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Force-dynamic cultural models in a scalar adjectival construction
(manuscript – talk given at UK-CLC5, Lancaster University, july/August 2014)

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1. Introduction

The English [*too* ADJ *to* V]-construction is best described as involving an implied force-dynamic relation (cp. Bergen & Binsted's (2004) notion of an implied pragmatic relationship) between the ADJ- and V-elements (Fortuin 2013, 2014; Jensen 2013, 2014), as seen below :

- (1) The tatty furniture betrayed elegant lines, and the windows, too grimy to see through, stretched up ten feet. (COCA 2011 FIC Bk:NeverGentleman)
- (2) They're too slow to catch a seal in open water. (COCA 2011 MAG NationalGeographic)
- (3) If the making of a revolution is drama, punctuated with tragedies too numerous to count, making peace is long-form prose requiring iterations of conversation between people. (COCA 2011 MAG TechReview)

Reporting on a general corpus-study of the construction, Jensen (2013) suggests that it is a scalar adjectival construction in which the presence of *too*, a booster-type degree modifier (Paradis 200:149), specifies such a high degree of ADJNESS – that is, whatever attribute the ADJ-element expresses – that it is construed as having a preventive effect on the situation expressed by the V-element. In his work on the same construction, Fortuin (2013) calls this function EXCESS, as the high degree of ADJNESS exceeds a maximum degree of appropriateness for the situation predicated by the infinitive clause (see Fortuin 2013: 35 for the full definition of the EXCESS concept). Thus, it is the force-dynamic image schema of BLOCKAGE (Johnson 1987: 45-46) that constitutes the implied force-dynamic relation. This should be quite clear in examples (1-3) above, in which there is a 'natural' relation of prevention between the attribute expressed by the ADJ-element and the event expressed by the V-element. Now, consider the following examples:

- (4) She felt she was too young to marry. (COCA 2010 FIC Bk:ClassTrip)
- (5) Danes will be far too polite to laugh at you. (COCA 2011 NEWS Denver)
- (6) Mr. Turman insisted he was too busy to meet at any other time. (COCA 2011 NEWS NYTimes)

While (1-3) reflect perceptions of 'natural' force-dynamic relations, (4-6) appear to draw on culturally defined force-dynamic relations. This seems to indicate an interaction between the constructional semantics underlying cultural models (Holland & Quinn 1987, Ungerer & Schmid 2006: 51-59) of force-dynamics or causation (d'Andrade 1987: 117-118).

Applying covarying collexeme analysis (Stefanowitsch & Gries 2004), the present study investigates collexeme combinations in the [*too* ADJ *to* V]-construction in Davies (2014) *Corpus of Contemporary American English* (or *COCA*) in order to see how force-dynamic cultural models emerge in the discursive behaviour of the construction. Taking into account the relations between an individual linguistic unit and that discourse in which it occurs, we can assume that, if a construction in discourse is reflective of a cultural model, there should also be access points to the same model in the discursive context. Therefore, we are also going to have a brief look at the interaction between instances of the construction and their co-text in specific usage-events with a view to identifying co-textual cultural model cues.

This paper is structured as follows. In section 2, we will address the notion of cultural models, offering a definition that generalizes over definitions offered within cognitive anthropology, cognitive linguistics, and intercultural communication studies. Section 3 offers a brief account of the data and method used, while section 4 discusses three specific instantiations of the construction – namely [*too young to* V], [*too polite to* V], and [*too busy to* V] – and how they appear to draw on cultural models of age, politeness, and being busy. Finally, in section 5, we discuss role of co-text in

relation to constructions and cultural models.

2. Cultural models

Cultural models are defined by Quinn & Holland (1987:4) as cognitive structures that are “presupposed, taken for granted models of the world that are widely shared ... by members of a society and that play an enormous role in their understanding of the world and their behavior in it”. In that sense, they are both social and cognitive, constituting the encyclopedic knowledge of the world associated with the worldview of a community.

