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A train of thought on the *train of* + N construction

Abstract

In this paper conditions and processes of constructionalization and metaphORIZATION of the expression *train of thought* and the frequency of occurrence of other nominal complements co-occurring in construction with the pattern *train of* are studied via examination of the representation of the expression in various monolingual dictionaries of English, and parallel control observation of corpus based data and testing the intuitively based judgment of native speakers. It is pointed out that *train of thought* is a conceptual as well as image-based metaphoric phrasal construction and that schematic, primarily frame-based conceptual and lexical factors as well as constructionalization are functionally decisive in its usage and interpretation.

Keywords: constructionalization, metaphORIZATION, conceptual phrasal metaphor, image metaphor schema, framing, salience, keyword

1 Introduction

Researching metaphors has become a highly topical field of cognitive based linguistic theory, empirical linguistics, cognitive psychology, the philosophy of language, all in all, of all the fields of study constituting the major, macro-field called cognitive science, the reason of this enormous increase being in the reinterpretation of the role of metaphoric language usage in the multiplicity of text types and spontaneous discourse and in the recognition of its functional load therein. The current burst in researching the field via enhancing the empirical relevance of data gained in analyses relying on corpus linguistic methods with simultaneous control over them offered by cognitive psychological methods of testing has proved to yield a better understanding of both metaphor production and comprehension as well as delineating and differentiating the role and function of metaphoric expressions and expressibility from other modes and types of figurative language use. The pioneering work of George Lakoff, Mark Johnson, Mark Turner and others in developing the field, cognitive metaphor theory, has revealed that metaphors are not only characteristically used as a rhetorical device of ornamentation to arouse interest in following the course of oratorical discourse or poetic expression, their work pointed to the significance, frequency and abundance as well as the high degree of conventionality of metaphoric expression in ordinary language use.

In pointing to the centrality of conceptually based metaphoric expression in both thought and language, Lakoff and Johnson stress that “metaphor allows conventional mental imagery from sensorimotor domains to be used for domains of subjective experience” with conflation of experience (1999: 45-46). This idea stems from their earlier observation according to which conceptual metaphors are to be taken as mappings across conceptual domains that

structure people's reasoning, experience, and generally, our everyday language (Lakoff & Johnson 1980), that is, metaphors are experientially grounded mappings. Lakoff & Turner stress that although metaphorization is linguistically coded in words, it is principally grounded in thought as a form of conceptual representation (1989: 2). Generally speaking, "from a conceptual point of view, primary [that is, basic] metaphors are cross-domain mappings from a *source domain* (the sensorimotor domain) to a *target domain* (the domain of subjective experience)" (Lakoff & Johnson 1999: 58). Concerning the relations between these two domains of metaphorical representation, Kövecses notes that usually in forms of everyday language use the source domain is typically easier to grasp and process mentally than the target domain (2008: 381). He observes that in conceptual metaphors abstraction in the target domain is conceptually higher and deeper than in the source domain, which is usually represented by more concrete or physical concepts. Kövecses also observes that the mapping off the source onto the target is typically not reversible, which criterion serves as a basic factor in recognizing metaphoricity in the lexis of discourse (2010: 7), and that a single source domain can potentially instigate several target domains within the bounds of a given culture (2010: 136). Sources and targets are contextually bound to particular meaning foci activated by particular lexical items functioning as keywords in a particular metaphorical expression. The nature and rate of activation of particular meaning foci are conceptually dependent on culturally coded schematic stereotypes evoked in the form of conceptual scenes, frames, and scripts.¹ The activity potential of the keywords in the source and target domain may be balanced depending on the type of context, but it may also show differences of gradience. The instigative potential of such lexical items is dependent on their rate of conceptually based salience conditions and their lexical mapping potential within the relevant types of schematic structures.

