Non-conventional figurative language as aesthetics of everyday communication

Abstract

This study focuses on the emotional aesthetic appreciation of figurative language, a dimension which has often been neglected in experimental psycholinguistics. Our goal was to demonstrate that non-conventional figurative utterances are evaluated as more aesthetically pleasing although they are cognitively more demanding than conventional rhetoric figures. This hypothesis was tested for three main types of figurative language (metaphors, irony and idioms) in three separate surveys. Participants assessed utterances by means of a questionnaire which comprised several semantic differential items. The postulated covariation of non-conventionality and cognitive effort as well as of non-conventionality and aesthetics could be clearly established for metaphors and for irony. For idioms we could only partially provide this evidence. However, in a combined sample for all figurative language forms (compiled from the three studies) the main hypothesis was again confirmed. Thus, the results demonstrate that non-conventional variants of figurative language must be considered as the core of figurative aesthetics. Furthermore, our exploratory data gave evidence of an aesthetic paradox: the cognitive costs of understanding conventional figurative language reduce aesthetic pleasure, while in the case of non-conventional rhetoric figures the enhanced cognitive effort is accompanied by an increase in aesthetic pleasure.

Keywords: figurative language; aesthetic pleasure; cognitive effort; (non-)conventionality; emotional-aesthetic appreciation; aesthetic paradox

1. Introduction

Over the last three decades, figurative language has proved to be the main battlefield between minimalist and maximalist approaches in modelling the comprehension of complex utterances. The starting point of this controversy is marked by Searle's first thesis on metaphor comprehension (Searle, 1979). According to Searle's view, metaphors and other forms of figurative language (in particular irony, but also idioms and indirect speech acts) are characterized by the collapse of (literal) sentence meaning and speakers' (non-literal) utterance meaning. Due to this complex structure, the listener must first identify the literal meaning and reject this as inappropriate in a given context before he/she infers the intended figurative meaning. This implies that the comprehension of figurative language must be more time-consuming than the comprehension of non-figurative language and that the literal meaning must always be activated before the appropriate figurative meaning can be derived. This so-called standard pragmatic model of figurative language (Grice, 1975, 1989) has been contrasted by a psycho-linguistic minimalist model, the so-called "direct access view" which postulates that figurative language is understood directly, immediately and effortlessly by aid of contextual information (without the detour via the inappropriate literal meaning; Gibbs, 1984; Sperber & Wilson, 1986; Wilson & Sperber, 2002; review: Gibbs, 1994; Giora, 2003). This controversy on the cognitive processing of figurative language has stimulated a host of experimental studies on the processing of metaphors, indirect speech-acts, idioms, metonymy, and irony using a variety of processing tasks (reading times, verification and decision times, priming tasks, eye

movement, and probe reaction times; review: Gibbs, 1994, 2002; Giora, 2002a, 2003, 2009; Katz, 1996).

The empirical evidence, however, remained inconsistent for a long time. This situation only changed when Giora (1997, 2003) offered her graded salience hypothesis, which detailed the – at present – empirically most supported solution to the controversy[1]. According to this view, the comprehension of figurative as well as non-figurative language is subject to a general salience principle. Salient (that is, frequent, familiar and conventional) utterances are processed directly, as they are coded in the mental lexicon and can be retrieved automatically. Non-salient meanings are not coded in the mental lexicon but must be constructed on the fly by additional inference. In this process, the dimension of (non-)conventionality plays the pivotal role. Conventional figurative speech acts are indeed understood directly with minimal effort; non-conventional speech acts are subject to the maximalist principle and require the initial detour via the literal meaning. Studies that comparatively investigate the processing of familiar vs. unfamiliar or conventional vs. novel figurative utterances show, for example, that non-conventional metaphors need more processing time than conventional metaphors and that the literal meaning is activated (Brisard, Frisson, & Sandra, 2001; Blasko & Connine, 1993; Giora & Fein, 1999). The same also applies to irony (Pexman, Ferretti, & Katz, 2000; Schwoebel, Dews, Winner, & Srinivas, 2000) and to idioms (Katz & Ferretti, 2001; Schweigert, 1991). Therefore, the (non-)conventionality of figurative speech acts determines whether they are processed with a large (maximal) or small (minimal) amount of cognitive effort.

[1] But also note some conflicting evidence on sarcastic utterances by Giora, Drucker, Fein, and Mendelson (2015).

Taken together, the controversy regarding the cognitive processing of figurative language can be considered as an intensively examined topic. However, since the times of classical rhetoric figurative language forms have been classified as tropes which should have an aesthetic effect. This means that questions concerning cognitive processing only provide one half of an adequate research problem; the other half comprises questions on emotional-aesthetic processing, which have been discussed to a much lesser extent than cognitive aspects and which are not yet sufficiently taken into account, either theoretically or empirically. The emotional effects of figurative language were indeed addressed by several studies in the field of advertising research, but the majority of this work did actually not deal with the aesthetic appreciation of figurative utterances, but with the (emotional) evaluation of (often visual) advertisements which include figurative verbal statements (e.g., Chang & Yen, 2013; Kronrod & Danziger, 2013; Lagerwerf & Meijers, 2008; van Enschot & Hoeken, 2015; van Mulken, Le Pair, & Forceville, 2010).

From an emotional-aesthetic processing point of view, conventional figurative language shows an extreme reduction of figurativeness and it seems unclear as to whether this can or indeed should still be classified as figurative speech (McQuarrie & Mick, 1996). In any case, non-conventionality constitutes the prototypical core of figurativeness for which emotional pleasure and attraction can be postulated as the classical reaction of the listener. Thus, the (cognitive) graded-salience theory has to be supplemented by a parallel (emotional) attraction theory for figurative language processing. In this paper we will present a first theoretical and empirical draft of a supplementary extension for the three main forms of figurative language: metaphor, irony and idioms.

