

PREFIXATION AND ITS RELATIONSHIP WITH OTHER WORD-FORMATION PROCESSES: A CONTRASTIVE STUDY OF ENGLISH, RUSSIAN AND UZBEK

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Abstract. This article examines the position of prefixation within the system of word-formation and the boundaries that separate it from suffixation, compounding, conversion, parasynthesis and shortening-based processes. The study is contrastive. English supplies the primary data; Russian and Uzbek supply typological control at the two poles of a scale, since Russian prefixation is highly productive while Uzbek has no inherited prefixes at all. Four diagnostics are applied at every boundary: linear position, category-changing capacity, phonological integration and productivity. The analysis shows that prefixation is not a discrete category but the stable end point of a diachronic cline that starts with free lexical items and passes through an intermediate prefixoid stage. The Uzbek evidence is decisive on this point: every element described as a prefix in Uzbek grammars (be-, no-, ser-, ba-, ham-) entered the language through contact with Persian, and later through Russian, and only afterwards began to attach to native stems. A second finding concerns division of labour. Where a language possesses both a prefixal and a suffixal exponent of one function, the two do not remain synonymous; Uzbek *bepul* and *pulsiz*, both formed on *pul* 'money', have specialised in opposite directions. The article concludes that a gradient model with weighted criteria describes the data better than a binary affix versus non-affix opposition, and it notes the consequences of this conclusion for dictionary practice and for teaching English word-formation to Uzbek-speaking learners.

Keywords: Prefixation, word-formation, derivational morphology, prefixoid, parasynthesis, grammaticalization, contrastive linguistics, Uzbek, Russian, English.

1. Introduction

Word-formation is the part of grammar that accounts for how a language builds new lexemes out of material it already has. Standard handbooks divide the field into affixation, compounding, conversion and a residue of minor processes such as blending, clipping and acronym formation (Bauer, 1983; Plag, 2003). Prefixation sits uneasily inside this division.

The discomfort has three sources. First, prefixes behave less like affixes than suffixes do: in English they rarely change the word class of the base, rarely shift stress, and rarely disturb the phonological shape of the stem. Second, the class of prefixes has no clear lower boundary, because free words drift into it continuously; English *over*, *out*, *self* and *half* are simultaneously words and word-formatives. Third, prefixation seldom operates alone. In *encourage*, *unlockable* and Russian *podokonnik* it is bound up with suffixation in ways that resist a simple linear analysis.

These three difficulties define the research questions of the present article. (i) Which properties distinguish prefixation from suffixation, and are they language-specific or general? (ii) Where does the boundary between a prefix and the first member of a compound actually

lie, and can it be drawn categorically? (iii) How does prefixation interact with conversion, parasynthesis and shortening, and what does that interaction reveal about the architecture of word-formation?

The contrastive design is not decorative. English, Russian and Uzbek occupy three different points on a scale of prefixal density. Russian verbal morphology is saturated with prefixes and uses them for aspect as well as for lexical derivation. English uses prefixation productively but almost exclusively for semantic modification. Uzbek, an agglutinative language, has no prefixes of Turkic origin whatsoever and has acquired its entire prefix inventory by borrowing. Comparing the three makes it possible to separate what belongs to prefixation as such from what belongs to a particular language.

2. Theoretical background

Marchand (1969) established the descriptive framework still used today. He treated word-formation as the study of syntagmas whose members stand in a determinant-determinatum relation, and he separated expansion, in which the determinatum is a free morpheme, from derivation proper, in which it is bound. On that criterion prefixed words such as *rewrite* pattern with expansions rather than with suffixed derivatives, because *write* remains the head. This is the earliest systematic statement of the intuition that prefixation is structurally closer to compounding than suffixation is.

Aronoff (1976) shifted attention from morphemes to word-formation rules operating on existing words, and introduced blocking, the suppression of a possible derivative by an established synonym. Blocking is directly relevant here, because prefixal and suffixal exponents of one function compete for the same slot. The absence of English **impossible* alongside *impossible* is a blocking effect within prefixation itself.

Bauer (1983) provided the classification of processes that most later work assumes, and drew attention to neoclassical formations such as *biology*, in which both elements are bound and neither compounding nor affixation applies cleanly. Plag (2003) added a quantitative dimension by measuring productivity through hapax legomena in corpora, which turns questions about the openness of the prefix class into empirical questions.

