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ALL MY SOUR-SWEET DAYS I WILL LAMENT AND LOVE — A COMPARATIVE ANALYSIS OF METAPHORS WITH THE BASIC TASTE ADJECTIVES IN POLISH AND ENGLISH

Abstract

This paper provides a comparative analysis of verbal synesthetic metaphors with the basic taste adjectives in Polish and English: *stodki/sweet*, *gorzki/bitter*, *kwaśny/sour*, *stony/salty*. Since taste seems to be an ideal candidate for a universal, biologically determined source of metaphors, the authors seek to verify the hypothesis of metaphor embodiment. The corpus-based analysis of nominal phrases with basic Polish and English taste adjectives indicates that cultural influences on the metaphorical mapping, as well as the importance of the target conceptual domains, must be taken into account.

Keywords: metaphor; embodiment; biology; culture; taste

1 Introduction

In 1633, George Herbert wrote a poem entitled *Bitter-Sweet* which is a good illustration of the main issues of this paper. Herbert used two metaphors built on taste adjectives: in the title *Bitter-Sweet* and in the phrase *And all my soure-sweet¹ dayes I will lament and love*. The English metaphorical expressions *bitter-sweet* and *sour-sweet* seem to have similar meanings. However, in the Polish version, Stanisław Barańczak uses the adjective *gorzki* ‘bitter’ for both expressions, cf. *gorzka słodycz* ‘bitter sweetness’ and *gorzko-słodkie dni* ‘bitter-sweet days’. Why did he decide to change the original? This paper will try to offer an answer to this question. The main goal of the paper is to provide a comparative analysis of Polish and English metaphors with the taste adjectives *stodki/sweet*, *gorzki/bitter*, *kwaśny/sour*, and *stony/salty* in order to determine the similarities and differences between the two languages.

¹Sour-sweet.

The metaphorical productivity of gustatory adjectives cannot be attributed only to biological factors, but also to the culinary traditions of a given speech community and its culture. Although taste metaphors are good examples of the embodiment process, this paper claims that stereotypical vehicles of tastes (e.g. honey for sweet or vinegar for sour) along with their symbolic and metaphorical structure, including an evaluation embedded in a given language and culture, are also important factors in the metaphorical productivity of gustatory adjectives.

2 Physiology of taste

Taste is a very important sense for humans, as it can help to distinguish between safe and harmful food. There is a substantial amount of evidence that humans are born with a preference for the sweet taste and with an aversion to the bitter and sour tastes (Stevenson, 2009, pp. 186–187). Although both the Polish and English languages designate taste as a separate sense, denoted primarily by the Pol. noun *smak* and the Eng. (often interchangeable) nouns *taste/flavour*, it is not so from the physiological perspective. Taste is the so-called “chemical sense” usually limited to the gustatory qualities sweet, sour, salty, bitter² (Marks, 2011, p. 64). Flavor is in fact a mixture of several sensations: not only the taste, but also the temperature, texture, and smell of the food (cf. Skolik, 2011). Such multimodal perception causes such a strong neurological connection between senses that it may “result in blurred perceptual boundaries between a taste and a smell. This then makes it hard to judge one component independently of the other” (Stevenson, 2009, p. 106).

3 Method

According to Werning, Fleischhauer, and Beşeoğlu (2006), a metaphor is synesthetic only when its source domain pertains to perception. If the target domain does not evoke perception, one can talk of a *weak synesthetic metaphor*. If both the source and the target domain evoke perception, one can talk of a *strong synesthetic metaphor*. Some examples (e.g. *kwaśna mina* ‘sour expression’) can be interpreted as metonymies (cf. Barcelona, 2000). Nevertheless, this paper will define such phrases as metaphors, as in most cases it is very hard to distinguish a metonymic expression from a metaphorical one, and in fact some conceptual metaphors can be based on metonymies.³

The analytical approach adopted in this paper draws on both frame semantics (Fillmore, 1982) and the CMT theory formulated by Lakoff and Johnson (1980/2008). The latter provided the model of metaphorical process, i.e. a mapping of a structure (or its part) of the source domain (in this case TASTE) onto a target domain (e.g. HEARING). However, instead of the term “domain”, this paper uses “frame”, because while the internal structure of domains is not fully clear, frames are described as ordered structures which contain categories (“slots”) and their values (“fillers”) (Fillmore, 1982).

Instead of FrameNet⁴, a set of frames was used, which was created specifically for the Polish Corpus of Synesthetic Metaphors.⁵ The TASTE frame is much more extensive and detailed than the corresponding frame within FrameNet: it contains as many as 30 elements and sub-elements. The adjectives *śłodki*, *gorzki*, *kwaśny*, and *ślony* activate the frame element TYPE OF TASTE and the sub-element MAIN TASTES.