The central (parallel) thesis is that non-conventional figurative language covariates more with aesthetic appreciation than conventional figurative speech acts, and that this is similar for all (three) forms of figurative language. Within the framework of this study, rhetorical figures are seen as conventional if they have, when processed without context, one salient meaning, which can directly be retrieved from the mental lexicon, i.e., if they are familiar and easy to interpret for most people. In contrast, figurative language forms are considered non-conventional, if they are novel, innovative, and not familiar, i.e., if they deviate from general language use, which provokes defamiliarization (Miall & Kuiken, 1994). Non-conventionality, however, manifests itself differently in the three main forms of figurative language. In metaphors, non-conventionality can refer to the distance of domains between topic and vehicle (domain-interaction theory by Tourangeau & Sternberg, 1982), to the familiarity of the topic-vehicle relation (Lakoff & Johnson, 1980), and to the strength of associations between vehicle and figurative meaning (Bowdle & Gentner, 2005). Hence, non-conventionality of metaphors can be defined regardless of the context. In irony, non-conventionality manifests itself in the extent of situation-independence: non-conventional ironic utterances require a richer situational context in order to understand the intended meaning than conventional ones do (Kaufer, 1981; Lapp, 1992). Idioms are, by definition, a priori conventional, because they have a stipulated figurative meaning which cannot be derived by the analysis of the meanings of their individual parts (Weinreich, 1969). They can, however, be used in contexts where not only the figurative, but also the literal meanings make sense. We will call these idioms with a double meaning (figurative and literal) non-conventional. Thus, in contrast to metaphors, the context plays an important role in defining the non-conventionality of

irony and idioms. Altogether, different forms of non-conventionality are covered in the three types of rhetoric figures: in metaphors the distance of tenor and vehicle, the familiarity of the topic-vehicle relation, the strength of associations between vehicle and figurative meaning; in irony, the situation dependence or independence of the intended meaning; in idioms, the awareness of a simple (only idiomatic) or a double (idiomatic and literal) meaning.

Initially, we have to test the thesis that non-conventionality covariates to a higher degree with aesthetic appreciation than conventionality. At the same time, we have to confirm, in form of a construct validation, that the non-conventionality of figurative speech acts does (in accordance with the graded salience hypothesis) covariate with the cognitive effort of processing.

The relationship between cognitive effort and emotional-aesthetic appreciation is, however, an open question. Broadening the perspective beyond figurative language and including more general approaches to aesthetics, three fundamental conceptualizations regarding the relation between cognitive load and aesthetic pleasure can be identified (Bohrn, Altmann, Lubrich, Menninghaus, & Jacobs, 2012; Author1): Firstly, some authors suggest a negative linear relationship between the cognitive costs of processing an object and the aesthetic appreciation of the same object. For example, Reber, Schwarz and Winkielman (2004) assume that those objects which can be most fluently processed, i.e. which feature the lowest processing demands, receive the greatest liking. The authors define beauty as “a pleasurable subjective experience that is directed toward an object and not mediated by intervening reasoning” (p. 365). In contrast, the pleasure by which the processing of figurative speech acts is typically accompanied is often assumed to come from the successful solution of a riddle (e.g., van Mulken et al.,

2010; van Mulken, van Hooft, & Nederstigt, 2014). Furthermore, recent theories of entertainment have expanded former enjoyment-oriented models by a so called "appreciation factor" in order to account for the fact that entertainment with literary texts, i.e., verbal material, also comprises processing information on deeper levels than on a purely hedonic one (Vorderer & Roth, 2011). Of course there is, as already suggested above, no direct link between entertainment with literary texts and processing of figurative language. However, figurative utterances are most likely frequent components of literary texts which might contribute to their entertaining value, and both literary texts and figurative utterances are thought of as aesthetic variants of verbal communication. Consequently, it stands to reason that aesthetic appreciation of figurative utterances involves intervening reasoning processes, which Reber et al. (2004) exclude from their definition of beauty. Thus, the assumption of a negative linear relationship between cognitive effort and aesthetic appreciation seems not to be reasonably applicable to the aesthetic appreciation of figurative language, since it only covers the direct, merely hedonic pleasure associated with non-verbal, visual and acoustic, material. The second conceptualization postulates an inverted u-shaped relationship between cognitive costs and aesthetic appreciation (Berlyne, 1974; Giora, 2002b; McQuarrie & Mick, 1996; van Mulken et al., 2014). The most preferred objects are those whose processing implies a cognitive load of medium height. The results of several empirical studies are in line with this prediction (e.g., Burgers, van Mulken, & Schellens, 2012; Giora et al., 2004). Thirdly, from the work of other researchers the assumption of a positive linear relation between cognitive effort and aesthetic appreciation can be derived (Jacobs, 2015; Miall & Kuiken, 1994; Mukařovský, 1964; Shklovsky, 1965). According to this view, the more cognitive load the processing of an

object requires, the higher its aesthetic pleasure. This position has received empirical support by several investigations (Hunt & Vipond, 1985; Miall, 1992; Miall & Kuiken, 1994; van Mulken, van Enschot-van Dijk, & Hoeken, 2005; van Peer, 1986). As already mentioned, most of these approaches do not deal with the aesthetic-emotional processing of figurative language in the narrower sense. From a conceptual perspective, the first position, assuming a negative linear relationship between cognitive effort and aesthetic appreciation, seems inappropriate to applying to figurative language as it stands in a purely hedonic tradition, whereas the remaining two positions were both confirmed by studies investigating the processing of figurative utterances and thus seem in principle to be applicable to figurative language.