Lieber (2004) modelled the semantics of affixation through a small set of features shared by lexical items and affixes alike, which predicts that the semantic distance between a preposition and the corresponding prefix should be small. Hamawand (2009) applied cognitive semantics to English negative prefixes and showed that *un-*, *in-*, *dis-*, *non-* and *a-* are not free variants but occupy distinct conceptual domains. Booij (2010) reframed the whole area in terms of constructions, treating an affix as an abstract schema rather than a stored piece; this framework tolerates gradience by design and is therefore well suited to the prefix-compound boundary.

Haspelmath and Sims (2010) summarise the typological background, including the well-documented suffixing preference: across the languages of the world, suffixes are considerably more frequent than prefixes, and languages with exclusively suffixal morphology are common while languages with exclusively prefixal morphology are rare. Uzbek belongs to the first type. Hojiyev (1989) describes Uzbek word-formation in detail and treats *be-*, *no-*, *ser-*, *ba-* and *ham-* as prefixes while acknowledging their foreign origin; other Uzbek grammarians classify the same elements as bound first components of compounds, and that disagreement is itself evidence of gradience. Zenskaya (1973) remains the standard account of Russian derivation

and documents the prefix-preposition connection and the aspectual role of Russian verbal prefixes.

3. Materials and methods

The study is descriptive and contrastive rather than experimental. The English data consist of established prefixed lexemes drawn from dictionaries and from the standard literature cited above, supplemented by recent formations with productive prefixes. The Russian data are taken from Zemskaya (1973) and from ordinary standard usage. The Uzbek data are taken from Hojiyev (1989) and from current standard Uzbek.

Four diagnostics are applied at each boundary. Position asks whether the element is fixed to the left of the base. Category-changing capacity asks whether the process alters the word class of the base. Phonological integration asks whether the element is treated as part of one prosodic word with the base, tested by stress placement and by segmental alternation. Productivity asks whether the pattern applies to new bases.

Each diagnostic is treated as scalar, not binary. An element scoring high on all four is a prototypical prefix; an element scoring high on position but low on integration and bleaching is a compound member; intermediate scores identify prefixoids. This design follows directly from the constructionist assumption that morphological categories are schemas with graded membership (Booij, 2010).

4. The defining properties of prefixation

4.1 Position and headedness

Prefixation attaches a bound morpheme to the left edge of a base. In right-headed languages such as English and Uzbek this position is structurally weak, because the head of the derivative is the base itself. The consequence is immediate and observable: the prefixed word normally inherits its word class from the base. Rewrite is a verb because write is; unhappy is an adjective because happy is.

4.2 Category-changing capacity

English suffixation is overwhelmingly category-changing. The suffix -ness makes nouns from adjectives, -ise makes verbs from nouns and adjectives, -able makes adjectives from verbs. English prefixation is overwhelmingly category-preserving, and this asymmetry is the single most reliable difference between the two processes.

The exceptions are few and mostly unproductive. En- forms verbs from nouns and adjectives in enslave, endanger, enlarge and encase. Be- does the same in befriend and becalm. De- forms privative verbs from nouns in debug, defrost and delouse. Out- forms transitive verbs and adds an argument in outrun and outnumber, so it changes valency rather than class.

- (1) write (V) > rewrite (V) — category preserved
- (2) happy (A) > unhappy (A) — category preserved
- (3) danger (N) > endanger (V) — category changed, unproductive pattern
- (4) happy (A) > happiness (N) — suffixation, category changed, productive

Russian behaves similarly. Verbal prefixes such as pere-, za-, pod- and na- attach to verbs and yield verbs. Nominal prefixes such as sverkh- and anti- attach to nouns and yield nouns. Uzbek borrowed prefixes are also category-preserving in most cases: no- attaches to adjectives and yields adjectives, as in to'g'ri 'correct' > noto'g'ri 'incorrect'. Be- and ser- are the systematic

exception, since they derive adjectives from nouns: pul 'money' > bepul 'free of charge', suv 'water' > sersuv 'abounding in water'.

4.3 Phonological integration

English suffixes are integrated into the prosodic word and frequently move primary stress. English prefixes add a secondary stress of their own and leave the stress of the base where it was. The minimal comparison is instructive.