In studies of figurative language use metaphors are usually discussed together with other types of tropes, for instance, with various forms of metonymic expression, and also with phrasal expressions as well as idioms. Based on empirically grounded investigations by Lakoff, Turner, Johnson, Gibbs, and others, the scope and formal domains of these types of figurative language can be reasonably and fairly precisely characterised and delineated. The expression of metaphorization is easy to trace both in phrasal and idiomatic linguistic representation. However, whereas underlying the structuralization of conceptual metaphors the role of collocability of lexis is important however not rigidly expressed, in phrasal expressions the degree of rigidity of lexical collocation is considerably higher, more absolute in nature, unless relatively weakened by morphosyntactically grounded constructional variation. Concerning idioms, the role of this factor has been variously interpreted. Whereas in earlier approaches to analysing idiomatic language use rigidity of formal structuring was taken to be a vitally important factor in the identification of idioms, more recent experimentation by cognitive psychologists has revealed a relative rate of flexibility in the formal representation of idiomatic lexical expression (Gibbs & Colston 2012). Conceptually based metaphorization frequently occurs in yet another form of linguistic representation where the degree of collocability of the lexis gains primary importance, that of constructional meaning. Revealing the formal aspects, degree of rigidity versus relative flexibility of constructionalization in a historical perspective is one of the current, hot topics of research in historical semantics and pragmatics, as well as historically based corpus linguistics (Traugott & Trousdale 2013).

¹ The nature and psychological relevance of conceptual structures like scenes, frames, and scripts, and the types of knowledge related to them are outlined in Andor (1985).

It has been a major, ongoing research question to ascertain the issue of metaphor comprehension along the lines of primary decoding of literal lexical representation and secondary understanding of metaphoric force of expressions, or, as an alternative, recognition of simultaneous, parallel decoding of both literary and figurative content, and as a further alternative, spontaneous, direct decoding of figurative meaning without the mental processing of the literal meaning of lexically coded message. Experiments and research results are abundant (see Gibbs & Colston 2012), but final solutions to the clue of understanding have not so far been found. Empirically based results gained so far seem to disclose the fact, however, that the mode of decoding, mental processing of figurative content may largely depend on the type of figurative form: the higher the level of compositionality the higher the likeliness of primary activation and processing of the literal meaning of the message. With the growth of formally expressed non-compositionality the rate of primary decoding of figurative meaning without activation of any sort of literal meaning radically grows. Classic examples are the cases of the idiomatic phrase (or phrasal idiom) *spill the beans* versus the non-compositional phrase *by and large*. In the idiomatic expression *spill the beans* the two lexical items having keyword status are the verb *spill* and the noun *beans*. According to the metaphorical competence (providing conceptual fluency outlined by Danesi (1993: 493)) of users of language, they are conceptually distant items in the mental lexicon. Recognition of their idiomatic status and usage is the result of a lexically unusual cohesive and conceptual linkage in the form of a metaphorical extension of their meaning from their literal sense to a highly abstracted conceptual domain representing the sense of ‘revealing a secret suddenly’, via instigation of the conceptual domain and lexical networks of this – from the point of view of the literal sense of these items – new frame and script. Concerning their frame activating potential, the verb *spill* has a higher force and wider extendability than the noun *beans*. However, during decoding the meaning and idiomatic force of the expression *spill the beans* speakers and hearers do, although perhaps faintly, rely on the literal sense of both lexical items constituting lexical parts of the expression via their compositional linkage. Analyzable idioms have been shown experimentally to evoke both source and target domains during mental processing (Gibbs 1994). The case of the expression *by and large* is radically different. Users of English have to acquire this expression without reference to the meaning of its parts, as lexical structure here is fully non-compositional, there is not even a feeble piece of literally relevant meaning potential traceable to serve as a conceptually based linkage to constitute this multi-word expression.