To sum up, the following hypotheses and questions have to be tested in the subsequent studies:

Hypothesis 1: Non-conventionality of figurative language covariates positively with aesthetic appreciation.

Hypothesis 2: Non-conventionality of figurative language covariates positively with (perceived) cognitive effort.

Hypothesis 3: The positive covariation between non-conventionality and aesthetic appreciation, and between non-conventionality and cognitive effort, applies to all rhetorical figures (here: metaphor, irony, and idioms).

Exploratory question 1: Is the general relationship between cognitive effort and aesthetic appreciation linear positive or inverted u-shaped?

Exploratory question 2: Is there an underlying negative covariation between cognitive effort and aesthetic appreciation? Can this negative covariation become a positive one in the case of non-conventional figurative language and if so, to what extent?

As emotional-aesthetic appreciation and non-conventionality constitute an impression management, both variables have to be measured using subjective data. Although objective measures of cognitive effort exist, e.g., reading times, we decided to equally measure this variable by means of subjective data, because in this study we were rather interested in the subjectively perceived cognitive effort than it its objective level. Furthermore, in another study we have demonstrated that subjective and objective measures (reading and processing times) of the effort required to process metaphors are highly correlated (Author2). Thus, in the field of figurative language processing, the data that result from subjective measures should not diverge much from results that are achieved by the use of objective measures.

2. Study 1: Cognitive effort and aesthetic appreciation in (non-)conventional metaphors

2.1 Method

2.1.1 *Participants*

Fifty-four participants (79.6% female, mean age 26.3, SD = 9.68) volunteered in the study: 59.3% were undergraduate students enrolled in psychology courses at the University of Heidelberg, 9.2% were students from other faculties, 31.5% were non-students with a university degree in a range of subject areas. Participation in the study was voluntary; students of psychology received course credit for their participation. All participants were native German speakers.

2.1.2 *Material*

Initially, a pool of 30 conventional and 30 non-conventional metaphors was selected from everyday language as well as from poetry, in order to select appropriate metaphors for testing our hypotheses.

A metaphor was defined as conventional if it has only a figurative meaning, that is, if the figurative meaning is used as a lexicalized set unit (i.e., as an idiomatic metaphor; e.g. '*When he was reading his grandmother's diary, he suddenly saw the light'*). A metaphor was defined as non-conventional if it has a non-lexicalized figurative meaning, and if the component parts are freely compiled (not as a set unit) (e.g. '*Life is building bridges over fading rivers').* Conventional metaphors were predominantly taken from online journals and online metaphor collections. Non-conventional metaphors were also taken from online journals and from a compilation of poetic metaphors by Schumacher (1997; e.g. '*I am lying under your smile';* Else Lasker-Schüler). All of the metaphors were presented in full sentences with identifiable topic and vehicle.

2.1.3 *Rating-scales and instructions*

The (non-)conventionality of the metaphors was assessed by a set of semantic differential (SD) items. This scale contained 12 bipolar items on (non-)conventionality but also items on cognitive effort as well as aesthetic-evaluative items. Participants were asked to indicate their ratings on a 7-point scale. Examples of SD items for all three

dimensions are given below. Subjects were asked to concentrate their evaluation on the metaphorical, underlined part of each sentence.

How do you evaluate the underlined part of the following sentence?

usual	①	②	③	④	⑤	⑥	⑦	unusual
ugly	①	②	③	④	⑤	⑥	⑦	beautiful
easy								hard
to understand	①	②	③	④	⑤	⑥	⑦	to understand

To assess aesthetic appreciation, we compiled 14 items from a pleasure scale which has been used in previous studies to assess aesthetic pleasure of figurative language (Author3; Kraft, 1990). The items covered emotional-evaluative pleasure, facial expressions, and cognitive effort. Subjects were asked to indicate the extent to which they agreed with various statements on a five-point scale (from 1 = not at all to 5 = completely). Each utterance was rated on items such as “was beautiful” (emotional-evaluative pleasure), “made me smile” (facial expression), “was thought-provoking” (cognitive effort), etc. Again, subjects were asked to judge the underlined (metaphorical) part of the sentence.

2.1.4 *Procedure*

In a paper-and-pencil-task, each participant read all 60 metaphors and evaluated them on both instruments. The order of the metaphors was random. To reduce the likelihood of any sequencing effects, half of the subjects received the material in reverse order. The subjects were informed that the study was about the evaluation of isolated sentences. They were asked to read the sentences and to evaluate the underlined part of each sentence.

2.2 Results

2.2.1 *Methodological: Relation of the two scales*

Firstly, we had to clarify the dimensions underlying the pleasure scale and the set of SD items by means of factor analysis. The analysis of the pleasure scale was based on the 14 items described above for a total of 54,360 sentence evaluations. After an initial extraction of the principal components, the eigenvalue, scree test, and interpretability supported a two-factor solution. We subsequently applied an oblique rotation method (Oblimin Rotation), as we expected to see possible correlations between the dimensions.

The two factors extracted explain 70.2% of the total item variance. The results of the factor analysis are documented in appendix 1. Factor 1 refers to emotional-evaluative aspects and was named “aesthetic appreciation”, due to the high loadings of items such as “made me smile”, “apt”, “beautiful” and “pleasing”. Factor 2 represents “cognitive effort” on the basis of items such as “complex”, “surprising”, “thought-provoking” and “intellectually stimulating”.

