

Conceptual Foundations of Riddles in English and Uzbek Languages

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ABSTRACT

The article examines the conceptual foundations involved in forming, encoding and interpreting riddles in Uzbek and English. It treats riddle formation as a cognitive-linguistic process: a culturally salient target concept is concealed behind a coding image, and selected attributes, relations and evaluations are projected from a source domain onto that target. Following the IMRAD model, the study brings together descriptive, comparative, conceptual, semantic and quantitative methods. The empirical material consists of 597 English and 1,610 Uzbek riddles, with a conceptually annotated subcorpus of 213 English and 857 Uzbek units. The analysis shows that metaphor, metonymy, personification, comparison, opposition, paradox and associative contiguity are productive in both traditions. Their distribution and cultural significance, however, are not the same. Uzbek riddles give particular prominence to animals, human beings, household objects, agricultural practices, kinship, traditional clothing and ritual values. English riddles, by contrast, contain a higher concentration of artefacts, natural phenomena, literacy-related images, urban experience, and technical or digital objects. The Uzbek subcorpus maintains a relatively even balance between animate and inanimate domains, whereas the English material is distinctly artefact-centred. Colour symbolism, spatial orientation, anthropomorphic modelling, axiological oppositions and culture-specific realia all shape the inferential route from coded description to answer. The results suggest that riddles are more than verbal puzzles; they are condensed cultural models that preserve collective categorization, conventional

knowledge and historically changing patterns of attention. To account for these features, the article proposes a four-component model comprising the hidden concept, coding denotatum, diagnostic feature and culturally licensed mapping. This model helps explain both the universal similarities and the nationally specific features of riddle formation in Uzbek and English.

Keywords: Riddle, conceptualization, conceptual metaphor, metonymy, linguistic culture, cognitive model, source domain, target domain, Uzbek, English.

1. INTRODUCTION

Riddles are among the oldest and most enduring genres of verbal art. On the surface, they are often brief, playful and seemingly simple. Interpreting them, however, calls for linguistic competence, cultural memory, analogical reasoning and pragmatic inference to work together. Rather than naming an object directly, a riddle reconstructs it through a carefully selected conceptual profile. The solver has to decide which properties are literal, which are figurative, which depend on cultural convention and which have been included to mislead. Riddle discourse is therefore especially useful for studying how speakers categorize reality and how language turns shared cultural knowledge into a task of inference.

A comparative perspective makes this topic particularly relevant. Uzbek and English belong to different language families and have developed in different historical, ecological and social settings. Their riddle traditions consequently preserve universal cognitive operations alongside distinctive ethnocultural images. A comparison based only on themes or formal structure cannot fully explain why *tandir*, *do'ppi*, *palov*, *paranja* and *kelin* serve as productive coding images in Uzbek, while lighthouse, cowboy, Big Ben, calculator and digital device occur naturally in English material. The key issue is to identify the conceptual mechanisms that allow members of each linguistic community to interpret these images.

Folklore scholarship has variously described the riddle as a question-and-answer genre, a metaphorical definition, a test of intelligence, a ritualized form of speech and a special type of semantic transformation. Each description captures an important aspect of the genre, yet none fully explains the cognitive link between the concealed referent and the verbal image. Cognitive linguistics broadens this view by treating meaning not as self-contained dictionary content but as conceptualization rooted in embodied, social and cultural experience. From this standpoint, a riddle is a deliberately incomplete conceptual construction: the target is withheld, and the listener receives a source-based profile in its place.

The object of the research is the corpus of Uzbek and English riddles, while its subject is the system of conceptual relations on which their formation depends. The study aims to identify the universal and nationally specific models used to encode objects, people, phenomena and cultural practices. This aim involves several tasks: defining the conceptual structure of a riddle; identifying the main source and target domains; describing metaphorical, metonymic, comparative, oppositional and axiological mechanisms; measuring the distribution of conceptual domains in the two corpora; interpreting the role of realia, colours, archetypes and stereotypes; and developing an integrated model of riddle production and solution.

The article addresses three questions. Which conceptual mechanisms do Uzbek and English riddles share? How does the prominence of animate, artefactual, natural and cultural domains vary between the two traditions? And how do linguistic form and cultural knowledge work together to guide the solver toward the hidden concept? The study proceeds from the assumption that the underlying cognitive operations are largely universal, whereas the choice of coding image, diagnostic feature and evaluation is shaped by a community's material culture, social organization, environment and historically established system of symbols.