The procedure of metaphor identification is based on MIPVU (Steen, Dorst, Herrmann, Kaal, Krennmayr, & Pasma, 2010), which is an elaborated version of the MIP (*Metaphor Identification Procedure*) proposed by the Pragglejaz group (Pragglejaz Group, 2007; Semino, 2008, pp. 11–12).

²Possibly extended to savoury and ‘umami’.

³ According to Barcelona (2000, p. 51) — all metaphors are metonymy-based, cf. “Evidence has been provided that, at least *typically*, metaphor is based on one or more metonymic mappings”.

⁴<https://framenet.icsi.berkeley.edu/fndrupal/>

⁵ Since the corpus is still under construction, it is not available online. For more information about the project, see the Funding section.

First, the meaning of every word has to be determined in the given context (Pragglejaz Group, 2007, p. 3). Then one checks whether each of the words has a different, more basic sense, activated in other contexts (i.e. more concrete, physical meaning, meaning evoking bodily action, more precise, clear meaning, historically older meaning). The MIPVU procedure (Steen et al., 2010) adds a principle that word class boundaries may not be crossed (i.e. a meaning of a verb cannot be compared to a meaning of a noun).

It is assumed that the analysed adjectives are used metaphorically when they form collocates with lexemes that do not belong to the TASTE frame, e.g. *sweet music*, *bitter pain*. The analysis presented in this paper is corpus-based. Data from the Corpus of Contemporary American English (COCA, n.d.), which contains 520 million words, and the National Corpus of Polish (NKJP, n.d.), which contains 250 million segments, were used.

4 Results

The most frequent taste adjectives in both COCA (n.d.) and NKJP (n.d.) are the adjectives *śłodki/sweet*, while *gorzki/bitter* are less frequent. In NKJP (n.d.) the least frequent taste adjective is *kwaśny* ‘sour’, and in COCA (n.d.) it is *salty*. The main difference lies in the proportion of the quantities. In COCA (n.d.), the adjective *sweet* is used three times more often than *bitter*, five times more often than *sour*, and as many as fourteen times more often than *salty*. In the NKJP (n.d.), the discrepancies are much less significant. The most frequent adjective *śłodki* ‘sweet’ is used nearly twice as often as *gorzki* ‘bitter’, the *śłodki* ‘sweet’ vs. *ślony* ‘salty’ usage ratio amounts to 2,5, and the adjective *kwaśny* ‘sour’ is used three times less frequently than *śłodki* ‘sweet’. The frequencies of Polish and English taste adjectives are presented in Fig. 1.

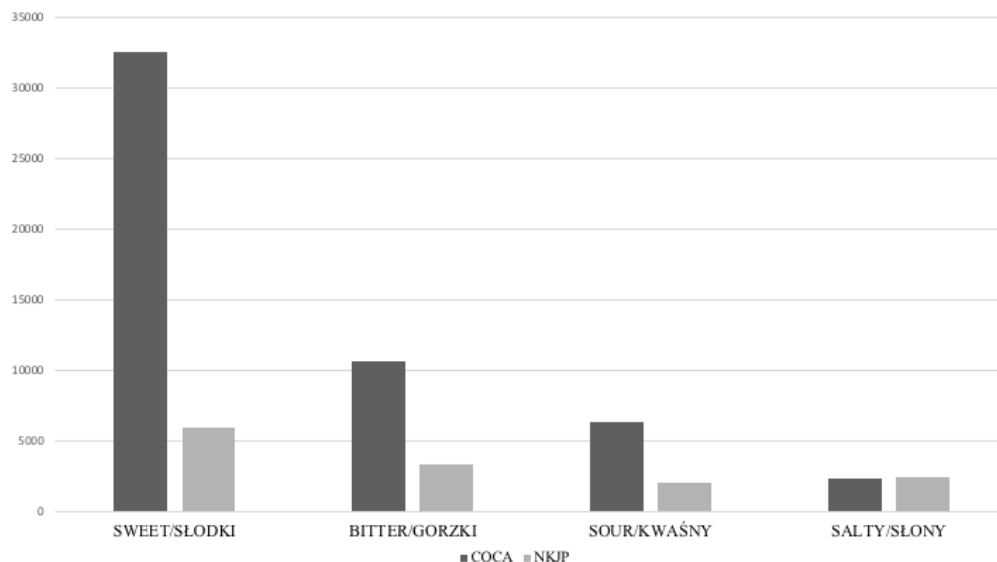


Figure 1: Frequency of taste adjectives in NKJP and COCA.