The factor analysis of the SD questionnaire was based on the 12 items described above for a total of 38,880 sentence evaluations. After the extraction of the principal component, the eigenvalue and scree test supported a three-factor solution. The three factors explain 73.9% of the total item variance. Because of low communalities, one item (soothing – inspiring) was eliminated from further analyses. The results of the factor analysis are documented in appendix 2. Factor 1 was named “non-conventionality” because of high loadings of items such as “usual – unusual”, “seldom

– frequent" and "common – uncommon". Factor 2 is characterized by high loadings of items such as "interesting – boring", "ugly – beautiful" and "pleasant – unpleasant", and was named "aesthetic appreciation". Factor 3, comprising the items "comprehensible-incomprehensible" and "vague – clear" represents the dimension of "cognitive effort".

Thus, the factor analysis of the SD items yields two factors (aesthetic appreciation and cognitive load) which are similar to those established in the factor structure of the pleasure scale. The rank correlations between the factorial subscales are given in table 1.

TABLE 1 ABOUT HERE

The two measuring instruments were highly positively correlated regarding the subscales "aesthetic appreciation" ($\rho = .94$; $p < .01$) and "cognitive load", ($\rho = .84$; $p < .01$). This means that concerning these subscales, using both of the two questionnaires would have led to mutually redundant results. Thus, it seemed appropriate to use only one of the instruments. We decided to use only the SD questionnaire from then on because it covers all the three theoretically important aspects of (non-)conventionality, cognitive effort and aesthetic appreciation in contrast to the pleasure scale, which is restricted to the last two aspects. To test the reliability of the factorial sub-scales of the SD questionnaire, Cronbach's Alpha coefficient was calculated and yielded sufficient to high internal consistencies of the scales: non-conventionality, $\alpha = .95$, aesthetics, $\alpha = .75$ and cognitive effort, $\alpha = .95$. Consequently, it is justified to use only the SD items in our further studies.

2.2.2 *Hypothesis Testing: Relationship between (non-)conventionality, cognitive effort and aesthetic appreciation*

To test our first two hypotheses on the relationship between (non-)conventionality, cognitive effort and aesthetic appreciation, we first had to select "appropriate" metaphors, that is, metaphors that were evaluated either as very non-conventional or very conventional. To represent (non-)conventionality we used the scores of factor 1 of the SD items. The selection of (non-)conventional metaphors was done in a three-step procedure. The first selection criterion was the replication of the (overall) three-factor structure for each metaphor; only those metaphors for which confirmatory factor analysis yielded the same three-factor structure were included in the analysis. The second criterion was the mean rating score for each metaphor on the factor "(non-)conventionality". Only non-conventional metaphors with scores higher than the scale mean of 4 and conventional metaphors lower than the scale mean were selected. This second selection criterion can be regarded as a manipulation check to test if the conventional metaphors were indeed perceived as more conventional than the non-conventional metaphors. From the critical pool of 60 metaphors, 43 metaphors met the first and 60 met the second criterion, indicating that the participants fully accorded to our definition of (non-)conventionality. Closer inspection of the remaining metaphors, however, yielded a possible bottom or ceiling effect respectively. For this reason we used the Kolmogorov-Smirnov test for normal distribution as a third selection criterion: only metaphors with normally distributed (non-)conventionality ratings were included in the analysis. 22 metaphors did not meet this criterion and had to be omitted from

further analysis. Table 2 shows the rank order of those metaphors which met the three selection criteria.

TABLE 2 ABOUT HERE

To test the hypotheses, correlations between the factors "non-conventionality", "cognitive effort" and "aesthetic appreciation" and multiple regression analyses with non-conventionality and cognitive effort as predictors were performed. The results (see table 3) show a significant correlation between non-conventionality and cognitive effort ($\rho = .83$; $p < .01$), between non-conventionality and aesthetic appreciation ($\rho = .67$: $p < .01$) and between cognitive effort and aesthetic appreciation ($\rho = .49$; $p < .05$).

TABLE 3 ABOUT HERE

Consequently, hypothesis 1, which postulates a positive covariation between non-conventionality and aesthetic appreciation in figurative language, has to be accepted. The same is true for the theoretically even more important hypothesis 2, which postulates a positive covariation between non-conventionality and cognitive effort. Multiple regression analysis with non-conventionality and cognitive effort as predictors shows that non-conventionality is significantly associated with aesthetic appreciation ($\beta = 1.31$**;** $t = 2.19$; $p < .05$), whereas cognitive effort is not ($\beta = -0.69$; $t = -1.15$; ns). The explained variance of 40.3% ($R^2 = 40.3$; $F = 7.75$, $p < .01$) is satisfactorily high and suggests a systematic relation.

3. Study 2: Cognitive effort and aesthetic appreciation in (non-)conventional irony

3.1 Method

3.1.1 *Participants*

44 participants volunteered in the study (93% female, mean age 21.7, SD = 4), 42 of which were psychology students enrolled at the University of Heidelberg; two participants were employees with a university degree. Participation was voluntary. Students were reimbursed with course credits for their participation.