The study is novel in bringing a four-component structural model together with corpus-based evidence on conceptual distribution. The model distinguishes four elements: (1) the hidden concept, or answer; (2) the coding denotatum presented in

the text; (3) the diagnostic property or relation connecting them; and (4) the culturally licensed mapping that makes this connection valid. The final component is crucial. Formal resemblance alone is often not enough, since the intended association may draw on customary practice, axiological norms, mythological memory or conventional symbolism. Thus, depending on context, “white” may evoke purity and blessing in Uzbek discourse, while “black” in an English riddle may bring secrecy, danger or visual absence to the foreground.

The theoretical value of the research lies in its contribution to cognitive linguistics, linguoculturology, paremiology and comparative folklore. It shows how compact figurative texts provide access to concepts and how collective knowledge limits the range of plausible interpretations. In practical terms, the findings can be used in courses on lexicology, stylistics, cognitive semantics, intercultural communication, translation and foreign-language teaching. Riddles are useful not only for vocabulary work but also for demonstrating that lexical equivalence does not necessarily amount to conceptual or cultural equivalence.

THEORETICAL BACKGROUND

International research on riddles is closely associated with Archer Taylor’s comparative work, as well as with structural, semantic and folkloristic approaches developed in European and Russian scholarship. Taylor’s extensive collections demonstrated both the mobility of riddle types and the recurrence of analogous patterns across languages. Later structural studies placed greater emphasis on the relation between the image described in the text and the absent answer. Particularly relevant here is Volotskaya and Golovacheva’s distinction between the hidden concept, coding denotatum, property of the sought concept and coded property. Cognitive semantics allows these elements to be understood as parts of an organized mapping, rather than as a straightforward replacement of one name with another.

2. MATERIALS AND METHODS

The empirical corpus contains 597 English and 1,610 Uzbek riddles drawn from published folklore collections, scholarly studies and thematically arranged compilations. A further set of 1,054 Uzbek technical riddles was consulted to trace the renewal of imagery under technological change, although these items were not included in the percentage calculations for the main corpus. The detailed conceptual annotation covers 213 English and 857 Uzbek riddles whose answers and coding domains could be identified with sufficient confidence. Duplicate versions, direct translations and incomplete texts without a recoverable answer were left out of the analytical subcorpus.

The corpus varies in date and mode of circulation, bringing together traditional oral texts, literary records and modern popular riddles. This diversity is methodologically valuable because it makes both continuity and innovation visible. Images of livestock, bread-making implements, celestial bodies, bodily organs and kinship roles appear alongside trains, rockets, calculators, telephones and digital devices. The analysis does not assume that every recorded text is equally common in present-day speech. Its purpose is instead to examine the conceptual resources preserved in the documented traditions.

2.1. *Analytical procedure*

The analysis was carried out in five stages. First, the answer to each riddle was treated as its hidden target concept. Second, the lexical units forming the overt image were assigned to one or more source domains. Third, the diagnostic link was classified as resemblance, contiguity, functional analogy, personification, spatial relation, opposition, paradox, sound symbolism or conventional cultural association. Fourth, culturally marked elements – including realia, ritual roles, colour values, mythologemes, archetypes and social stereotypes – were recorded. Finally, the frequencies of the broad conceptual domains were calculated and compared.

Descriptive analysis identified the semantic and grammatical organization of individual texts, while conceptual analysis

reconstructed the knowledge structures activated by each riddle. Comparative analysis was used to establish parallel and divergent tendencies in Uzbek and English. Conceptual-metaphor analysis represented mappings as SOURCE DOMAIN → TARGET DOMAIN. Metonymic analysis, in turn, focused on relations within a single experiential frame, including PART FOR WHOLE, INSTRUMENT FOR ACTIVITY, CONTAINER FOR CONTENT and EFFECT FOR CAUSE. Quantitative analysis helped ensure that broader claims were not based on isolated examples.

