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# On the influence of creativity upon the formation of complex words

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Despite extensive morphological research into complex-word formation in recent decades and despite its obvious relevance, language-users' creativity, as a psychological variable, has not been studied as a word-formation factor yet. This paper aims to fill this gap and to address how language users of unequal creativity characteristics coin new complex words.

The paper reviews basic theoretical principles, describes the method and presents some of the preliminary results. The sample consisted of 309 undergraduate students (61% were females). The study itself consisted of two stages, Creativity stage, and Word formation stage.

I) In the first stage, the informants undertook the creativity assessment. Widely used test, Torrance Test of Creative Thinking (TTCT), figural form, was used (e.g. Kim, 2006, 2017). In TTCT, the informants are asked to draw or complete pictures and name them in three tasks. Based on their creations, five indicators are analyzed: originality, fluency, flexibility, elaboration, as well as additional category, creative strengths. Specifically, originality indicates the deviation of the answer from the norm (how special the answer is); fluency reflects the number of relevant answers (how many products are created); flexibility reflects the ability of the informant to switch between different categories (how different the products are); and elaboration reflects the number of details included in an answer (how elaborated the product is). Additionally, creative strengths represent specific category reflecting 13 aspects, such as emotional expressiveness, humour, or the richness of imagery.

II) In the second phase, the respondents were tested for the formation of potential complex words based on a word-formation experiment consisting of three sets of tasks aiming at the formalization of the category Agents:

- a) multiple choice from among applicable word-formation rules
- b) naming based on a description of a person's unusual activity; and
- c) naming based on drawings of people in unusual situations.

The above ultimately targets the resolution of competition in natural languages (e.g. Aronoff 2013, Lindsay & Aronoff 2013, Mac Whinney et al. 2014, Štekauer 2017). In word-formation, it manifests itself as, inter alia, competition between various naming strategies reflecting the conflict between economy of expression and semantic transparency. Unlike Dressler (2005) or Libben (2014: 19) who lay emphasis on the semantic correspondence of the meaning of constituents of a complex word to the original free word counterparts, we view semantic transparency as a degree to which the constituents of a new complex word enable a language user to predict its meaning, as in the following example:

i) novel writer is semantically transparent because it predicts the meaning as 'an Agent who performs an Action the Result of which is a novel', but its form is not economical;

ii) a different potential word denoting the same object of extra-linguistic reality, novelist, is more economical but, at the same time, less transparent, because it may mean, for example, 'an Agent who performs an Action of writing/reading/stealing/selling/buying/collecting/.... books', where book may be either the Result of Action or an Object of Action.

iii) another option of naming the same object is writer, once again more economical than the first option but less transparent. Here the Result of Action may be not only a book but also a letter, a poem, a newspaper article, an essay, and many other things;

iv) Finally, the most economical and the least transparent option is the noun write (converted from to write). This option offers dozens of possible interpretations. The preference for any of these options reflects a language user's naming strategy, i.e. the preference for a more transparent or a more economical naming strategy.

While this preference can be affected by various factors, both linguistic and extra-linguistic (e.g. the productivity of word-formation rules, fashionable trends in word-formation; age, education, language background, etc.), main aim here is to examine the relationship between economy, transparency and creativity, as psychological factor captured by various indicators of Torrance Test of Creative Thinking mentioned above.

Regarding word formation tasks, each novel complex word was evaluated by means of an onomasiological type (OT). An OT results from the interaction between the onomasiological structure and its morphological representation. As such, it reflects the competition between the tendency towards semantic transparency and the tendency towards the economy of expression. Next, based on OT, ordinal level variable capturing the general level of transparency and economy across all three tasks was calculated. For this, median as a specific measure of central tendency in the sample data was used. For instance, across all three tasks (and/or in task one, two, or three separately), the participant could prefer a higher or lower degree of economy of expressions.

Regarding creativity, scores for originality, fluency, flexibility, elaboration, and creative strengths were computed. Scores were computed as a sum of the points that each informant gained in tasks (for instance, each additional detail in the picture that participant draw is evaluated by 1 point, thus, the picture with more details has a higher score in elaboration). Based on this scoring system, in TTCT, the participant could produce more or less numerous (fluency), unique (creativity), diverse (flexibility), and elaborated (elaboration) creative products.

The preliminary exploratory results indicated that creativity was related to word-formation. As indicated by Spearman's Rank-Order Correlation coefficient, it was shown, for instance, that economy, but not transparency was related to originality, elaboration and creative strengths. Specifically, the more original the informant was and the more the product was elaborated and more creative strengths were used (e.g. humour, emotional expressiveness or colourfulness of imagery and fantasy), the less economical a new complex word. Despite some inherent limitations, this pattern of results indicates that psychological factors, such as creativity, could play some role in word formation and encourages for future investigation.

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