4.1 Adjectives *śłodki/sweet*

According to Mitrenga (2014, pp. 119–123), the Polish adjective *śłodki* ‘sweet’ is derived from the same PIE root as the adjective *ślony* ‘salty’: the primal PIE root **sal-du-* ‘salted’ evolved into a broader meaning of ‘tasty’, and ultimately began to indicate ‘sweet’. The English adjective *sweet* stems from the PIE root **swād* ‘sweet, pleasant’. The Old English adjective *swete* meant ‘pleasing

to the senses, mind or feelings; having a pleasant disposition” (*Online Etymology Dictionary*, n.d.; *Oxford English Dictionary* [OED, n.d.]). The sweet taste comes in many forms: the natural taste of a non-prepared food (e.g. honey), the taste of ripened fruit, the taste of a product which has some sugar added (e.g. a cake, or sweet tea), the taste of non-fermented food (e.g. *śłodkie mleko* ‘sweet milk’), cf. Mitrenga (2014, p. 124) or unsalted products or substances (*śłodka woda/sweet water*, Eng. *sweet butter* ‘unsalted butter’). Many of the same typical sources of the sweet taste are named in the OED (n.d.): ‘the characteristic flavour (ordinarily pleasant when not in excess) of sugar, honey, and many ripe fruits’.

The adjectives *śłodki/sweet* are used extensively in metaphors in both languages. The names of this taste may describe the VISION frame’s element: the OBJECT OF PERCEPTION — a facial expression (*śłodki uśmiech/sweet smile*) or the appearance of a body part (*śłodkie usta/sweet lips*). The Polish adjective *śłodki* is more productive metaphorically as it can also describe a PERCEPT: a nice view (*śłodki widok* ‘sweet sight’), a beautiful and sexy person’s appearance (*śłodka blondynka* ‘sweet blonde’), a pastel color (*śłodki błękit* ‘sweet blue’), or the specific, alluring way of looking at someone (*robić śłodkie oczy* ‘lit. to make sweet eyes — fig. to have bedroom eyes’).

These adjectives are also used in metaphors activating the HEARING target frame: *music*, *songs*, and *voices* may be described as *sweet*. Interestingly, the words *sweet* and *śłodki* may also refer to the lack of sound (*śłodka cisza/sweet silence*).

In the case of the TOUCH frame, Polish and English tend to describe certain types of caress in terms of sweetness (*śłodki pocałunek/sweet kiss*), but only the Polish corpus has *śłodkie ciepło* ‘sweet warmth’.

The most typical strong synesthetic metaphors in both languages are those with SMELL as a target frame. The adjectives *śłodki* and *sweet* form collocates with all names of smell (e.g. *śłodki zapach/sweet smell*), even when the lexemes contain a negative emotional value, such as *śłodki smród/sweet stink*.

The adjectives are also widely used in weak synesthetic metaphors. The sweet taste is most often mapped onto the target frame PERSON. It comes as no surprise that both adjectives collocate freely with the names of positive emotions, e.g. *śłodka miłość* ‘sweet love’, *sweet serenity*. Nevertheless, what is less expected is that in both languages *śłodki/sweet* can be used with the names of negative feelings — both with mild emotions, e.g. *śłodki smutek/sweet sadness*, and intense ones, e.g. *sweet sorrow*, *śłodki strach* ‘sweet fear’. In the case of the element MENTAL OBJECT (i.e. a creation of the mind), both adjectives refer to memories and oblivion. However, only the Polish corpus attests frequent co-occurrences of the adjective *śłodki* ‘sweet’ with the names of negatively evaluated phenomena, e.g. *śłodka ignorancja* ‘sweet ignorance’, *śłodkie złudzenie* ‘sweet delusion’. In contrast, the English adjective collocates much more often with names activating the PERSONALITY frame, e.g. *sweet spirit/personality*. In both languages, the analysed words collocate with the names of personality traits, e.g. *śłodka niewinność/sweet innocence*. The Polish language differs in that the adjective *śłodki* ‘sweet’ can likewise describe primarily negative character traits, e.g. *śłodka idiotka* ‘sweet FEM idiot’, *śłodki brutal* ‘sweet brute’. The frame elements SPEECH UNIT and CONTENT collocate with the adjectives quite freely, regardless of the positive or negative emotional value of the lexemes, e.g. *śłodkie słowa* ‘sweet words’, *sweet nothings* ‘sentimental trivia, endearments’ (OED, n.d.), *śłodkie kłamstwo* ‘sweet lie’, *śłodkie pierdzenie* ‘sweet bullshit’. In both languages, the words refer to the positively evaluated states of a person, such as a dream or life. The Polish adjective often collocates with lexemes *lenistwo* ‘laziness’ and *nieróbstwo, nicnierobienie* ‘idleness’. Nonetheless, although unexpected, there are metaphors that map the sweet taste onto very negative states, e.g. *śłodki ból* ‘sweet pain’, *śłodka męka/sweet agony*, *sweet death*, or *sweet disaster*.