For the frequency analysis, the riddles were grouped into seven broad conceptual categories: animal, human, mythological being, artefact, natural phenomenon, plant and cultural concept. Together, these categories cover the dominant answer domains in both corpora and provide a workable basis for comparison. The label “cultural concept” was applied to socially constructed notions, ritual roles and historically established symbolic formations that could not be reduced to material artefacts. In borderline cases, classification followed the answer’s dominant conceptual profile rather than the literal wording of the clue.

3. DISTRIBUTION OF CONCEPTUAL DOMAINS

The annotated corpora point to a clear difference in the conceptual organization of Uzbek and English riddles. Of the 213 English units, 120, or 56.34%, refer to artefacts; natural phenomena form the next largest category with 39 units, or 18.31%. Human, animal and plant domains are less prominent. The Uzbek corpus is distributed more evenly. Artefacts make up the largest single group with 242 of 857 units (28.26%), but animals follow closely with 234 units (27.30%), while human concepts account for 195 units (22.75%). Uzbek riddles are therefore considerably more animate-oriented than their English counterparts.

The animal domain shows the sharpest contrast: 27.30% in Uzbek compared with 5.63% in English. A similarly marked difference appears in the human domain, at 22.75% and 6.57% respectively. The direction is reversed for artefacts, whose share in the English corpus is more than twenty-eight percentage points

higher. Mythological beings and explicitly cultural concepts occupy similarly small proportions in both corpora, although the actual images they contain differ. The figures indicate that conceptual salience is not simply determined by the external world; it also reflects the settings in which riddles were created, selected and passed on.

Conceptual domain	English n	English %	Uzbek n	Uzbek %
Animal	12	5.63	234	27.30
Human	14	6.57	195	22.75
Mythological being	3	1.41	10	1.17
Artefact	120	56.34	242	28.26
Natural phenomenon	39	18.31	64	7.47
Plant	17	7.98	80	9.34
Cultural concept	8	3.76	32	3.73
Total	213	100.00	857	100.00

A broader thematic count points in the same direction. Animals, human body parts, plants and natural phenomena are relatively well represented in the principal Uzbek corpus, whereas artefacts, technical objects and modern devices are more visible in the English material. This contrast should not be reduced to a simple opposition between “traditional” Uzbek and “modern” English thought, since both traditions contain older and newer layers. It is more accurate to speak of different centres of gravity. Uzbek texts more often conceptualize the surrounding world through animate beings, household practices and embodied social relations; English texts more frequently encode their targets through manufactured objects, functional systems and technological analogies.

3.1. *Metonymy, comparison and personification*

Metonymy provides conceptual access within a single experiential frame, unlike metaphor, which relates different domains. A part may stand for a whole, an instrument for an activity, a container for its contents, or a visible effect for an unseen cause. In riddles, metonymy and metaphor often work together. If an eye is described as a “window,” the similarity

between an opening and visual access is metaphorical, whereas the link between seeing and the organ of sight is metonymic. When a household tool is identified through the action it habitually performs, FUNCTION FOR OBJECT becomes the decisive clue. Because these mechanisms can overlap, assigning a riddle a single stylistic label often fails to capture its full structure.

An explicit comparison makes the mapping easier to recognize. Uzbek uses lexical markers such as *kabi*, *xuddi*, *go'yo*, *yanglig'* and *o'xshar*, together with the grammatical suffixes *-dek* and *-day*. In *O'zi filday, tovushi zilday* ("It is like an elephant, its sound is like a heavy crash"), the tractor is understood through its size and acoustic force. The elephant offers a culturally familiar measure of magnitude, and the sound-symbolic expression strengthens the auditory clue. English generally uses *like* and *as*, although many English riddles omit a comparative marker and present the source identity directly. What differs is the explicitness of the comparison, not the analogical process itself.

Personification is especially common when a natural phenomenon or artefact is presented as an agent with a body, voice, intention or social role. The wind passes, water runs, a clock speaks, a book remembers and a calculator "knows" despite having no brain. By projecting a target into the familiar domain of the human body and human action, anthropomorphic language makes unfamiliar complexity easier to grasp. This process is nevertheless culturally shaped. A target may be assigned the role of a bride, ruler, servant, warrior or family member, and each of these roles carries expectations associated with a particular historical community.