3.1.2 *Material*

For this study, we again compiled a pool of 30 conventional and 30 non-conventional ironic utterances from everyday language. We were partly able to draw on a large collection of ironic utterances from a previous project on the production and reception of irony (Groeben & Scheele, 1986). An ironic utterance was defined as conventional if only a few or no contextual cues are necessary to understand the ironic intent, that is, if it is listed as idiomatic irony in the lexicon. Most of the time, the ironic utterances chosen were characterized by a simple opposition between what is said and what is meant. This is illustrated by the following example: "*That's a fine mess", said mother, seeing the broken vase.* Form and function are conventionalized by frequent use (Kaufer, 1981; Lapp, 1992). In contrast, non-conventional ironic utterances normally require a much richer context to be understood. If a courtroom request to stand receives the reply "*If this will promote the discovery of truth*" from the accused, this can only be

understood as ironic if the listener knows that the context is a trial where all persons present are required to stand up when the judge enters the room and that the accused had been threatened with a prison sentence if he does not adhere to this rule.

All ironic utterances were embedded in a short situational context, which rendered the sentence meaning ironic. Care was taken to ensure that the contexts presented sufficient information to detect the ironic meaning.

Example of a situational context for conventional irony: *A son is annoyed and upset with his father. Son: "Oh, God!" Father: "Feel free to call me dad."*

Example of a situational context for non-conventional irony: *A pupil is late and offers the teacher the reason of having overslept. The teacher comments: "I have heard better excuses." From the back of the room, someone calls out: "What an alarming sign of veracity!"*

3.1.3 *Rating-scale and instruction*

The (non-)conventionality of ironic utterances was assessed by the same concept-specific set of semantic differential (SD) items which proved to be valid for the evaluation of metaphors. This scale contained 12 bipolar items on (non-)conventionality but also items on cognitive effort as well as aesthetic-evaluative items.

Participants were asked to indicate their evaluations on a 7-point rating scale. In doing so, they were asked to read the whole passage, but to concentrate their evaluation on the underlined (that is, the ironic) part of the passage.

3.1.4 *Procedure*

Each participant read and evaluated all 60 ironic passages. To control for sequence effects, conventional and non-conventional ironic passages were presented in random order. Additionally, half of the subjects received the passages in reverse order. The completion of the questionnaire took about 90 minutes.

3.2 Results

Data analysis was similar to that already described for metaphors. First, the dimensions of the SD items were clarified using factor analysis. The analysis (principal component analysis with subsequent oblique rotation) was based on the 12 items for a total of 31,680 sentence evaluations. After extraction of the principal components, the eigenvalue and scree test again supported a three-factor solution. The three factors explain 77.6% of the total item variance. Results of the factor analysis are documented in appendix 3. The distribution of item loadings on the three factors is equivalent to that found with the metaphors. Consequently, the three factors were again named "non-conventionality", "cognitive effort" and "aesthetic appreciation".

To select appropriate conventional and non-conventional ironic utterances to test the hypotheses (on the relationship between non-conventionality, cognitive effort and aesthetic appreciation), the same three step procedure as in study one was applied: (1) successful replication of the three-factor structure for each ironic utterance; (2) mean rating score on the factor (non-)conventionality, i.e. only those non-conventional ironic utterances that were rated above the scale mean and those conventional ironic utterances that were rated below the scale mean were included; (3) test for normal distribution, i.e. only those ironic utterances with normally distributed (non-)conventionality ratings

were included. From the pool of 60 ironic passages, 4 (6.67%) had to be eliminated from the dataset, because they violated the second selection criterion. Thus, participants most widely approved our definition of (non-)conventionality (cf. chapter 2.2.2). Overall, 24 ironies met all three criteria. Table 4 shows the rank order of the remaining ironic statements after the third selection step (testing for normal distribution).

TABLE 4 ABOUT HERE

In contrast to the metaphors, with a high percentage of evaluations located in the upper and lower range of the non-conventionality scale, the evaluation of ironic utterances is scattered across the midrange of the scale, i.e. they are neither judged as being extremely conventional nor extremely non-conventional. This is not entirely surprising, as the situational context had to be described in such a way that the open violation of the sincerity condition which is constitutive for irony was clearly recognizable. Consequently, the extreme case, where it remained dubious whether an utterance was intended ironically by the speaker should and could not have occurred. Consequently, only a few ironic examples had to be excluded for not corresponding to the normal distribution. In total, 24 examples of irony were included in the analysis.

As in study one, the first two hypotheses were tested by calculating correlations between the factors “non-conventionality”, “cognitive effort” and “aesthetic appreciation”, as well as a multiple regression analysis (‘enter method’) with non-conventionality and cognitive effort as predictors (cf. table 5).

TABLE 5 ABOUT HERE

The results show a significant positive correlation between non-conventionality and aesthetic appreciation ($\rho = .74$; $p < .01$), between non-conventionality and cognitive effort ($\rho = .91$; $p < .01$) and between cognitive effort and aesthetic appreciation ($\rho = .74$; $p < .01$). Consequently, hypothesis 1, which postulates a positive covariation between non-conventionality and aesthetic appreciation in figurative language, must be accepted, as must hypothesis 2, which claims a positive covariation between non-conventionality and cognitive effort. Multiple regression analyses with non-conventionality and cognitive effort as predictors again show that non-conventionality is significantly associated with aesthetic appreciation ($\beta = 0.72$; $t = 2.90$; $p < .01$), but that cognitive effort is not ($\beta = 0.07$; $t = 0.28$; ns). The high proportion of explained variance of 57% ($R^2 = .57$, $F = 16.15$, $p < .001$) suggests a stable and systematic relation.

4. Study 3: Cognitive effort and aesthetic appreciation in (non-)conventional idioms

4.1 Method

4.1.1 *Participants*

60 undergraduate psychology students from the University of Heidelberg participated in this study (80% female, mean age 21.15 years, SD= 4.82). Subjects were reimbursed with course credits for their participation. All participants were native German speakers.