In English, *deals* or *reunions* can be described as *sweet*, whereas in Polish there exist such phrases as *śłodkie pożegnanie* ‘sweet farewell’ or *śłodka rozmowa* ‘sweet conversation’. These adjectives can also co-occur with the names of such harmful acts as *zemsta/revenge* or *zwycięstwo/victory*.

In both languages, examples of metaphors with TIME as the target frame can be found, e.g. *śłodkie chwile/sweet moments* or *śłodki czas* ‘sweet time’, but only the Polish corpus attests

frequent metaphors with the target frame PLACE, e.g. *ślodka ojczyzna* ‘sweet homeland’, *ślodka Polska* ‘sweet Poland’, or *ślodkie miejsce* ‘sweet place’.

The adjectives generally signal a positive evaluation in both languages, e.g. *sweet girl, baby, ślodka sukienka* ‘sweet dress’, or *ślodki wierszyk* ‘sweet verse’. The Polish adjective *ślodki* ‘sweet’ may be used in phrases with negative evaluation, e.g. *ślodki kicz* ‘sweet kitsch’.

4.2 Adjectives *gorzki/bitter*

The adjective *gorzki* is derived from the verb **goreti* ‘to be on fire, to burn’, based on the PIE root **gor-* that has been preserved only in the Slavonic languages (Mitrenga, 2014, pp. 201–203). The bitter taste is evidently associated with a burning feeling on the tongue. A different aspect of imagery is entrenched in the Germanic family of languages: in English, the name of the taste is derived from the PIE root **bheid* ‘to split’, present also in the Old English verb *bitan* ‘to bite’ (*Online Etymology Dictionary*, n.d.).

Mitrenga (2014) claims that the bitter taste is the least prototypical of all basic tastes. Indeed, it is difficult to identify a single prototypical vehicle of the taste. Traditional Polish and English similes make use of the names of plants and herbs, e.g. *gorzki jak piołun/as bitter as wormwood/hemlock*, or the names of the fluid secreted by the liver e.g. *gorzki jak żółć/as bitter as bile/gall*. In both languages, the adjective is used with nominals activating the BODY PART APPEARANCE or the FACIAL EXPRESSION element of the VISION frame, e.g. *gorzki grymas* ‘bitter grimace’ or *bitter smile*. Similarly, both adjectives co-occur with nouns pertaining to the HEARING frame, e.g. *gorzki ton* ‘bitter tone’ or *bitter voice*.

Within the SMELL frame, the adjectives tend to describe intense, unpleasant or even repulsive odors, e.g. *gorzki zapach choroby* ‘the bitter smell of illness’, *gorzki zapach dusił* ‘the bitter smell was suffocating’.

The English word is often used to indicate an unbearably low temperature with difficult weather conditions, such as wind and rain. Consequently, it is only the English adjective that is used in weak synesthetic metaphors activating the WEATHER CONDITIONS frame (e.g. *bitter wind, bitter air*, or *bitter weather*), while there are no such collocations in Polish.

Both adjectives are used in reference to negative feelings, such as *gorzki zawód* ‘bitter disappointment, disenchantment’ or *bitter disappointment*. The analyzed adjectives also collocate with neutral nouns such as *poczucie* ‘sense’, *uczucie* ‘feeling’, or *feeling(s)*. However, even in these seemingly neutral contexts, they describe negatively-evaluated emotional experiences, e.g. *gorzkie poczucie porażki* ‘bitter sense of defeat’, *bitter feeling of loss*, or *bitter hatred*. In both languages, the phrase containing a primarily positive name of feeling *gorzka satysfakcja/bitter satisfaction* is present.

In the case of the element MENTAL OBJECT, both analysed adjectives refer to memories (e.g. *gorzkie wspomnienia/bitter memories*). The Polish adjective additionally collocates with other names of mental activities, e.g. *gorzka refleksja* ‘bitter thought’, *gorzka zaduma* ‘bitter reverie’. It also co-occurs with the names of mental states and the results of mental activity, e.g. *gorzka pewność* ‘bitter certainty’, *gorzka mądrość* ‘bitter wisdom’. Such collocations are absent from the English corpus. Conversely, it is only in English that we find instances of the adjective *bitter* with names activating the PERSONALITY frame elements, as in *bitter rival/enemy/opposition*. This conforms well with the frequent co-occurrence of this adjective with the names of negatively evaluated STATES and ACTS. It is typical of the adjective *bitter* to be used to refer to issues arising in interpersonal relations, e.g. *bitter divorce, rivalry, fight, war*. Such collocations do not occur in the Polish language, where only a few more general names of states and acts are used (e.g. *gorzka rzeczywistość, gorzka porażka*, — with parallel expressions in English: *bitter reality, bitter defeat*).