As already referred to above, lexical items conceptually, semantically, and pragmatically constituting parts of schematic structures such as frames and scenes do not have an equal status in serving as keywords in metaphorization, as they may have gradationally different frame and scene evoking potential. Basic level terms and their conceptually more salient and conventionally and cognitively deeper registered subparts (in the frame or scene) tend to have a higher potential for metaphorization as a key word. As pointed out by Dancygier & Sweetser (2014: 55), metaphors around the keyword *house* are rampant in the language, and those around *room* also have considerable frequency, whereas there are practically no metaphors using *staircase* or *doormat*, as the latter items in no way serve as active zones for the particular conceptual domain or lexical network where they belong in their mental representation. This, again, supports the idea that the layering of keywordhood in the mental lexicon depends on criteria of conceptually grounded salience. Clarifying the role and conditions of lexically based salience is a domain which requires further, empirically based investigation by lexical semanticists and researchers of the radically developing field of lexical pragmatics.

As pointed out by Gibbs (2008: 3, 5), in usage many metaphors occur unconsciously, without being targeted or centred around a given issue. Referring to his experimental results of metaphor comprehension Glucksberg holds the view that expressions with a metaphoric load and force are spontaneously understood metaphorically by responding subjects (2001: 28). Other metaphors, however, especially those structured around keywords with a high frame instigating potential both in the source and the target domain, are used consciously, with a direct communicative purpose. For the latter case, see the classic example *Some lawyers are sharks*, and its targeted interpretation in the decoding of the communicative force of discourse. Both during the coding and the decoding process a rich body of frame-based encyclopaedic knowledge is activated in the mind of the speaker and hearer. Both keywords of the metaphorical representation may have positive and negative attributes, mentally stored properties. Lawyers may be clever, careful, helpful from a given communicative perspective, but they may also have negative features such as being ruthless, aggressive, vicious, from a different perspective. The same properties of negative or positive polarity may be highlighted during evoking encyclopaedic knowledge about sharks. Stereotypically (but also socio-culturally) they are considered to be ruthless, aggressive, wicked, and therefore dangerous creatures. However the concept about the being may also contain various features of beauty, or cleverness, for instance. It can immediately be realized that the two lexical constituents of the metaphor may have matching features of their negative versus positive polarity metaphorically utilized and interpreted by decoders. The critical issue is to infer and decode the communicative purpose and force of the metaphor in the given context where the metaphor is used. According to general agreement among interpreters of the metaphor (in which the lexical items *lawyers* and *sharks* have a keyword status), the metaphor is stereotypically used with a negative force, utilizing the potential negative polarity of the pragmatic force of its constituents. (For further details of analysis see the classic monograph of Glucksberg (2001, especially Chapters 4 and 6) analysing in detail the attributive as well as culturally stereotypical properties of categories to which metaphors refer.)

As already mentioned above with reference to Lakoff & Johnson (1999), ‘conceptual metaphors’ are mappings across conceptual domains, from source to target via the activation of schematic types of knowledge. However, not every single metaphor is purely conceptually based concerning its nature and semantic-pragmatic force in linguistic representation. A large number of metaphors are merely based on perceptually coherent abstraction and may even lack conceptually grounded force. Such metaphors have been called ‘image metaphors’. As noted by Crisp (1996: 83), these metaphors are experientially rather than conceptually grounded, they are individually rather than general-conceptually based. Semino & Steen provide an excellent example of image metaphors in their analysis of metaphorization in the language of literature, the case of the expression *ruddy moon* and its interpretation (2008: 239). Recognition of image metaphors is further supported through experimentation by Kintsch, who, outlining his model of latent semantic analysis, hypothesizes that word senses giving the grounds for lexically based metaphorization are not fixed but are emergent (Kintsch 2008: 131). A further important feature of conceptualization in metaphoric usage was recognized by Kövecses (2008: 382): metaphorization is mentally layered within the realm of conceptual domains. Accordingly, Kövecses points to the conceptual organizing status and role of “master metaphors” (2008: 382) possessing a degree of abstraction higher than that of metaphors falling under their domain in which keywordhood is more varied and specific. Such high-level superordinate metaphors are called ‘generic-level metaphors’. Examples are also provided: EMOTION IS FORCE is taken to function as a generic, master

metaphor, whereas the metaphors *anger is trespassing*, or *fear is a hidden enemy* are emotion-specific metaphors falling under its domain (2008: 382, 385-386).