4.1.2 Material

For this study, 15 conventional and 15 non-conventional idioms were compiled from everyday speech and from advertisings. According to the standard definition, idioms are utterances with a stipulated figurative meaning which cannot be derived from the meaning of their individual components (Weinreich, 1969). Idioms were defined as conventional if they are put in a context in which only the figurative meaning makes sense (*e.g. consumption of flan is recommended by the manufacturer: "Because the way to a man's heart is through his stomach."*). Idioms can, however, be put into contexts in which not only the figurative but also the literal meaning makes sense (e.g. *"to be in the same boat", "to get cold feet", "to kick the bucket"*). In this form, they are often creatively used in everyday discourse (Nerlich & Clarke, 2001), newspaper headlines (Brône & Coulson, 2010) and in advertising (Lagerwerf, 2002; Lundmark, 2006). We define these idioms with two meanings in a specific context and with deliberate ambiguity as non-conventional**.**

According to the definition, it is the context which ultimately decides whether an idiom is used conventionally or non-conventionally. In order to keep the context as constant as possible for both types of idioms, all idioms were put in an advertising context. Each idiom was introduced by a short context and was presented as an advertising slogan. To avoid any possible confusion of brand image and idiom assessment (Lagerwerf, 2002), all brand names were deleted. An English example for the type of advertising slogan (with double meaning) used in the experiment is the following for contact lenses: "*Comfort is in the eye of the beholder"*.

4.1.3 *Rating-scale and instruction*

Idioms were assessed by the same set of SD items which was applied in the metaphor and the irony studies (see above). The wording of the instructions was also comparable to the first two studies.

4.1.4 *Procedure*

Each participant read and evaluated all 30 idioms. To avoid possible sequence effects, idioms were presented in random order. Additionally, half of the subjects received the idioms in reverse order. Subjects were asked to read the whole sentences and to evaluate the underlined part of each. Completion of the questionnaire took about 30 minutes.

4.2 Results

The data analysis was similar to that already described for the metaphors and ironic utterances. Firstly, the dimensions of the SD items were clarified using factor analysis. The analysis (principal component analysis with subsequent oblique rotation) was based on the 12 items for a total of 21,600 sentence evaluations. After extraction of the principal components, the eigenvalue and scree test again supported a three-factor solution. The three factors explain 69% of the total item variance. Results of the factor analysis are documented in appendix 4. The distribution of item loadings on the three factors is equivalent to that found for metaphors and irony. Consequently, the three factors were again named “non-conventionality”, “cognitive effort” and “aesthetic appreciation”. To select appropriate idioms for testing the hypotheses (on the

relationship between non-conventionality, cognitive effort and aesthetic appreciation), the same three step procedure that was used in the first two studies was also applied: (1) successful replication of the three-factor structure for each idiom; (2) mean rating score on the factor (non-)conventionality, i.e. only those non-conventional idioms that were rated above the scale mean and those conventional idioms that were rated below the scale mean were included; (3) test for normal distribution, i.e. only those idioms with normally distributed (non-)conventionality ratings were included.

From the pool of 30 idioms, 5 non-conventional utterances (16.67%) were dropped for not meeting the second selection criterion. It could be presumed that in these cases participants failed to recognize the double grounding. But for the remaining vast majority of idioms, participants' ratings accorded to our definition of (non-)conventionality. Taken together, 17 idioms met the three selection criteria and were included in the analysis. Table 6 shows the rank order of these idioms sorted by non-conventionality.

TABLE 6 ABOUT HERE

Closer inspection of table 6 reveals that the non-conventionality ratings of idiomatic utterances are not as high as the ones seen for the two other forms of figurative language: metaphor and irony. This is a plausible result, as idiomatic non-conventionality is only achieved by adding the literal meaning to the conventional meaning, with the conventional meaning still being available. Furthermore, it can be assumed (in accordance with empirical evidence from Brône and Coulson, 2010), that in this situation of double meaning and ambiguity, it is much more demanding for

subjects to grasp the full (i.e. double meaning) of these idioms. For this reason, the variance of (non-)conventionality ratings is less pronounced than in the previous studies.

To test the hypotheses, correlations and multiple regression analyses based on the validated item pool were again carried out. The results (see table **7**) show a significant correlation between non-conventionality and cognitive effort (ρ=.86; $p < .01$).

TABLE 7 ABOUT HERE

Obviously this form of non-conventionality, based on the double meaning of idioms, is hard to detect by recipients. Thus, the construct validating hypothesis 2 on the positive covariation between non-conventionality and cognitive effort is again confirmed, but hypothesis 1 which refers to the positive covariation of non-conventionality and aesthetic appreciation does not reach significance. This may be due to the small degree of variance of (non-)conventionality ratings in this study when compared with the other two forms of figurative language. Regarding idioms, the standard deviation of non-conventionality ratings is 1.04, whereas it is 1.54 for ironies and 2.02 for metaphors. For this reason, it makes sense to include the data for idioms when testing the hypotheses and exploratory questions for all of the figurative speech forms, as a larger range of non-conventionality is covered. Furthermore, including the data for idioms implies going against our hypotheses and, if the tests prove positive, our results will gain additional validity.

5. Integration of studies 1-3: Non-conventionality, aesthetic appreciation, and cognitive effort in figurative language

5.1 Method

To test hypothesis 3, which postulates a positive covariation of non-conventionality and aesthetic appreciation, as well as of non-conventionality and cognitive effort for the three types of rhetorical figures (here: metaphor, irony, and idioms), a combined sample was compiled from studies one, two and three (participants: N = 158; 119 psychology students, 20 students from other faculties, and 19 subjects with a university or advanced college degree; female 82.9%, mean age = 23.09, SD = 7.204. Material: 21 metaphors from study 1; 24 ironic utterances from study 2; 17 idioms from study 3). For this combined sample, correlations (including partial correlations) between non-conventionality, aesthetic appreciation, and cognitive effort as well as multiple regressions with non-conventionality and cognitive effort as predictors were calculated.