Since *gorzki/bitter* in their basic sense are associated with a disagreeable gustatory sensation, and in both languages, there is an underlying conceptual metaphor UNDERSTANDING IS DIGESTING (Lakoff, 2014; Newman, 1997), it comes as no surprise that the meaning of the

adjectives is easily extended to aspects of verbal communication. The nominals may be neutral (*gorzka uwaga* ‘bitter remark’, *gorzkie pytanie* ‘bitter question’) or negative (*gorzki wyrzut* ‘bitter reproach’, *bitter complaints*). The CONTENT frame also involves extensive collocation with these adjectives, e.g. *gorzka prawda*/*bitter truth*, *gorzka ironia*/*bitter irony*. However, the basic list of Polish collocations also contains *gorzki dowcip* ‘bitter wit’, *gorzki sarkazm* ‘bitter sarcasm’, and *gorzka satyra* ‘bitter satire’, all of which are extremely rare in COCA, and hence were discarded from our data.

English allows more collocations when it comes to nouns activating the TIME frame: among the relevant collocations found were *bitter year*, *winter*, *day*, *night*, *time*, etc., while the Polish corpus attested only two expressions: *gorzka chwila* ‘bitter moment’, *gorzki czas* ‘bitter time’.

4.3 Adjectives *kwaśny*/*sour*

According to Mitrenga (2014, pp. 159–163), the word *kwaśny* ‘sour’ is derived from the Proto-Slavic root **kvas-* ‘leaven’, whilst the English adjective *sour* comes from the PIE root **suro-* ‘sour, salty, bitter’ (*Online Etymology Dictionary*, n.d.). Probably, the root initially meant ‘damp, wet’ and this meaning is continued in such Polish words as *ser* ‘cheese’ and *surowy* ‘raw’. Polish people distinguish purposeful fermentation (of milk, cucumbers, or cabbage) from spoiled food, and fermented food is evaluated positively in contrast to spoiled food. Furthermore, in Polish cuisine sour soups are very popular and regularly consumed (e.g. *ogórkowa* ‘soup made of soured cucumbers’, *chłodnik* ‘cold soup made of soured milk’). English speakers do not use as much fermented food in their cuisine — for instance, the sour milk used in some English recipes is a mixture of sweet milk and lemon juice or vinegar, and it is a different product than Polish soured milk; in addition, sour cream is not fermented — it is fresh cream soured by the addition of lactic acid (OED, n.d.).

Although the adjectives *kwaśny* and *sour* have a much narrower collocability than the words previously discussed, English exhibits more metaphors using *sour* than Polish does using *kwaśny*. In both languages, the adjectives can refer to the frame SMELL (e.g. *kwaśny zapach*/*smród* / *sour smell*/*stench*) and they are also mapped onto the target frame HEARING (e.g. *kwaśny głos* ‘sour voice’, *sour note*). Both languages can describe a facial expression as sour (e.g. *kwaśna mina* ‘sour face’, *kwaśny grymas* ‘sour grimace’, or *sour smile*), and a mood may be described as sour (e.g. *kwaśny humor* ‘sour temper’ or *sour mood*). Meanwhile, only in English can collocates with the names of the frame element PERSONALITY be found, e.g. *sour attitude*. In both languages, the adjectives *kwaśny* and *sour* form metaphors activating the frame element MENTAL OBJECT — *kwaśny żart* ‘sour joke’ or *kwaśny komentarz* ‘sour comment’. However, only in English can the sour taste can be mapped onto the element RELATIONS of the frame SOCIETY and on the frame ECONOMY (*sour relationship*, *sour economy*).

4.4 Adjectives *ślony*/*salty*

Mitrenga (2014, p. 85) claims that saltiness is the most prototypical among the basic tastes, since — as opposed to the other tastes whose prototypical references tend to vary over time — it has always had a stable prototypical vehicle, i.e. salt. Indeed, the reference is retained in the adjectives’ etymology: they both stem from the PIE root **sal-* ‘salt’, which is preserved in a practically unchanged form in the Indo-European family of languages (Mitrenga, 2014, pp. 92–93).