2 The object of study

The present study investigates the nature of metaphorization and constructionalization of the expression *train of + noun* based on four types of sources: standard, desk-size dictionaries of English, the classic, etymologically based Oxford English Dictionary, the data of the British National Corpus of 100 hundred million words, and native speaker testing of metaphor interpretation. The data gained from the latter two types of sources have been used as a control over each other.

2.1 Representation of train of + noun, or its sense, in six desk-size dictionaries of English

In this section representation of the expression *train of* followed by nouns is studied in six well-known, standard monolingual dictionaries of English, five representing the British, and one the American regional variant of the language. The five dictionaries of British English were all based on corpora of large size, whereas the standard desk-size dictionary of American English was not corpus based. Definitions and interpretation of the meaning of the expression are listed in Table 1.

Dictionary	Definition of sense and/or example
The American Heritage Dictionary (AHD) (5 th edition) – not based on a corpus	Sense 5 of <i>train</i> : An orderly succession of related events or thoughts (2012: 862)
Oxford Advanced Learner's Dictionary (OALD) (8 th edition) – corpus based:	Sense 3 of <i>train</i> : [usually sing.] a series of events or actions that are connected: <i>His death set in motion a train of events that led to the outbreak of war.</i> (2010: 1643)
Collins COBUILD Advanced Dictionary (5 th edition) – based on COBUILD's <i>Bank of English</i> corpus of 645 million words	Sense 3 of <i>train</i> : N-COUNT [usu sing.] A train of thought or a train of events is a connected sequence, in which each thought or event seems to occur naturally or logically as a result of the previous one. Ex.: <i>He lost his train of thought for a moment, then recovered it. Giles set in motion a train of events which could culminate in tragedy.</i> (2009: 1662)
Cambridge Advanced Learner's Dictionary (CALD) (3 rd edition) – based on the Cambridge International Corpus (CIC) of over 1 billion words	Sense 2 of <i>train</i> : <i>train of thought/events</i> : a series of connected thoughts or events: <i>What amazing train of thought led you from Napoleon to global warming? The book describes the train of events that led up to the assassination.</i> (2008: 1546)
Macmillan English Dictionary (MED) (2 nd edition) – based on the World English Corpus of 200 million words	Sense 2 of <i>train</i> : a series of events or thoughts: <i>a train of events/thoughts</i> . Ex.: <i>Brett's phone call set in motion a disturbing</i>

	<i>train of events.; lose your train of thought (=forget what you are thinking): Ex.: Just a minute, I've lost my train of thought. (2007: 1590)</i>
Longman Dictionary of Contemporary English (LDOCE) (5 th edition)	Sense 2 of <i>train</i> : Series. <i>a train of sth</i> : a series of events or actions that are related. Ex.: <i>The decision set off a train of events which led to his resignation.</i> Sense 3: <i>train of thought</i> : a related series of thoughts that are developing in your mind. Ex.: <i>I've lost my train of thought.</i> (2009: 1875)

Table 1: Representation of the sense of *train of + N* in monolingual dictionaries of English