(5) national > international — primary stress stays on the same syllable of the base

(6) national > nationality — primary stress moves to the pre-suffixal syllable

Segmental alternation points the same way. Suffixes trigger alternations inside the base: electric with final /k/ becomes electricity with /s/, and decide becomes decision. Prefixes leave the base untouched and instead alternate themselves: in- surfaces as im- before labials in impossible, as il- before /l/ in illegal, and as ir- before /r/ in irregular. The direction of assimilation is reversed, which shows that the prefix is the weaker element in the phonological union.

4.4 Productivity

Prefixes differ sharply among themselves in productivity, so the class is not homogeneous. English un-, non-, re-, anti-, over-, pre- and post- combine freely with new bases; en- and be- do not, and no new verbs in be- have entered general English use in modern times. In Uzbek, ser- and be- are now fully productive with native Turkic stems, which is the strongest available evidence that they have been integrated rather than merely borrowed: sershovqin 'noisy' from shovqin 'noise' and serqatnov 'busy with traffic' from qatnov 'traffic' are formed on inherited material with a Persian formative.

5. Prefixation and suffixation

The two affixal processes are usually presented as mirror images differing only in linear position. The evidence assembled in section 4 shows that the difference is functional as well as positional. Suffixation is the primary means of recategorisation; prefixation is the primary means of semantic modification. In terms of Marchand's (1969) framework, the prefix is a determinant added to a determinatum that keeps its status; the suffix is itself the determinatum.

This functional split predicts that the two processes will not normally compete, and in English they largely do not. Where competition does arise, it produces semantic specialisation rather than free variation. The clearest cases are found in Uzbek, because the language inherited a suffixal exponent and borrowed a prefixal exponent of the same privative meaning.

(7) pul 'money' + -siz > pulsiz 'penniless, having no money'

(8) be- + pul 'money' > bepul 'free of charge, requiring no payment'

(9) vatan 'homeland' + -dosh > vatandosh 'compatriot'

(10) ham- + vatan 'homeland' > hamvatan 'compatriot'

Pairs (7) and (8) are built on one root with one general meaning, absence of money, and have divided the semantic space between them; pulsiz describes a person, bepul describes a service. Pairs (9) and (10) have not divided it and remain near-synonyms, with the suffixal form the more frequent in current usage. The comparison suggests that specialisation is the usual outcome of competition but not an automatic one.

Typologically the suffixing preference is robust (Haspelmath & Sims, 2010). Uzbek illustrates its extreme form. Native Uzbek word-formation is exclusively suffixal: -chi in ishchi

'worker' from ish 'work', -lik in yaxshilik 'goodness' from yaxshi 'good', -dosh in sinfdosh 'classmate' from sinf 'class', -zor in gulzor 'flower garden' from gul 'flower'. Not one prefix in the language is of Turkic origin. That fact converts the question of what a prefix is into a question about language contact, which is the subject of the next section.

6. Prefixation and compounding

6.1 The cline

The hardest boundary in this area is the one between a prefix and the first member of a compound. The difficulty is not a defect of the descriptive apparatus; it reflects the historical fact that prefixes are former words. The path runs from free lexical item through bound first component and prefixoid to prefix, and each stage is attested synchronically in some language.

English over is a preposition in over the hill, a compound member in overcoat, and a prefix in overestimate, where its spatial meaning has been replaced by an intensifying one. Out has the same three uses. Self is bound in modern English but was once free. Mini-, mega-, cyber-, eco-, bio- and e- are all elements whose status is disputed precisely because they are in transit along this cline.

6.2 Diagnostics

Table 1 sets out the four diagnostics against the three stages. No single row separates the categories; the combination does.

Table 1. Diagnostics for the compound-member / prefixoid / prefix cline

Diagnostic	Compound member	Prefixoid	Prefix
Occurs as a free word	yes (over the hill)	yes, but marginal (mini)	no (un-, dis-)
Semantic bleaching	none	partial (mega-sale)	complete (re-write)
Stress	primary on both parts	variable	secondary only
Openness of class	open	semi-open	closed
Attaches to new bases	unrestricted	restricted by domain	restricted by class

Neoclassical formations resist the table entirely. In biology, geology and thermometer both elements are bound and neither can be identified as the base by the criterion of freedom. Bauer (1983) treats these as a distinct type, and the treatment is justified: a category defined by the boundness of one element cannot classify a form in which both are bound.