The notion of cultural models is not particularly widespread in cognitive-linguistic analysis, where the term ‘(idealized) cognitive model’ is more prevalent. However, with the emergence of cognitive sociolinguistics (e.g. Kronenfeld 2014; Schneider 2014) and the increasing interest in socio-cultural aspects of language and cognition within cognitive linguistics (e.g. Croft 2009; Harder 2010), it is not unlikely that we will encounter the concept of cultural models more frequently in cognitive-linguistic work in the future.

2.1 *What is a cultural model?*

Naturally, cultural model theory constitutes a rather complex area, and it would be impossible to do full justice to it in a paper like the one at hand. However, I think it is safe to say that most scholars in the field would agree that the following five generalizations are applicable:

- (a) cultural models are schematic cognitive models, which involve universal cognitive structural principles and processes (Rice 1980: 154);
- (b) cultural models are intersubjectively shared in a community and thus culturally specific (D’Andrade 1987: 112; Ungerer & Schmid 2006: 51);
- (c) cultural models are presumed by the members of the community to be intersubjectively shared (D’Andrade 1987: 113);
- (d) cultural models guide the community members’ understanding of the world and people (Quinn & Holland 1987:4; Kronenfeld 2008: 69);
- (e) cultural models are behavior-mediating and behavior-regulating (Fryberg & Markus 2007: 215).

Points (a) and (b) may initially appear to be mutually contradictory. Whereas Ungerer & Schmid (2006: 51) stress the culture-specificity of cultural models, Rice points out that (1980: 154), while culturally specific, cultural models draw on universal cognitive organizational principles and universal cognitive processes. In all fairness, Ungerer & Schmid (2006: 51-52) do suggest that cultural models and cognitive models are two sides of the same coin, with the former term capturing the socio-cultural nature of this type of cognitive phenomenon and capturing its psychological nature.

Implicit in point (b) is also that cultural models constitute the common ground of a community. The taken-for-granted nature of cultural models is captured by point (c). The presumption of shared intersubjectivity in a community rests on our awareness of other minds and the knowledge (or assumption) that other people also know what you know (D’Andrade 1987: 113). Another important factor is conventionalization, or standardization:

When we do anything with others, including talking (!), it is necessary to interrelate our separate cognitive structures; and when we routinely do something with a variety of others we will tend to develop some standardized way of doing it – where “standardized” refers to categories of actions, items, acceptable result, and so forth. These shared action plans emerge as cultural models. (Kronenfeld 2008:71-72)

Cultural models thus emerge as standardized categories of experiences within a community. Moreover, due to their intersubjective nature, cultural models are acquired socially-experientially via what D’Andrade (1981: 182) calls “repeated social transmission”. That is, by repetition, cultural models are entrenched in the members of the community in question, following the principles of

distributed cognition (Kronenfeld 2014).

Kronenfeld's (2008:71-72) description of cultural models as shared action plans leads us to points (d) and (e). I would contend that not necessarily all cultural models are action plans *per se*. However, cultural models – by virtue of being entrenched schemata based on repeated experiences (or distributed transmissions thereof) – inevitably *become* reality to the community in question. Consequently, its members' perception of the world will typically be filtered through their worldview and the cultural models that it consists of. Naturally, people's behavior is adjusted to their perception of the world, and the members' behavior will typically be informed by their intersubjectively shared cultural models. We see this in, for instance, superstitions which often draw on various force-dynamic image schemata (Johnson 1987: 42-48; see also Talmy 2000: 409-470). Causal superstitions, for example, build on the underlying force-dynamic image schema of COMPULSION (Johnson 1987: 45), such that IF SITUATION P HAPPENS, THEN SITUATION Q INVARIABLY FOLLOWS. An example of a causal superstition is BLACK CATS BRING BAD LUCK in which, if you encounter a black cat, it invariably causes you to experience bad luck. Such superstitions typically have no objective truth to them, but many people still behave as if they were true. For example, people might be inclined to avoiding black cats, and this often in spite of people knowing that there is no truth to this superstition (Watzlawik 2013:513).