To answer exploratory question 1, which asked whether the association between cognitive effort and aesthetic appreciation is linear positive or inverted u-shaped, curve fittings for linear and quadratic models were compared.

To test exploratory question 2, which should clarify whether there is a negative covariation between cognitive effort and aesthetic pleasure, and whether this covariation will change for the positive in non-conventional rhetoric utterances, a moderated multiple regression analysis was calculated, including the interaction term.

5.2 Results

Table 8 shows the correlations between non-conventionality, aesthetic appreciation and cognitive effort, as well as the regressions and the interaction between non-conventionality and cognitive effort for the combined sample.

TABLE 8 ABOUT HERE

It can be clearly seen from table 8 that hypothesis 3 is corroborated. The correlation between non-conventionality and cognitive effort ($\rho = .90$; $p < .01$), as well as the partial correlation controlling for pleasure ($\rho = .86$; $p < .01$) is significant; the same is true for the correlation between non-conventionality and aesthetic appreciation ($\rho = .67$; $p < .01$) and the partial correlation controlling for cognitive effort ($\rho = .51$; $p < .01$). Furthermore, the explained variance of 50% ($R^2 = .50$; $F = 22.79$, $p < .001$) is considerable.

Multiple regression analysis shows that both predictors (non-conventionality: $b = 1.07$, $t = 5.17$, $p < .01$; cognitive effort: $b = -0.52$; $t = -2.37$; $p < .01$) are significantly related to aesthetic pleasure.

For addressing exploratory question 1, dealing with the overall relationship between cognitive effort and aesthetic appreciation, curve fittings with linear and quadratic models were compared. Both models show comparably acceptable fits with practically identical corrected R^2 values (linear model: corrected $R^2 = .271$, quadratic model: corrected $R^2 = .272$). Figure 1 shows that the computed linear model assumes a positive linear relationship and that the quadratic model assumes a slightly u-shaped, instead of the expected inverted u-shaped, connection. From the two alternatives (linear positive or

inverted u-shaped relationship) put up for debate by exploratory question 1, the linear positive relationship receives the strongest affirmation by our data.

FIGURE 1 ABOUT HERE

With regard to exploratory question 2, we can initially state that the correlation between cognitive effort and aesthetic appreciation is significant ($\rho = .53$; $p < .01$), but that the partial correlation controlling for non-conventionality is negative ($\rho = -.20$; ns). This means that the cognitive effort required for understanding figurative language is basically accompanied by reduced pleasure. The positive interaction term (non-conventionality by cognitive effort) from multiple regression analysis ($b = 0.22$; $t = 2.19$, $p < .05$), however, suggests that in non-conventional rhetoric utterances, this relation is changed to the positive. For a more detailed analysis of this moderating effect, the Johnson-Neyman technique (Johnson & Neyman, 1936; extension by Bauer & Curran, 2005; macro by Hayes, 2013) was applied. This procedure allows it to determine over what range of the moderator the effect of the independent variable is significantly positive, insignificant, or significantly negative. Applied to our data, this range lies below the mean-centered non-conventionality value of 0.70, where a significant negative relationship between cognitive effort and aesthetic appreciation exists (cf. figure 2). However, this relationship loses its significance for figurative utterances with a non-conventionality rating above this value, which pertains to a considerable proportion of 41.94% of all cases. To further investigate how the relation develops with rising levels of non-conventionality, simple slopes (according to Aiken &

West, 1991) for three standard deviations above and below the mean of non-conventionality were plotted (cf. figure 3).

FIGURES 2 AND 3 ABOUT HERE

The graphs demonstrate that the negative covariation of cognitive effort and pleasure is weakened by increasing non-conventionality. In the case of maximum non-conventionality, the covariation turns from negative to positive. Taken together, the results for the exploratory question 2 suggest that the cognitive costs of understanding conventional figurative language reduce aesthetic pleasure, while increased non-conventionality and enhanced cognitive effort are accompanied by an increase in the aesthetic pleasure.

6. General discussion: Figurative language as aesthetics of everyday communication

This study has concentrated on the dimension of aesthetic appreciation of figurative language which has often been neglected in experimental psycho-linguistics. In the first instance, our goal was to demonstrate that non-conventional figurative utterances are evaluated as more aesthetically pleasing and requiring more cognitive effort than conventional figurative utterances for three forms of figurative language (metaphor, irony and idioms). This positive covariation of non-conventionality and aesthetics and of non-conventionality and cognitive effort could be clearly established for metaphors and for irony. For idioms, we could only partially provide this evidence. Non-

conventional idioms (i.e. idioms with double meanings) are evaluated as being more pleasing than conventional idioms, but not as cognitively demanding. We assume that the duplicity of figurative and literal meaning which, according to our definition, is characteristic for non-conventional idioms, may have contributed to the fact that the respective utterances were not evaluated as being highly non-conventional. It is also possible that the subjects did not adequately recognize the double meaning of the idioms. Although these results only partially confirm the hypotheses, they do not impair the results for all figurative utterances (metaphor, irony, idioms). In this case it could be clearly demonstrated that non-conventional figurative language is evaluated as being aesthetically more pleasing and is subjectively perceived as requiring more effort than conventional figurative language. Additionally, we were interested in the relationship between the cognitive effort of processing figurative utterances and their aesthetic appreciation. Our data suggest that this relationship is generally a linear positive one and that it is moderated by (non-)conventionality. In the case of conventional figurative language, cognitive effort and aesthetic appreciation are negatively related, but with rising non-conventionality, this relation changes into a positive one.