It can be seen that all six dictionaries have attempted to describe and interpret the meaning of the expression *train of + noun* and they have listed it as some kind of sense of the headword *train* under a varied indexing of the given sense. Not even a single occurrence of the construction was to be listed under the entry *thought*. Concerning the distribution of the nominal potentially following *train of* only two, *thought* and *event* are to be found, which suggests that we are facing here the case of a phrasal collocative pattern of the expression. As for morphological patterning of appearance, *train* in its NP is preceded by different types of determiners, a definite or indefinite article, or possessive pronominals, which have a balanced rate of frequency of occurrence in the examples given. This description of the *train of + N* construction, however, misses a primary semantic-pragmatic factor of the sense and usage: no account is given in any of the dictionary sources of the metaphorical load (versus literal sense) of this type of expression. Additionally, although the examples given markedly reveal the relevance of semantic prosody² in their semantic potential by way of presenting cases in which the manifestation of either negative or positive polarity of content is obvious, the semantic functional load of this factor is left largely unnoticed by all of the dictionaries consulted. This aspect, however much obviously traceable, is heterogeneously represented by the examples given in the dictionaries. *Train of events* dominantly seems to have negative rather than positive polarity in its semantic prosody as exemplified by the sentences given in LDOCE, MED, OALD, COBUILD, and CALD. *Train of thought*, however, has both expressed positive (CALD) and negative (COBUILD, MED, LDOCE) polarity. A further piece of observation concerns the morphological representation of the lexical items constituting the source domain in the metaphorization: in the examples given by all the six dictionaries *event* occurs in its plural, whereas *thought* occurs in its singular form.

2.2 Representation of *train of + N* in OED

The metaphorization of the sense of *train of + noun* is not a new phenomenon in English. Its occurrence is amply represented in the authoritative dictionary source of the English language with an etymological bias: *The Compact Oxford English Dictionary* (2nd edition). Definition of the metaphoric sense of the construction indexed as 11.b. can be found on p. 2094: “A series, succession, sequence (of actions, events, thoughts, or phenomena, etc.)”. Usage of this

² The technical term "semantic prosody" refers to the positive versus negative potential collocational patterning of the lexis in textual or discourse based interpretation of cohesive, semantic-pragmatic representation. Its nature is described and analyzed in detail in the seminal monograph of Stewart (2010).

sense has been rampant since the second part of the 17th century. The rich body of examples given include the following:

1645: Howell: Lett. (1650). I. 445. *A wife is the best or worst fortune that can betide a man throughout the whole train of his life.*

1651: Hobbes: Levithan I. iii. 8. *By Consequence, or Trayne of Thoughts, I understand that succession of one Thought to another, which is called (to distinguish it from Discourse in words) Mentall Discourse.*

1690: Locke: Hum. Und. II. xiv. §3. *A train of ideas, which constantly succeed one another in his Understanding.*

1764: Reid: Inquiry v. §5. *Long and demonstrative trains of reasoning.*

1769: Robertson: Chas. V, I. Wks. 1813 v. 165. *A long train of fortunate events.*

1770: G. White: Let. 19. Feb. in Selborne (1789) II. iii. 125. *Your observation struck me so forcibly, that I naturally fell into a train of thought that led me to consider whether the fact was so.*

1858: *train of causes*, 1899: *train of thought*, 1912: *a very short train of waves*, 1953: *train of thought*, 1955: *train of talk*, 1959: *train of thought*

Let me call attention to the wide choice of nominal lexical items used following the entry *train* in the construction. Such a rich variability in the choice of the lexis of the expression carrying the given sense refers to the ongoing process of productivity and constructionalization in the history of English since the second part of the 17th century up to our present days. Let me hypothesize here, based on the morphological character of the expression given, that dominance of the singular (rather than of the plural form) of the collocating nominal may perhaps also be symptomatic of the historical process of the constructionalization of the metaphorically used expression. At the same time, studying the total body of the examples given in OED, it can clearly be seen that the frequency of occurrence of *thought* is manifest from a historical perspective, that is, the ratio of the occurrence of the noun complement occurring in the construction reveals results similar to the conditions of usage in present-day English.

2.3 Corpus-based findings

The frequency of occurrence as well as the lexical constituents and morphological variation of *train of* + noun were examined in BNC, the British National Corpus of 100 million words with the principal aim to see the choice and frequency of noun complements appearing in the construction. Data of the examination are given in Table 2. The total frequency of occurrence of the expression used in the literal as well as in metaphoric sense amounted to 183.