As it happens, causal superstitions are instances of force-dynamic cultural models: cultural models in which a force-dynamic image schema plays a pivotal role. Force-dynamic cultural models are perceptions of force-dynamic relations that are entrenched within a community. Of course, they need not be superstitious, but they are typically idealized to a large extent and typically more based on cultural values than on actual force-dynamic relations.

Readers are referred to the following for more on cultural model theory and its application in analysis of cultural and communicative phenomena and social behavior: Rice (1980), D'Andrade (1981, 1987), Holland & Skinner (1987), Keesing (1987), Quinn (1987), Quinn & Holland (1987), Sweetser (1987), Li et al. (2004), Gries & Stefanowitsch (2004), Ungerer & Schmid (2006), Fryberg & Markus (2007), Kronenfeld (2008, 2014), and Schneider (2014).

2.2 Cultural models, verbal behavior, and corpus data

If cultural models are behavior-regulating, then behavior is also reflective of cultural models. This includes verbal behavior, and cognitive anthropologists generally analyze verbal behavior to identify underlying cultural models. Interestingly, with the exception of a few studies (e.g. Stefanowitsch & Gries 2004), language corpora and corpus methodology are rare among the techniques used in the analysis of cultural models and their reflection in verbal behavior, with interviews and experimental verbal tasks being preferred.

Of course, there are several studies in corpus linguistics that address and reveal states-of-affairs in cultural space (e.g. Leech & Fallon 1992; Ooi 2000; Elsness 2013). Thus, corpus data and methodology have proven valuable in the analysis of the language-culture interrelation. I would contend that, since language corpora document verbal behavior in a naturalistic setting, corpus data and methodology – as Stefanowitsch & Gries (2004) have already shown – can be used more specifically in the study of the relation between verbal behavior and cultural models.

3. Data and method

The data were retrieved from the 464,020,256-word *COCA* (Davies 2014). Consequently, we are focusing on cultural models in American culture. Using *COCA*'s built-in concordancer, and having weeded out non-instances, 19,525 instances of the construction were retrieved. It should be noted that, because the mark-up of primary verbs in *COCA* is not optimal. I have left out instances where the primary verbs appear in the V-position. Consequently, some potentially important information is left out. Ideally, primary verbs should be put into the equation eventually, but this would require a re-annotation procedure first in which a distinction is made between auxiliary and main verb uses. Similarly, cases where the infinitive V-clause is negated, as in *The construction was too interesting not to study* are also left out. The justification for doing this is that there is a chance that [*too* ADJ

not to V] may be a constructional exemplar in its own right, and including it might skew the analysis to some extent.

Using, Gries (2007), the 19,525 instances were subjected to a co-varying collexeme analysis (Gries & Stefanowitsch 2004, Stefanowitsch & Gries 2005), which is a corpus-based collostructional analysis that measures the degree of coattraction between the lexemes in two schematic positions a construction. Covarying collexeme analysis is based on the principle of semantic coherence (Stefanowitsch & Gries 2005: 11), according to which we can expect lexical items in a construction to display a relation of mutual semantic coherence. A fundamental principle of collostructional analysis is that canonical instances of lexeme-construction relations involve semantic compatibility between the lexeme and the construction, and, in the case of covarying collexemes, the relation of semantic coherence is typically compatible with the semantic relation between the positions in the construction in which the collexemes occur. Thus, by measuring coattraction items in a construction, we may identify aspects of the semantic relations between the two positions in the construction. In this study, then, we measure the coattraction between ADJ- and V-elements. The degree of coattraction is referred to as collostruction strength (abbreviated ‘Coll.strength’ in tables in this paper) and is based on a *p*-value generated in a Fisher Test or a similar statistical test on the basis of the following four frequencies: the first lexeme in one position in the construction, all other lexemes in the same position, the second lexeme in the other position in the construction, and all other lexemes in the other position in the construction. This is applied to every lexeme in the construction. In the present study, log-likelihood is applied, as it allows for somewhat more fine-grained distinctions between the most strongly coattraction items in a construction than the plain Fisher Test does. Covarying collexeme analysis produces a ranked list of pairs of coattraction lexemes in the construction, which based on collostruction strength: the higher the score, the stronger the relation of coattraction.