6.3 The Uzbek evidence

Uzbek shows the cline in a compressed and unusually visible form, because the source of every prefix is known. Ham- is transparently related to the free Uzbek word ham 'also, too', itself of Persian origin, and forms hamkasb 'colleague' from kasb 'profession', hamfikir 'like-minded' from fikr 'thought' and hamshahar 'fellow townsman' from shahar 'city'. Whether hamkasb is a compound or a prefixed derivative cannot be decided by inspection, and Uzbek grammars disagree.

Be-, no-, ba- and ser- have no free counterparts in Uzbek and therefore score as prefixes on the freedom criterion, but they arrived with borrowed Persian vocabulary as unanalysable parts of whole words such as bexabar 'unaware' and norozi 'dissatisfied'. Only later were they extracted by speakers and extended to native stems. The sequence borrowing, reanalysis, extension is the standard route by which a language without prefixation acquires it, and Uzbek documents every step.

7. Prefixation and conversion

Conversion changes the word class of a base without any overt exponent, as in bottle (N) > to bottle (V). Since English prefixation is normally category-preserving, the two processes appear not to compete. The appearance is misleading, because the small set of category-changing prefixes occupies exactly the territory where conversion is available.

(11) slave (N) > to enslave (V) — prefixation

(12) bottle (N) > to bottle (V) — conversion

(13) bug (N) > to debug (V) — prefixation, privative meaning

The division of labour is semantic. Conversion produces a verb whose meaning must be inferred from the noun and the context, and it cannot mark a specific relation. Prefixation supplies the relation explicitly: de- means removal, en- means causation or enclosure, out- means surpassing. Where the intended meaning is privative, conversion is unavailable, which is why to bug and to debug are not opposites.

Blocking operates across the two processes. The existence of an established converted verb reduces the likelihood of a prefixed synonym, and the reverse also holds. This is the behaviour Aronoff (1976) predicted for competing rules, and it supports the view that prefixation and conversion belong to a single system of verb formation rather than to separate compartments.

Uzbek has no conversion of the English type, because word class is signalled by suffixes and by syntactic position, and Russian likewise relies on suffixation for recategorisation. The interaction described in this section is therefore specific to languages with poor inflectional marking, which confirms that not every relation among word-formation processes is universal.

8. Prefixation and parasynthesis

Parasynthesis is the simultaneous addition of a prefix and a suffix where neither intermediate form exists. It is the clearest demonstration that prefixation is not always an independent operation applied to a ready-made word.

(14) Russian: okno 'window' > podokonnik 'windowsill'; neither *podokno nor *okonnik exists

(15) English: spectacles > bespectacled; *bespectacle does not exist

In (14) the prefix and the suffix are added in one step and jointly express a relation that neither expresses alone. Zemskaya (1973) treats such formations as a separate derivational type in Russian, and the treatment is necessary, because a strictly binary analysis would require a non-existent intermediate stage.

A related phenomenon is the bracketing paradox, in which morphological and semantic constituency diverge.

(16) unhappier: morphologically [[un-happy]-er], semantically 'more unhappy'

(17) unlockable: [un-[lock-able]] 'not lockable' or [[un-lock]-able] 'able to be unlocked'

Example (16) is a paradox because the comparative suffix -er normally rejects trisyllabic adjectives, yet unhappier is well formed; the suffix appears to attach to happy while the prefix takes scope over the whole. Example (17) is genuinely ambiguous, and the ambiguity is structural rather than lexical. Both cases show that prefixation and suffixation apply to the same representation and can be ordered in more than one way, which no purely linear model captures.

Uzbek has no circumfixation, but it stacks a borrowed prefix and a native suffix in a fixed order: farq 'difference' > befarq 'indifferent' > befarqlik 'indifference'. Both intermediate steps exist, so this is ordinary stacking rather than parasynthesis. The contrast is useful, because it shows that the availability of parasynthesis depends on the depth of a language's prefixation history.

9. Prefixation and shortening-based processes

Blending, clipping and abbreviation are usually classified as minor and irregular processes standing apart from affixation. They are in fact one of the principal sources of new prefixes, and the connection is best seen in the behaviour of splinters.