Literal train of + N	train of (48)	a train of (11)	trains of (18)	the train of (9)	the trains of (1)
Metaphoric train(s) of + N	train of (135)	a train of (25)	trains of (18)	the train of (34)	the trains of (2)
Immediately following N in metaphoric sense	<i>thought</i> (76) <i>events</i> (22) <i>thoughts</i> (4) <i>attendants</i> (3) <i>pulses</i> (3) <i>impulses</i> (2) <i>sorts</i> (2) <i>suspense</i> (2) <i>association</i> (1) <i>associations</i> (1) <i>birds</i> (1) <i>books</i> (1) <i>causality</i> (1) <i>clicks</i> (1) <i>consequences</i> (1) <i>courtship</i> (1) <i>developments</i> (1) <i>donkeys</i> (1) <i>fairies</i> (1) <i>hair</i> (1) <i>horses</i> (1) <i>idea</i> (1) <i>ideas</i> (1) <i>incidents</i> (1) <i>kites</i> (1) <i>leaves</i> (1) <i>players</i> (1) <i>regression</i> (1) <i>thinking</i> (1)	<i>thought</i> (10) <i>events</i> (4) <i>servants</i> (2) <i>associations</i> (1) <i>clicks</i> (1) <i>consequences</i> (1) <i>donkeys</i> (1) <i>electrical</i> <i>impulses</i> (1) <i>leaves</i> (1) <i>players</i> (1) <i>small boys</i> (1) <i>stimuli</i> (1)	<i>thought</i> (6) <i>ideas</i> (2) <i>kites</i> (2) <i>animals</i> (1) <i>clicks</i> (1) <i>gauge</i> (1) <i>oxen</i> (1) <i>pulses</i> (1) <i>stimulation</i> (1) <i>stimuli</i> (1) <i>waves</i> (1)	<i>thought</i> (15) <i>events</i> (9) <i>associations</i> (1) <i>bubbles</i> (1) <i>courtship</i> (1) <i>developments</i> (1) <i>idea</i> (1) <i>impulses</i> (1) <i>incidents</i> (1) <i>pulses</i> (1) <i>regression</i> (1) <i>suspense</i> (1)	<i>ideas</i> (1) <i>thought</i> (1)

Table 2: Frequency of morphological variants of *train of + N* in BNC

The data of BNC reveal the primary collocative potential of the lexical item *thought* (in almost all of its cases used in the singular) with the pattern *train of*, followed by the nominal *event* used in its plural form without exception in the concordances, which data matches the dictionary representation of these items discussed in section 2.1. Occurrence of other nominals in the corpus-based data is significantly lower, and their choice is relatively balanced, however, their conceptual frame-based potential is highly varied in the given morphological variants of the expression. Rampant usage of the plural form of the collocating nominal except for *thought* is significantly outstanding. The data as given suggests that the lower the morphological complexity of the collocating nominal in the pattern (which in our case refers to usage of the noun complement in its singular rather than its plural form), the higher the potential of the given lexical item to undergo metaphorization in its collocational patterning with *train of*. Overabundance of plural forms of collocating nominals in the above lists refers to a possibly weaker stage of constructionalization and metaphorization. Concerning the rate of occurrence of the morphological patterning of the keyword *train* in the corpus, the form lacking a determiner (definite or indefinite article, possessive pronoun) or plural marker proved to be highest. Interestingly, frequency of patterning with the definite rather than the indefinite article was slightly higher in the text samples stored in BNC. Perhaps not so surprisingly, possessor *events* or its conceptual synonyms had not even a

single piece of occurrence in the morphological pattern where the head noun *train* occurred in its plural form.

2.4 Results of native speaker testing

Aiming to gain data of control testing against those of the corpus-based examination, I verbally interviewed 20 native speaking adult individuals. They were given the pattern *train of* as stimulus and were asked to give possible collocating nominals in the construction which they either used in their own idiolect or considered to be acceptable in the language. They were also asked to express their views on the expression interpreting its meaning. Responses are given in Table 3.