These results are in line with Miall and Kuikens' (1994) model of literary reading. In their view, literary texts are characterized by specific elements, which deviate from normal language use and which with reference to structuralism are named 'foregrounded'. These elements are processed in three stages. In the first stage, foregrounded features elicit defamiliarization, which in the second stage slows down the reading process so that feelings can arise. In the third stage, these feelings guide the interpretation of the text passage, which finally leads to 'refamiliarization'. The model is confirmed by four studies, in which the degree of foregrounding was positively

related to reading times and readers' judgements of strikingness and affect (Miall & Kuiken, 1994). This means that, as in the present studies, the processing of aesthetic language units requires high cognitive effort. However, we take a somewhat different approach. Firstly, we investigate not the processing of literary texts, but rather of everyday language. Secondly, we offer a different explanation for the positive relationship between cognitive effort and aesthetic appreciation: Miall and Kuiken seem to suggest that emotions caused by foregrounding provide the reader with the energy necessary to get over the increased cognitive demands. In contrast, we draw on the concept of the aesthetic reception attitude (Fenner, 1996; Groeben, 1977; Author1). Given that non-conventional figurative language almost automatically activates an implicit aesthetic reception attitude, and that the appreciation of the figurative examples is an indirect indicator of the extent to which subjects are satisfied with their processing, we can derive the assumption that even in the case of high cognitive processing effort, an aesthetic attitude leads to pleasure, provided that the processing result is satisfactory. If we begin with the assumption that cognitive load is normally perceived as stressful and requiring effort, there is a contradictory suspension of experience inherent in the positive emotional quality of an actually stressful situation which we call the "aesthetic paradox" (Author2).

The postulated global paradoxical relationship between aesthetic value/reception process, cognitive effort and emotional pleasure for which we have presented initial explorative data, must, of course, be investigated and validated more directly in further experimental research. As a next step, the evaluation of non-conventionality should be more deeply investigated by experimentally varying the degree of aptness (Chiappe, Kennedy, & Chiappe, 2003; Jones & Estes, 2006) or optimal innovativeness (Giora et

al., 2004) of figurative and non-figurative (literal) language and in this case also by including different objective measures of cognitive effort. Nevertheless our research indicates that, when examining figurative speech, not only is the dimension of cognitive processing (complexity) which still is dominating in existing research relevant, but also the dimension of emotional and aesthetic appeal. The results also demonstrate that the non-conventional variants of figurative language must be considered as the core of figurative aesthetics. Additionally, figurative aesthetics constitutes a beautification of everyday communication.

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Appendices

Captions

Appendix 1. Factor structure of the pleasure scales for metaphors

Appendix 2. Factor structure of the SD items for metaphors

Appendix 3. Factor structure of the SD items for ironies

Appendix 4. Factor structure of the SD items for idioms

The utterance (was)	Factor	
	1	2
"...turned out well"	**.801**	.260
"...made me smile"	**.790**	.574
"...was surprising for me"	.386	**.653**
"...was interesting and sophisticated"	**.801**	.624
"...was beautiful"	**.951**	.564
"...remained in my memory and had an after effect"	.707	**.798**
"...opened my face"	.713	.783
"...rather complex"	.388	**.829**
"...intelligible after thinking about it"	.415	**.869**
"...pleasing"	**.883**	.573
"...triggered emotions which I enjoyed"	**.815**	.777
"...distinctive and exceptional"	.652	**.758**
"...stimulated further thoughts"	.652	**.707**
"...likeable and engaging"	.756	.703

Items	Factor		
	1	2	3
interesting – boring	-.005	**-.834**	.022
easy to understand – hard to understand	.244	-.192	**-.816**
often – seldom	**.963**	-.054	-.305
ugly – beautiful	-.133	**.850**	.317
common – rare	**.958**	-.006	-.276
pleasant- unpleasant	-.073	**.684**	.344
literal meaning – figurative meaning	.285	.360	-.362
deep – shallow	-.027	-.828	.175
unambiguous – ambiguous	.316	.050	-.866
usual – unusual	**-.965**	-.052	.387
vague – clear	-.380	.034	**.879**

Items	Factor		
	1	2	3
interesting – boring	.129	**-.670**	-.088
easy to understand – hard to understand	-.665	-.384	.422
often – seldom	-.140	.101	**.913**
ugly – beautiful	.043	**.947**	-.057
common – rare	-.213	-.103	**.876**
pleasant- unpleasant	.101	**.852**	-.034
deep – shallow	**.849**	-.250	-.279
unambiguous – ambiguous	-.812	.039	-.182
complex – simple	**.930**	-.011	-.262
usual – unusual	.257	.004	**-.950**
vague – clear	.782	.329	-.445

Items	Factor		
	1	2	3
interesting – boring	.065	**-.832**	.203
easy to understand – hard to understand	-.418	-.524	**-.532**
often – seldom	**-.884**	-.125	-.249
ugly – beautiful	.102	**.916**	-.073
common – rare	**-.906**	-.119	-.200
unpleasant – pleasant	.292	**.887**	-.165
literal meaning – figurative meaning	.274	.380	-.395
deep – shallow	.267	-.480	.677
unambiguous – ambiguous	-.017	.091	-.637
complex – simple	.354	-.175	.782
unusual - usual	**.858**	.079	.133
vague – clear	.373	.474	**.647**