As is well known, salt was a limited and rare resource, used as a symbol of prestige and richness, and it came to be used as a trading commodity. Despite the abundance of symbolic meanings of salt, the adjectives *ślony* and *salty* are not the most productive as far as their metaphorical senses are concerned. Polish dictionaries (e.g. USJP, 2003) note the expression *sól attycka* ‘attic salt’, which denotes a specific type of wit: one that is poignant, but at the same time elegant and sophisticated. The association of salt with tasteful wit dates back to classical antiquity; however, it seems that nowadays this sense may have drifted: both English and Polish sources attest adjectival

collocations that refer to rather down-to-earth, crude, even obscene language, e.g. *salty language*, *stony dowcip* ‘salty joke’, or *stone przekleństwo* ‘salty curse’. In all of the collocations, the nouns activate the CONTENT frame element. The expressions describe a way of speaking that may be perceived as rude or coarse. Along the same lines, the weak synesthetic metaphor *salty character* is attested in COCA to refer to a crude, aggressive person. Some dictionaries also note the expressions *to be salty* and *to jump salty* ‘to become angry, irritated’. Metonymically, *salty* may refer to nautical life and sailors (cf. the slang expression *salty dog*).

Both the English adjective *salty* and its Polish equivalent occur within strong synesthetic metaphors activating the SMELL frame, e.g. *stony zapach/salty smell*.

Interestingly, although the value of salt and its usage in trading was not culture-specific, it is only the Polish language that retains expressions where the noun co-occurring with the adjective *stony* activates the COMMERCIAL TRANSACTION frame, e.g. *stony rachunek* ‘salty bill’, *stona cena* ‘salty price’, *stona prowizja* ‘salty commission’, etc. All the listed collocations refer to a considerable sum of money one has to pay for something.

5 Discussion

The analysis of metaphors with the basic names of tastes reveals many similarities between Polish and English. In both languages, the adjectives *śłodki/sweet* are the most productive when it comes to metaphorical mapping onto the most diversified target frames. The words *gorzki/bitter* and *kwaśny/sour* display much fewer figurative senses. The adjectives *stony/salty* are rarely used in metaphors, especially in English. One can also observe an analogy in the selection of the target frames — in both languages mostly the same frames are activated (PERSON, SMELL, VISION, HEARING, TOUCH etc.). The most prominent analogies pertain to the sweet — bitter opposition in both languages. In their literal senses, they function in both languages as antonyms. Although sweet and bitter tastes in both languages are mapped onto the frame MENTAL OBJECT, they cannot be considered as absolute antonyms in this case. The sweet taste pertains to the concepts that in general mean a lack of knowledge, oblivion, delusions or unreal fantasies (e.g. *ślodka utuda* ‘sweet illusion’, or *sweet ignorance*) while the bitter taste involves understanding of and contact with reality, e.g. *gorzka wiedza* ‘bitter wisdom’, or *gorzka rzeczywistość/bitter reality*. In the case of the frame elements SPEECH UNITS and CONTENT, the opposition of sweet and bitter tastes highlights a different aspect of the basic conduit metaphor (Reddy, 1979). In both languages, the adjectives *śłodki/sweet* can be used to describe referents without content, e.g. *sweet nothings*, *śłodkie słowa* ‘sweet words DIM’. In Polish, the adjectives *śłodki* ‘sweet’ and *gorzki* ‘bitter’ frequently form an antonymous pair within the frame element CONTENT. The word *śłodki* ‘sweet’ indicates lies (*śłodkie kłamstwa* ‘sweet lies’, *śłodkie pierdzenie* ‘sweet bullshit’) whereas the adjective *gorzki* ‘bitter’ collocates with the noun *prawda* ‘truth’. There is no such regular opposition in English (COCA, n.d. provides only one occurrence of the phrase *sweet lies* vs. 47 usages of the phrase *bitter truth*). Although phrases like *sweet smile/bitter smile*, *sweet voice/bitter voice* also seem to be antonyms, they actually describe the situation from a different perspective. The phrases *sweet smile* or *sweet voice* indicate that the subject likes someone’s smile or someone’s voice, while the phrases *bitter smile* or *bitter voice* mean that the smiling or speaking person is expressing dissatisfaction and resentment. The names of both tastes in Polish and English can similarly modify the emotional value of superordinate nouns. The *śłodki/sweet* adjectives add a positive element to a negatively loaded noun, e.g. *ślodka męka/sweet agony*, while the *gorzki/bitter* adjectives add a negative element to a noun with a positive value, e.g. *gorzka satysfakcja/bitter satisfaction*.