<i>train of</i>	<i>events</i> (12), <i>ideas</i> (15), <i>reasoning</i> (3), <i>thought</i> (20), <i>understanding</i> (2)	continuity, directional, metaphoric, negative polarity for <i>train of events</i> , movement, ongoing character/nature, periodical, process, progress, sequential
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Table 3: Nominals collocating with train of used or accepted by 20 native speakers of English

A striking result of native speaker testing was the very low number of types and the numerical amount of nominals associatively linked to the pattern *train of*. The collocational potential of the noun *thought* was absolute and overwhelming, which refers to the constructional patterning, phrasal unity of the keywords of the expression. This result of testing clearly parallels those gained from corpus-based investigations. The relative frequency of the item *ideas* (used in its plural form!) expresses its semantic-pragmatic, conceptually (frame-based) linkage to the more expressed occurrence of *thought*. The same type of conceptual domain, that of mental activity seems to have been evoked via activation of two further items, *reasoning* and *understanding*. This conceptually based factor was simply neglected by the (mainly corpus-based) dictionaries consulted, without exception. Native speaker testing justified the conceptually based patterning of *train of* and *events* in metaphoric usage, but interestingly, it also revealed the fact that this linkage was somewhat weaker than that of the lexical items manifesting the conceptual domain of mental activity. Data expressing characterization of the nature of the metaphoric load and force of the phrasal construction reveal the importance of expressed conceptually as well as perceptually based aspectuality in interpreting its meaning. The role of semantic prosody via reference to an expressed rate of negative polarity in the case of phrasal collocability with the nominal *events* can be traced markedly in the test results, a factor left without notice and interpretation by the learner-based dictionaries.

2.5 Discussion of metaphorization and constructionalization

As a result of the corpus-based findings and native speaker testing, but also, to some extent, based on the representation of our object of study in monolingual dictionaries of English, and with reference to the historically based *OED* (*The Compact Oxford English Dictionary*), we have been witness to an undoubtedly powerful tendency of metaphorization of the *train of* + N expression, or lexical pattern. The most outstanding lexical representation of this process

obviously occurred in the metaphoric manifestation of *train of thought*, with both keywords morphologically occurring in their singular form, but metaphorization of *train of events* (in the plural form of the nominal complement keyword) was also frequent. Most of the other nominals occurring as prepositional complements in the expression had a much lower rate of frequency in BNC, they were countable, and were dominantly represented in their plural form. These observations clearly express the process of the metaphoric and formal constructionalization of the expression. From a formal and semantic point of view, due to the relative flexibility of morphosyntactic representation, we can also say that we are facing here the case of idiomaticization, or perhaps, viewing the dominant lexical variant of the construction both synchronically and diachronically, we may also feel witness to the case of development of a form of phrasal constructionalization with reason. Let me also note (with reference to experimentation by Gibbs and Colston (2012) as well as by Kintsch (2008)) that during comprehension of *train of thought* decoding the communicative force of the expression spontaneously and directly happens non-literally and via activation of the figurative sense rather than via the literal meaning of the lexical constituents of the conceptual metaphor, which points to the non-compositional nature of the expression. This fact without any doubt serves as a primary condition of revealing constructionalization. Interpreting the meaning and communicative force of the expression in this way is highly influenced by conditions of the salience of these constituents, conventionality of their co-occurrence arising from lexical pragmatic (schematic) factors, for instance, frequency of co-occurrence and acceptability, based on conceptual and cognitively stored and enhanced matching as described and analysed in Giora's seminal monograph (2003).

