emptiness – sunyata is an important concept, liberation, rebirth, atman, Tibet, India, Hinduism, philosophy, spirituality). This reveals a profound transformation: a sacred, complex concept was largely replaced by a band name and a vague synonym for relaxation

### ***KARMA (ABSTRACT)***

The associative field for 'karma', that "In Buddhism, Hinduism and other religions of the East, is a set of actions committed by a person and their consequences that determine his fate and the specificity of his rebirth and reincarnation" [Dictionary of Foreign Words 2025], shows a near-total loss of its philosophical meaning. The associations referring to the Indian origin are minor and primary single-occurred (e.g., India – 2%, Buddhism, Esoterism, Energy, Aura, Soul, Samsara, Rebirth, cyclicity, Moksha, Maya, Nirvana, Spirituality – 1%, Philosophy – 1%). It is overwhelmingly assimilated into the Russian conceptual domain of судьба [sud'ba] – fate (15%), a concept characterized by fatalism (e.g., inevitability, predestination, the cross, the burden, hopelessness, hopelessness) and external forces (e.g., doom – 2%). Fate in Russian is defined as 1. «A course of events, a combination of circumstances, that develops independently of a person's will; 2. Destiny, doom, life path» [Kuznetsov, 2000]. A second major cluster frames it as mechanism of retribution (e.g., punishment – 4%) respond – 4%, justice – 3%, boomerang – 3%, revenge – 2%, responsibility – 2%), for person's actions (e.g., act – 2%, action – 1%, sin – 1%, choice, mistakes, merit, be honest, right etc.), almost exclusively with negative connotations (e.g., bad – 1%, negative <1%, evil <1%, black, except for justice that is neutral in Russian language). The associations highlight a fundamental cognitive reinterpretation: the original Indian concept of ethical causality and personal responsibility has been reshaped into a fatalistic notion of inescapable punishment for misdeeds.

## **SYNTHESIS: CORPUS AND ASSOCIATIVE EXPERIMENT DATA ON SEMANTIC CHANGES**

The open associative experiment revealed some semantic changes in meaning structures of Indian loanwords. The [Table 2](#) synthesizes the semantic changes identified through both corpus and associative analysis.

**Table 2**

**Table 2 Semantic Changes of Indian Loanwords in Russian**

	concrete		concrete/abstract		abstract	
	jungles	avatar	guru	yoga	nirvana	karma
c	a	c	a	c	a	c
Conceptual semantic change	Widening			+	+	+

		Narrowing							
		Shifting	+	+	+	+	+	+	+
Association change	Metaphor	+	+		+				
	Metonymy		+	+			+		+
	Pejoration			+	+	+	+	+	+
	Melioration		+						
	Neutralization		+						

**Legend:** c – Based on Corpus Analysis, a – Based on Open Associative Experiment Analysis

The results indicate that semantic narrowing was not observed for any of the target words. Pejoration was the most frequent associative change, affecting 'guru' (perceived as charlatan), 'yoga' (as a hard workout exercise), 'nirvana' (as a state of drug intoxication,) and 'karma' (as a hand of justice for bad deals). Widening (e.g., 'guru' as a professional in general, 'yoga' as a type of fitness and 'karma' as a synonym of luck), and conceptual shifts, particularly secularization (e.g., 'avatar' – a film character and image for social media, 'yoga' – secular practice nowadays, nirvana' – instant pleasure, and 'karma' as boomerang) were also prevalent among abstract and dual-meaning words. Metaphor was a key mechanism for concrete words like 'jungles' and 'guru', while metonymy was observed for 'avatar', 'nirvana', and 'karma'. Melioration and neutralization are minor and observed only in concrete 'jungles' (neighborhoods of big cities that are not always dangerous but dense or illuminated, and place for adventures (that is positive in Russian culture).

The data strongly support the hypothesis that low-frequency, abstract loanwords are most susceptible to semantic change. Abstract loanwords underwent more than three types of changes on average, whereas concrete words underwent fewer than three. As the target words were emotionally neutral, the results highlight word frequency and concreteness as the primary factors driving semantic changes in loanwords, confirming they behave similarly to native vocabulary in this regard [Li et al. \(2024\)](#). The associative experiment also proved valuable in capturing emerging changes (e.g., positive framing for 'jungles') not yet fully conventionalized in written corpus.

## CONCLUSION

The study provided a comprehensive analysis of the integration and transformation of Indian loanwords in the Russian language by combining corpus-based and psycholinguistic experimental methods. The findings reveal a complex landscape of semantic assimilation, characterized by significant semantic changes that reflect the interplay between global cultural trends and local linguistic tradition.

The research confirms the hypothesis, aligned with [Li et al. \(2024\)](#), that less frequent and more abstract loanwords are particularly prone to semantic change. The data demonstrates that relatively frequent concrete loanwords like 'shampoo' and 'veranda' are resilient to semantic change. In contrast, abstract and less frequent terms of religious or philosophical origin, such as 'karma', 'nirvana', 'yoga' underwent profound reconceptualization.

The key semantic changes identified include:

Semantic shift that could be called secularization. Sacred concepts largely lose their original religious and philosophical meaning. 'Karma' is predominantly understood in modern Russian as a mechanistic "boomerang" of punishment for misdeeds or as inescapable fate, overlapping with the Russian concept of судьба [sud'ba]. Similarly, 'nirvana' is perceived either through lens of Western pop culture (the rock band) or as a simplified state of blissful relaxation, a far cry from the Buddhist ideal of suffering cessation.

Widening and metaphorization that enabled several loanwords develop new meanings. The term 'guru' metaphorically extended to denote an expert in any field, but this extension is accompanied by a potential pejorative sense, implying a "charlatan" or "sect leader". The semantic field of 'yoga' also widened to emphasize, apart from spiritual, physical exercise and fitness, sometimes viewed skeptically as difficult.

The unification of corpus data with associative experiment results proved methodologically fruitful. While the corpus provides evidence of established usage trends, the associative experiment captures the living, often pre-lexicalized, perceptions of speakers, revealing shifts – such as the romanticized view of 'jungles' as a place of adventure – that is not yet fully reflected in written texts.

In summary, the borrowing of Indian loanwords by Russian is an example of a profound cognitive and cultural adaptation. These language units were not passively absorbed but actively reconfigured, their meanings reshaped by frequency of their use, their abstract nature, and their encounter with the dominant concepts of Russian and globalized contemporary culture. This study underscores that lexical borrowing is not merely a linguistic process but a core mechanism of cultural translation.

While this study achieved its goals, is not free from limitations, including its reliance on a single dictionary and the use of only the basic subcorpus of the NCRL for quantitative parameters. The associative experiment, while informative, involved a limited number of participants (n=135). Future research could expand the participant pool, incorporate data from other subcorpora (e.g., spoken or regional), and undertake a comparative analysis with the assimilation of Indian loanwords in other languages.

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