Table 1: Top 50 co-attraction collexemes

Rank	ADJ	V	Coll.strength	Rank	ADJ	V	Coll.strength
1	EARLY	TELL	1528.38435699167	26	HEAVY	CARRY	124.3755261225
2	BIG	FAIL	1402.67780068168	27	EARLY	START	117.768042298989
3	EARLY	SAY	673.749651472347	28	BRIGHT	LOOK	117.390507556761
4	DARK	SEE	633.712280147262	29	EARLY	JUDGE	115.433514626678
5	YOUNG	REMEMBER	531.616708933419	30	QUICK	DISMISS	114.717496452921
6	GOOD	PASS	472.135275027497	31	DRUNK	DRIVE	110.023133085789
7	YOUNG	UNDERSTAND	382.967430930175	32	POOR	BUY	109.593957847202
8	LATE	SAVE	347.581214895259	33	POOR	PAY	107.296055875141
9	POOR	AFFORD	296.953845988046	34	YOUNG	DIE	104.082372063773
10	NUMEROUS	MENTION	257.678226584586	35	NERVOUS	EAT	101.74693979917
11	HOT	HANDLE	252.439074720694	36	WILLING	COMPROMISE	98.2819850184592
12	YOUNG	KNOW	236.34785774602	37	HAPPY	OBLIGE	96.7323055289143
13	NUMEROUS	LIST	196.972148943439	38	PROUD	BEG	94.4930655943287
14	NUMEROUS	COUNT	191.258628641587	39	GOOD	LAST	93.4881306758162
15	LATE	STOP	182.127970563589	40	LATE	PREVENT	90.9142499207819
16	BIG	FIT	160.696104391523	41	EARLY	DECLARE	89.3289490607868
17	LONG	WAIT	157.281159244082	42	PROUD	ADMIT	89.3281331956656
18	LATE	CHANGE	148.375173429508	43	BUSY	HATE	85.9966045271147
19	HEAVY	LIFT	142.098947417316	44	STUPID	KNOW	85.8915891668518
20	EARLY	PREDICT	139.519518681335	45	EARLY	DRAW	85.8044242609496
21	EMBARRASSED	ASK	136.584536119856	46	OLD	PLAY	84.8966595204195
22	HOT	TOUCH	136.105562887376	47	LARGE	FIT	84.6157631272607
23	SHY	ASK	132.647426404279	48	BUSY	NOTICE	84.3978141577957
24	EARLY	DETERMINE	129.615268822683	49	EXCITED	SLEEP	83.1571745295513
25	COMPLICATED	EXPLAIN	125.320990839008	50	LATE	START	82.4649826421847