A splinter is a fragment left after clipping which then recurs in new formations. Cybernetics yielded cyber-, which now attaches freely in cybersecurity and cybercrime. Electronic yielded e-, which attaches in e-commerce and e-government. Documentary yielded docu- in docudrama, information yielded info- in infotainment, and the proper name Frankenstein yielded franken- in frankenfood.

The trajectory is regular: clipping produces a fragment, repeated use in blends fixes its meaning, and fixed meaning plus fixed position produces a formative indistinguishable from a prefix by any of the four diagnostics. The same path can end at the right edge, as English -gate did after Watergate. Prefixation is therefore an outcome of the system rather than an isolated module within it, and the boundary between major and minor word-formation processes is diachronic rather than structural.

10. Prefixation and the derivation-inflection boundary

Russian supplies the last and most difficult interaction. Adding a prefix to a Russian imperfective verb normally makes it perfective, so the prefix carries a grammatical category, which is the mark of inflection. It usually changes the lexical meaning at the same time, which is the mark of derivation.

(18) pisat' 'to write' (impf.) > napisat' 'to write' (pf.) — aspect only

(19) pisat' > perepisat' 'to rewrite' (pf.) — aspect and lexical meaning

(20) pisat' > podpisat' 'to sign' (pf.) — aspect and a new lexeme

In (18) na- does nothing but change aspect and the result is not a new lexeme. In (20) pod- creates a verb that no dictionary would list under pisat'. The same formal operation therefore performs an inflectional function in one case and a derivational one in another, and the two functions cannot be separated by any formal test.

Haspelmath and Sims (2010) present the derivation-inflection distinction as scalar for exactly this kind of reason. Russian prefixation is the clearest case in which a single process straddles the divide, and it strengthens the general conclusion of this article: the categories used to describe word-formation are prototypes with graded membership, not partitions.

11. Results and discussion

Four results follow from the analysis. First, the difference between prefixation and suffixation in English is functional rather than merely positional: suffixation recategorises, prefixation modifies, and the phonological facts of stress and allomorphy follow from that division. Second, the boundary between prefixation and compounding is a cline, and the position of any given element on it is a historical fact about that element rather than a property of the language's grammar.

Third, prefixation is not an autonomous module. It interacts with conversion through blocking, with suffixation through parasynthesis and bracketing paradoxes, and with clipping and blending through the splinter-to-prefix route. Fourth, the boundary between derivation and inflection is permeable at exactly the point where prefixation carries a grammatical category, as Russian aspect does.

Taken together these results favour a gradient model. Prefixhood should be measured on the four diagnostics of section 3 rather than asserted, and elements should be described by their scores rather than assigned to a box. The constructionist framework of Booij (2010) accommodates this directly, since a construction is a schema that admits degrees of entrenchment.

Two applied consequences deserve mention. In lexicography, the cline explains why dictionaries are inconsistent about giving separate entries to elements such as cyber- and mini-; a scored description would make the treatment principled. In language teaching, the Uzbek case predicts a specific difficulty: learners whose first language has no inherited prefixation may under-analyse English prefixed words and store forms such as unemployment as unanalysed units, losing the productive advantage that prefix recognition gives. This prediction is a hypothesis, since no learner data were collected for the present study, and testing it would require an error analysis of Uzbek-medium classrooms.

12. Conclusion

Prefixation cannot be defined by position alone. Its relationship with suffixation is one of functional complementarity, with compounding one of historical continuity, with conversion one of competition and blocking, with suffixation again one of simultaneous application in parasynthesis, and with clipping and blending one of source and product.

The Uzbek data carry particular weight because the language began with no prefixes at all. Every stage of the acquisition of prefixation is visible there: borrowing of whole words such as *bexabar*, reanalysis of the initial element, and extension to native stems in *sershovqin* and *serqatnov*. A language can therefore acquire a word-formation process from outside, and the process it acquires arrives at the end of a cline whose earlier stages it never passed through internally.

The general conclusion is that word-formation processes are prototypes, not partitions. Descriptive practice should record where an element stands on the relevant scales instead of forcing it into a category, and comparative work on languages with different prefixal histories is the most efficient way to establish what those scales are.

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