3.2. *Opposition, contradiction and paradox*

Riddles often arrange their clues around antonymic contrasts: visible/invisible, alive/dead, speaking/silent, moving/still, inside/outside, high/low, hot/cold and full/empty. Such apparent contradictions postpone recognition because the solver first tries to interpret incompatible properties within a single literal frame. The puzzle becomes solvable once those properties are redistributed across different levels of meaning. A clock may "run" without

legs, a river may have a “mouth” without speaking, and a needle may have an “eye” without seeing. The paradox is not random; it is a controlled mismatch that prompts a move from literal embodiment to functional or structural analogy.

The English wordplay riddle “How can the number four be half of five?” depends on a graphological shift. In one version, “IV” becomes “half” of FIVE when the outer letters are removed; in another, the Roman-numeral reading is activated. The answer emerges by moving between numerical, alphabetic and visual systems. Uzbek riddles also exploit ambiguity, although sound imitation, syntactic inversion and culturally grounded concrete imagery are especially productive. In both languages, the riddle encourages a non-default way of construing familiar material.

3.3. *National-cultural concepts and realia*

Culture-specific realia provide some of the clearest evidence of national conceptualization. Uzbek riddles regularly draw on *tandir*, *do'ppi*, *telpak*, *paranja*, *palov*, agricultural tools, household utensils and customary spatial organization. These words do more than name objects: each activates a compact cultural frame. *Tandir* evokes rounded shape, heat, bread, domestic labour and everyday sustenance; *do'ppi* evokes shape, headwear, ornament and identity. The *to'r* of a house denotes an honoured inner space and recalls conventions of hospitality and family hierarchy. The solver therefore accesses an interconnected set of practices, not an isolated image.

The image of the *kelin*, meaning a bride or daughter-in-law, carries particular conceptual richness in Uzbek material. In *Uyning to'riga yugurib o'tar qizil oshiq*, the movement of a red object toward the honoured part of the house is interpreted through the bride frame. This frame brings together entry into a new family, continuation of lineage, modesty, respect and ritual visibility. Colour and spatial direction work jointly as clues. English riddles may feature a “prince's daughter,” a bride, cowboy, lighthouse, house-elf, Weasley sweater or Big Ben, but these images activate different cultural scripts associated with monarchy, literary fantasy, maritime experience, urban landmarks and popular culture.

Culture-specific imagery does not make cross-cultural understanding impossible, but it does change how much background knowledge interpretation requires. The function of a lighthouse can be recognized without detailed knowledge of British culture, whereas Big Ben depends on an established landmark association. In the same way, the shape of a walnut can support the *tandir* analogy, but the domestic and emotional resonance of the image is strongest for speakers familiar with a traditional Uzbek household. Translation must therefore distinguish between referential comprehensibility and conceptual equivalence.

3.4. *Colour symbolism and axiological organization*

Colour words serve both as perceptual clues and as axiological symbols. In Uzbek, *oq* (“white”) often evokes purity, blessing, good intention, clean lineage and sacredness; *qora* (“black”) may suggest darkness, hardship, secrecy or visual contrast; *qizil* (“red”) can signal beauty, ripeness, vitality, ceremonial visibility or danger. English white and black share some of these general associations but occur in different conventional combinations, while red may foreground ripeness, warning, blood, passion or institutional symbolism. A colour has no single fixed meaning in a riddle; its value depends on the target domain and the clues that accompany it.

Corpus evidence also shows that colour frequency changes from one semantic group to another. Uzbek plant riddles use green, red, white, black, yellow and variegated colours to profile stages of growth, surface appearance and internal structure. White is especially productive in riddles about natural wonders because snow, clouds, foam and light readily support perceptual comparison. English riddles about fruit and vegetables make frequent use of red, white and green. The distribution confirms that colour meaning is grounded in the environment while remaining culturally interpreted.

3.5. *Mythologemes, archetypes and stereotypes*

Mythological beings account for only a small numerical share of the annotated material – 1.41% in English and 1.17% in Uzbek –

but their qualitative importance is greater than these figures suggest. Uzbek *dev*, *jin*, *pari* and *farishta* encode strength, invisibility, danger, beauty and moral polarity. English dragon, fairy, elf, prince and princess link riddles with European folktales, legends and modern fantasy. Such mythologemes offer ready-made bundles of heightened attributes, allowing speed, scale, power or mystery to be conveyed without literal measurement.