Numerous similarities in the metaphorical mapping in the case of *śłodki/sweet* and *gorzki/bitter* adjectives appear to support the claim regarding metaphor embodiment. Taste as a very basic and important sense is a good candidate for a universal source frame in an embodied conceptual metaphor. Gibbs (2017) discusses a study that explores the activation of the brain in response to the metaphorical phrase *She looked at him sweetly* and to the literal phrase *She looked at him kindly* as follows:

An analysis of the brain areas most associated with gustatory perception showed increased activation in these areas when people read the metaphorical expressions than when they saw the non-metaphorical paraphrases. Once again, some metaphor processing activates selective parts within the brain’s somatosensory region that is related to the source domains from which the metaphors originated (e.g. “sweetly” is related to taste). (Gibbs, 2017, p. 205)

The theory of embodied cognition for the gustatory lexicon is also supported by Winter (2016, p. 975), who argues that the emotional load of taste (and smell) words are reflections of perceptual processes in human brain — taste and smell “share close connections with brain areas for emotional processing”. Cacciari (2008) claims that synesthetic metaphors in language are, in general, a result of an areal psychological phenomenon called synesthesia. Without doubt, some gustatory metaphors are embodied and motivated by our biology — for example the metaphors with SMELL as the target domain. Stevenson (2009, p. 239) considers flavour (odour-induced tastes) to be a form of synesthesia. Although we are biologically determined to sense the same types of tastes, culture significantly influences the gustatory perception and the evaluation of tastes. According to Stevenson (2009, p. 239), there is some evidence that the Japanese are more sensitive to the taste umami (which is close to the taste of meat or MSG) than Americans are. Further, some experiments have shown that Karnataka Indians, who eat a lot of the sour and bitter tamarind fruit, preferred the bitter and sour tastants (e.g. quinine and citric acid) considerably more than comparable control participants who subsist on different diets. It would appear that the differences between Polish and English cuisines are reflected by the use of the adjectives *kwaśny* and *sour*. Although at first sight the target frames are quite similar, there are a number of important differences that preclude literal translation of most phrases. For example, both languages use metaphors like *kwaśny żart/sour joke*, but the phrase *kwaśny żart* means ‘failed, lame joke’ and *sour joke* is more like ‘sad, ironic’ (e.g. *But it is only a sour joke that Islanders fans chant the name of a recent owner sent to prison for financial fraud*. COCA, n.d.). The phrases *sour economy* or *sour relations* are beyond direct translation into Polish, as well. The explanation most probably lies in the fact that Polish people find some sour food to be good and tasty, while for people living in Anglo-American cultures, it is usually considered to be spoiled. This explains why there is no such phrase as *sour relationship* in Polish. In both languages, the target frame is conceptualized as food (e.g. *toksyczne związki/toxic relationship*) but only the English adjective *sour* means ‘spoiled and uneatable’. Furthermore, the emotional value of the metaphorical meaning of these two adjectives is different. According to the OED (n.d.), the adjective *sour* figuratively means ‘feeling or expressing resentment, disappointment, or anger’ and the adjective *bitter* has an almost identical definition — ‘feeling or showing anger, hurt, or resentment because of bad experiences or a sense of unjust treatment’. In contrast, the Polish adjective *kwaśny* ‘sour’ is used rather with reference to someone dissatisfied, grim, or shrewish, but not angry. It appears that English speakers evaluate sour and bitter tastes as ‘strong, bad tastes’ (cf. OED, n.d.; *sour* ‘extremely distasteful or disagreeable; bitter, unpleasant’) and this is why these two adjectives are quite close in their metaphorical meaning, while in Polish *kwaśny* ‘sour’ is more neutral than the unequivocally negative word *gorzki* ‘bitter’. The synonymy of the English adjectives appears to be reflected by the phenomenon of confusing sour and bitter tastes by subjects from Britain and America in an experiment conducted by M. O’Mahony, M. Goldenberg, J. Stedmon, and J. Alford (O’Mahony, Goldenberg, Stedmon, & Alford, 1979). O’Mahony et al. (1979) noticed that “the

main error that occurred was calling citric acid ‘bitter’ while the tendency to call quinine sulphate ‘sour’ was not so common; this is the well-known sour-bitter confusion” (O’Mahony et al., 1979, p. 301). Therefore, a much more appropriate Polish equivalent for most English examples containing the word *sour* would be the adjective *gorzki* ‘bitter’. This is probably one of the reasons why S. Barańczak did not opt for a literal translation of the fragment “All my sour-sweet days” from the poem by G. Herbert.