But let us further investigate the nature of metaphorization we are witness to. According to the cognitive linguistic framework of interpreting metaphorization, *train of thought/ideas* conceptualizes the notion of 'movement' or 'journey' given in the THINKING IS MOVEMENT conceptual metaphor of the generic type (see section 1 above), of which master metaphor (Kövecses 2008: 382) it is a subordinate type. In these metaphors the items of key status, 'movement' and 'journey', constitute the source domain, and 'thinking' (and other, conceptually salient synonyms in its lexical domain) serves as the target domain. Consequently, in the lexical representation of the master metaphor in the form of the conceptual metaphor *train of thought* the lexical item *train* linguistically embodies the source, whereas the item *thought* expresses the target.

Beyond being identified as a conceptual type of idiom, *train of thought* can also be taken to be the linguistic representation of an image metaphor along the lines of argumentation given by Crisp (1996) and Semino & Steen (2008). Image metaphors are perceptually, that is, experientially grounded. *Train* in the metaphor, beyond being grounded conceptually, may also be understood and interpreted perceptually as based on the conceptually relevant parameters of length, periodicity, moving, directionality, which features are basic facets of the perceptually grounded concept of 'trainhood' mentally stored in lexical network of the conceptual domain (frame, scene, and script) of the transportation schema, and which features then inherently constitute the basis of the process of metaphorization. (Let me note here that exactly such features were clearly activated in the memory of my native speakers during testing described and interpreted in section 2.4.) This can be interpreted by saying that the train-specific image schema is constituted by a number of generic image-creating factors, and these include length, movement, and others. Another major factor underlying metaphorization is the fact that 'train' serves as a constituent in the mental framing of 'travelling' or 'transport' about which subjects have acquired and developed stereotypical knowledge in the course of their cognitive development. It is this mental framing that serves as an underlying

force of making metaphorical inferences. The lexical item *train*, having the status of a keyword in the expression, spontaneously and simultaneously activates this mentally stored underlying frame together with the relevant generic image schema related to it.³ The source and the target domain's keywords may have a balanced schema-evoking potential both in their literal meaning and also in their metaphoric constructionalization. However, the schema evoking potential of these functional constituents may also have a different grade in metaphorization. In the phrasal construction that is the object of this study, the frame-evoking potential of the keyword of the source domain, *train* surpasses that of its target domain partner.

As already noted and tested above relying on corpus evidence, *train* is metaphorically conceptualized with *thought* primarily and most conspicuously in the singular morphological form of the two nominals as a phrasal construction. Representation of the plural form of the source domain nominal in the metaphorically based construction has fairly low frequency, and its occurrence in a historical perspective is much more recent, which fact, I believe, points to the role of an analogical development in the historical extension of usage of this construction.⁴ Hypothesizing the firmer status of usage of the singular form in constructional appearance is supported by the fact that in the large, well-tagged BNC corpus not even a single case of occurrence of the expression with simultaneous pluralization of the source keyword *train* and the target keyword *thought* (*trains of thoughts*) can be found.⁵

3 Conclusion

Based on the results of findings gained from corpus-based investigations as well as native speaker testing used as parallel, simultaneous control, it can be stated that the object of this study, the expression *train of thought*, and more broadly, the lexical pattern *train of + N* is to be taken as a constructional type as well as a phrasal metaphor which is simultaneously conceptually and image-based in English, both from a historical and a synchronic perspective. Its mental processing and storage is schematic in nature, and from a functional point of view its representation is non-compositional underlying its strict metaphorical, non-literal understanding enhanced by conditions of conceptually and lexically based salience.

Sources

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³ I would like to thank Zoltán Kövecses for his useful pieces of advice given in support of this argumentation.

⁴ This hypothesis, however, requires further support via corpus-based investigation of the regional and stylistically different varieties of the language. The data of *thought* vs. *thoughts* in the construction will have to be further interpreted against the metaphorically based constructional occurrence of other nominals which do occur in the corpus, especially those which, concerning their frame-based status, are conceptually closely related to the concept of 'thought'.

⁵ Let me note, however, that usage of the double plural form *trains of thoughts* gradually seems to gain some ground in current English (especially US-based) usage. Examples of this form have started to occur dominantly in media language since first decade of the 21st century.

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