At a deeper level, the clues are often organized by archetypal oppositions such as light/darkness, above/below, life/death, home/outside and order/chaos. Stereotypes add socially conventional expectations: the wise elder, modest bride, powerful ruler, diligent worker or dangerous beast. These patterns are not neutral. They reproduce cultural evaluations and may preserve older social models long after everyday life has changed. Analysis should therefore consider not only how a riddle is solved, but also which values and roles are reinforced in the process.

Stage	Producer's operation	Solver's reverse operation
1. Target selection	Select a culturally familiar concept	Infer the likely semantic field
2. Source selection	Choose an image with partial structural or functional fit	Identify the overt coding domain
3. Profiling	Highlight diagnostic features and suppress irrelevant ones	Test candidate answers against all clues
4. Cultural licensing	Rely on conventional symbols, practices and values	Activate shared cultural knowledge
5. Verbal encoding	Use metaphor, metonymy, comparison, paradox, rhythm or inversion	Resolve ambiguity and reconstruct the intended mapping

The model also accounts for the fact that a single target can generate several different riddles. Depending on the culturally available source image and the property selected for emphasis, a walnut may be understood as a house, skull, box, tandoor or divided world. The reverse is also true: one source image can encode a number of targets. A “bird” may stand for an aeroplane,

rocket, arrow, letter or thought because flight, speed or movement through space is mapped selectively. Riddle creativity is therefore not arbitrary disguise, but a controlled reworking of established conceptual connections.

4. CONCLUSION

The comparison shows that riddle formation in Uzbek and English emerges from the interaction between broadly shared cognitive operations and culture-specific conceptual choices. In both traditions, the target is concealed and presented through an alternative construal involving metaphor, metonymy, personification, comparison, opposition, paradox, sound symbolism or association. Each mechanism selects only part of what is known about the target. The hearer solves the riddle by reconstructing the intended mapping and checking every diagnostic clue against the relevant cultural frame.

The first important result concerns distribution. In the annotated English corpus, artefacts are dominant, accounting for 56.34% of the answers. The Uzbek corpus is more evenly distributed: artefacts represent 28.26%, animals 27.30% and human concepts 22.75%. This difference reflects corpus history and cultural salience rather than two mutually exclusive worldviews. Uzbek material gives greater prominence to animate beings, bodily experience, domestic life, agriculture and kinship. English material places more emphasis on manufactured objects, functional systems, literacy, urban experience and technology.

A second result is the importance of national-cultural frames. Uzbek realia – including *tandir*, *do'ppi*, *palov*, *paranja* and the honoured *to'r* of the house – activate dense networks of material practice and social value. *Kelin* combines spatial movement with ritual transition, modesty, continuity of the family and respect. English images such as lighthouse, cowboy, Big Ben, prince's daughter and modern digital devices draw on maritime, urban, historical, literary and technological frames. Such examples show why the imagery of a riddle cannot always be interpreted from dictionary meaning alone.

Third, evaluation is organized through colours, mythologemes, archetypes and stereotypes. White, black, red, green and yellow operate at once as perceptual features and culturally mediated symbols. Dev, jin, pari, dragon, elf and princess supply conventional clusters of attributes. Archetypal contrasts such as light/dark, high/low and life/death structure the field of clues, while social stereotypes preserve historically established roles. In this sense, riddles serve as small but concentrated repositories of axiological knowledge.

The fourth result is methodological. The four-component model proposed here – hidden concept, coding denotatum, diagnostic feature and culturally licensed mapping – provides a coherent basis for comparison. It develops structural accounts by explaining why the inferential relation between an image and its answer is valid. It also separates thematic classification from conceptual mapping. A target may belong to the technological domain while its source image comes from the animal world, as in the common schema TECHNICAL DEVICE IS A LIVING BEING.

The fifth result relates to historical change. Technological development does not displace traditional riddle mechanisms. Instead, unfamiliar objects are absorbed through established embodied schemas: rockets become birds, trains become serpents, calculators become minds, and digital systems become containers or forms of memory. Once technical concepts are familiar enough, they can themselves operate as source domains. Riddle tradition is therefore relatively conservative in its cognitive mechanisms while remaining innovative in its vocabulary and cultural content.