Although some metaphors with taste adjectives can be substantiated by biology, from a neurological perspective it is hard to explain why only two basic tastes (sweet and bitter) have so many metaphorical collocations in Polish and English. The low metaphorical productivity of the Polish adjective *stony* and the English *salty* is particularly inexplicable from the neurological and cultural perspectives. The salty taste is very important for our bodies, as it indicates the presence of vital minerals in our food, and salt was also a highly valued substance. Neither can the low metaphorical productivity be explained by the frequency of the adjectives in the corpora. In the Polish corpus NKJP (n.d.), the use of the adjective *stony* is nearly as frequent as that of the adjective *gorzki*, whereas the ratio of metaphorical and literal meanings is dramatically different. It must be concluded that other factors should be considered: (i) the diversity of taste vehicles and (ii) the connotation of prototypical taste vehicles. The sweet taste has diversified vehicles and the most prototypical — honey — has a well-developed symbolic structure embedded in both languages (e.g. *It is a honey of a book! Was she a honey?; cud miód* ‘delightful, astonishing’, *mlekiem i miodem płynący* ‘plenteous, abundant’). In contrast, the salty taste has only one carrier — salt. Although salt used to be very valuable and even served as a form of payment (which is where Eng. *salary* derives from), its symbolic value is now rather archaic, and idioms like *sól ziemi* ‘most valuable people’, *worth (one’s) salt*, and *below the salt* are hardly used (in COCA, n.d., the first English idiom appears in only one example, the second one does not appear at all). The strict limitations of the taste carrier would appear to have resulted in an overly rigid, literal attachment of the salty taste to its vehicle, and the result is a block of metaphorical production for the adjective *salty*.

While Popova (2005, p. 411) claims that “tactile (and also gustatory) perception is always construed as normative, i.e., as good or bad, pleasant or unpleasant”, Winter (2016, p. 977) proposes an alternative approach that taste and smell words are more emotionally flexible. Although Winter’s observation that the English adjective *sweet* can form collocates with negatively loaded nouns (*stink, panic, death*) is true, it does not necessarily mean that the adjectives *stodki/sweet* are actually emotionally flexible. For example, in collocations with the names of emotions (e.g. *stodki strach/sweet fear, stodki smutek/sweet sorrow*), the adjectives signal an equable and delicate nature of a feeling, and an element of pleasure (e.g. *She felt sweet fear before the date*). The Polish metaphors *stodki brutal* ‘sweet brute’ and *stodki drań* ‘sweet bastard’ mean that a man is at the same time dangerous and attractive or adorable. Likewise, the phrase present in both languages *stodka zemsta/sweet revenge* signals only that the revenge was rewarding for the subject. Metaphors where the adjective *stodki* ‘sweet’ is in fact negatively loaded are *stodki kicz* ‘sweet kitsch’ and *stodka idiotka* ‘sweet FEM idiot’. In these cases, the adjective *stodki* ‘sweet’ emphasizes the negative features of a piece of art (tawdriness) or a woman (stupidity). This effect can be explained by the biological fact that too much of sweet taste can be sickening, which is attested by a well-known Polish idiom *stodki jak ulepek* ‘syrupy’ meaning that something is too sweet and nauseating, cf. also the adjectives *przestodzony/oversweet*. Nevertheless, it is difficult to claim, based on the examples discussed above, that the adjectives *stodki/sweet* are emotionally flexible, as the vast majority of collocates with the analysed words have a distinctly positive meaning.

6 Conclusion

The taste adjectives analysed in this paper differ in terms of the productivity of their metaphorical senses. The most productive are the names of two basic tastes: the adjectives *gorzki/bitter* exhibit

the most figurative meanings, while the adjectives *słodki*/sweet exhibit slightly fewer. Two other names of basic tastes – *kwaśny* (sour) and *słony* (salty) – fall far behind in their metaphorical productivity in comparison. The most common target domain for taste metaphors is smell — all of the analysed adjectives can form collocates with nouns from the lexical field of olfactory perception. This finding has also been confirmed by H. Duan and L. Gao (Duan & Gao, 2014) in their analysis of taste metaphors in English and Chinese, which is not very surprising as smell and taste are very close senses from a physiological point of view.

This analysis of weak synesthetic metaphors with the taste adjectives shows a complex system of biological and cultural dependencies. Some elements can be recognized as evidence of embodiment — the essentially positive connotation of *słodki*/*sweet* and the distinctly negative connotation of *gorzki*/*bitter* can be explained by the biological conditioning to seek safe and caloric food (sweet taste) and to avoid poison (bitter taste). Furthermore, the undesirable excess of the sweet taste is reflected in some Polish metaphors (e.g. *słodka idiotka* ‘sweet FEM idiot’). Although the general metaphorical schemata appear fairly similar in Polish and English, a deeper study reveals many subtle differences that show that metaphor analysis cannot be accomplished in isolation from language or culture.

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