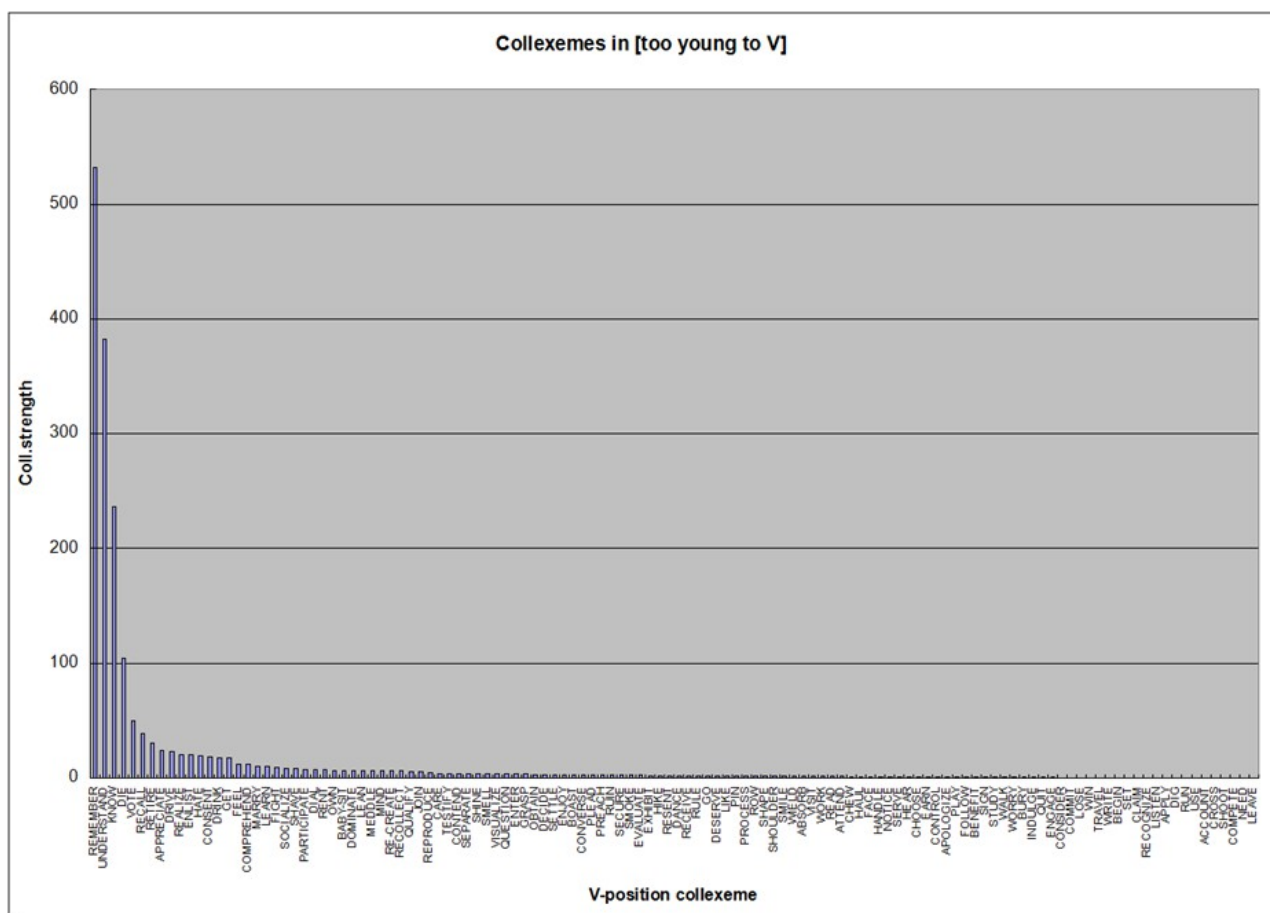
4. Cultural models of AGE, POLITENESS, and BEING BUSY

In the following, we are going to focus on the covarying collexeme attraction patterns in three instantiations of the construction – namely [*too young to V*], [*too polite to V*], and [*too busy to V*]. While there are other instantiations, in which force-dynamic cultural models emerge in the

discursive behavior associated with the construction, these three have been chosen because they are expressive of contents that are quite obviously interlinked with behavior, interpersonal relations, and cultural values.

4.1 [Too young to V] and cultural models of AGE

Quinn & Holland (1987:4) and Kronenfeld (2008: 69) point out that cultural models serve to help members of a community make sense of other people's behaviour. In light of this, it is likely that people assign causality to the behavior of other people as a way to make sense of, and identify patterns, in their behavior. AGE is often assigned significance within cultures, in the sense that certain types of activities are often considered appropriate for or typical of some age ranges and inappropriate for and typical of other age ranges. For instance, it is typically inappropriate for adults to play with toys, and children are not expected to discuss politics. Thus, we can expect [too young to V] to be reflective of force-dynamic cultural models of AGE in which YOUNGNESS is construed as being preventive of the activity expressed by the verb-element.



As may be expected, *young* occurs with *drink*, *drive*, *vote*, *enlist*, and *testify* which reflects underlying cultural patterns of behavior relating to AGE, ultimately governed by legal restrictions, such that a MINIMUM AGE is imposed upon certain activities. In the construction, *too young* construes a degree of YOUNGNESS that exceeds the MINIMUM AGE specified by the legal restrictions in question and prevents the activity from taking place.