The study also has limitations. The corpora differ in size, date, editorial history and in their representation of oral, printed and online material. The frequencies reported here should therefore be read as tendencies within the datasets examined. Future research would benefit from balanced diachronic corpora, separate annotation of source and target domains, tests of inter-annotator agreement, and closer attention to regional, age-related and gender-related variation. Experimental studies could also

examine which clues speakers recognize first and whether cultural familiarity changes the time needed to reach an answer.

Overall, Uzbek and English riddles reveal conceptualization to be both shared and culturally situated. People draw on similar capacities for analogy, categorization and inference, yet communities select different images through which the world becomes memorable. A riddle condenses a cultural model into a few words: it withholds a name, highlights a relation, activates a frame and invites the listener to reconstruct a culturally meaningful view of reality.

REFERENCES

1. Barcelona, A. (Ed.) 2000. *Metaphor and Metonymy at the Crossroads: A Cognitive Perspective*. Berlin: Mouton de Gruyter.
2. Dundes, A. (Ed.) 1965. *The Study of Folklore*. Englewood Cliffs, NJ: Prentice-Hall.
3. Evans, V. & Green, M. 2006. *Cognitive Linguistics: An Introduction*. Edinburgh: Edinburgh University Press.
4. Geeraerts, D. 2010. *Theories of Lexical Semantics*. Oxford: Oxford University Press.
5. Husainova, Z. 1966. *O'zbek topishmoqlari* [Uzbek Riddles]. Tashkent: Fan.
6. Kaivola-Bregenhøj, A. 2001. *Riddles: Perspectives on the Use, Function and Change in a Folklore Genre*. Helsinki: Finnish Literature Society.
7. Kövecses, Z. 2010. *Metaphor: A Practical Introduction*. 2nd ed. Oxford: Oxford University Press.
8. Kövecses, Z. 2020. *Extended Conceptual Metaphor Theory*. Cambridge: Cambridge University Press.
9. Lakoff, G. 1987. *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind*. Chicago: University of Chicago Press.
10. Lakoff, G. & Johnson, M. 1980. *Metaphors We Live By*. Chicago: University of Chicago Press.
11. Langacker, R. W. 1987. *Foundations of Cognitive Grammar. Vol. 1: Theoretical Prerequisites*. Stanford, CA: Stanford University Press.
12. Langacker, R. W. 2008. *Cognitive Grammar: A Basic Introduction*. Oxford: Oxford University Press.

13. Panther, K.-U. & Radden, G. (Eds.) 1999. *Metonymy in Language and Thought*. Amsterdam: John Benjamins.
14. Panther, K.-U. & Thornburg, L. L. 2003. Introduction: On the nature of conceptual metonymy. In K.-U. Panther & L. L. Thornburg (Eds.), *Metonymy and Pragmatic Inferencing* (pp. 1-20). Amsterdam: John Benjamins.
15. Radden, G. & Kövecses, Z. 1999. Towards a theory of metonymy. In K.-U. Panther & G. Radden (Eds.), *Metonymy in Language and Thought* (pp. 17-59). Amsterdam: John Benjamins.
16. Taylor, A. 1943. The riddle. *California Folklore Quarterly*, 2/2, 129-147.
17. Taylor, A. 1951. *English Riddles from Oral Tradition*. Berkeley and Los Angeles: University of California Press.
18. Turner, M. 1996. *The Literary Mind*. Oxford: Oxford University Press.
19. Vinay, J.-P. & Darbelnet, J. 1995. *Comparative Stylistics of French and English: A Methodology for Translation*. Trans. J. C. Sager & M.-J. Hamel. Amsterdam: John Benjamins. (Original work published 1958).
20. Абдуллаев, Ж. Х. 1994. Ўзбек халқ топишмоқларининг лексик-семантик хусусиятлари [Lexical-semantic features of Uzbek folk riddles]. Candidate dissertation, Tashkent.
21. Жўраева, М. 2017. Ўзбек халқ топишмоқларининг генезиси [The genesis of Uzbek folk riddles]. PhD dissertation, Tashkent.
22. Митрофанова, В. В. 1978. Русские народные загадки [Russian Folk Riddles]. Leningrad: Nauka.
23. Волоцкая, З. М. & Головачева, А. В. 1995. Языковая картина мира и картина мира в текстах загадок [The linguistic worldview and the worldview in riddle texts]. In *Малые формы фольклора*. Moscow.

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