What may be particularly striking is that *young* appears to attract verbs of COGNITION and EVALUATION, such as *know*, *remember*, *understand*, *recall*, *appreciate*, *realize*, *comprehend*, *learn*, *recollect*, *question*, *grasp*, *evaluate*, *process*, and *recognize*. This may indicate an underlying perception of a causal relation between AGE and INTELLECT in American culture where YOUNG AGE has a preventive effect on INTELLECTUAL CAPACITY. Below are five examples:

- (7) At 14, Jamie Fleming should be too young to know about guns or any of the specific details of violence and perversity that fill his mind – and, he says, his memory. (COCA 1993 SPOK CBS_EyeToEye)
- (8) “My compliments to the host,” I said, hoping she wasn’t too young to understand irony. But she shoved the bottle back to me, her mask swiveling to the left. “I can’t take that,” she said, her voice carrying more than a trace of alarm. “Someone might think you’re trying to bribe me.” (COCA 2005 FIC Analog)
- (9) AT FIFTEEN, BILL JOHNSON was really too young to comprehend the danger of frostbite. (COCA 1997 MAG FieldStream)
- (10) It was later on, when he grew up, that he began to think back and ask the questions his son now asked him. At the time of the heroic deed he was too young to grasp the real danger implicit in that challenge, but his father was no child. How could he have imperiled his son’s life without shaking at all? (COCA 2011 FIC MassachRev)
- (11) Of course the juvenile justice system does occasionally deal with children too young to appreciate the moral dimensions or real-world consequences of their behavior... (COCA 1998 ACAD CATOJournal)

In conjunction with the examples in (7-11), the table not only suggests a force-dynamic cultural models in which YOUNG AGE has a preventive effect on cognitive activity, but a rather complex network of force-dynamic cultural models of AGE in which YOUNG AGE prevents various types of intellect- and morality-based activity and behavior seems to emerge. This network may be encoded by a more or less conventionalized [*too young to V^{COGNITION}*]-schema. Moreover, as seen in (7-11), the force-dynamic relation of YOUNG AGE BLOCKING INTELLECTUAL CAPACITY is applied in a myriad of different ways, depending on the immediate linguistic context. Thus, [*too young to V^{COGNITION}*] enters into reciprocal specificational relationship with other elements in the textual context. It is likely that there is semantic coherence throughout the entire stretch of discourse that relates to the instance of [*too young to V^{COGNITION}*] in question. For example, a formulation like **At 31, he was too young to understand love* would be semantically odd, while *At 31, he was too young to understand the traumas that Vietnam veterans must live with* would be semantically acceptable.

4.2 [*Too polite to V*] and cultural models of POLITENESS

POLITENESS, like AGE, is a concept tied in with socio-cultural values. More specifically, POLITENESS draws on cultural models of FACE NEGOTIATION IN INTERPERSONAL ENCOUNTERS. Looking at the colllexemes of *polite* in [*too ADJ to V*] may thus provide us with an insight into the types of actions that are considered face-threatening in the cultural model of POLITENESS in American culture.

Rank	V-collxeme	Coll.strength	Rank	V-collxeme	Coll.strength
187	POINT	30.5672271641503	5343	QUESTION	4.74521109119079
689	ASK	15.6858843393549	5660	PRESS	4.33883183955905
1586	ADD	11.5827669045595	5885	COMPLAIN	4.00654115581295
1788	DISAGREE	10.9576572377518	5999	EXPRESS	3.86086299741675
1789	INQUIRE	10.9576572377518	6112	CHALLENGE	3.72620463388153
1790	INTRUDE	10.9576572377518	6405	HANG	3.37493993098503
1791	MOB	10.9576572377518	6462	PROTEST	3.27209380810244
1792	PANHANDLE	10.9576572377518	6550	LAUGH	3.17510464070332
1793	PROD	10.9576572377518	6607	CUT	3.08338600227585
2634	SHOW	9.22377663737937	7770	ANSWER	1.62749963798727
2675	COMMENT	9.08447479930314	8121	TELL	1.18680979036716
3341	MENTION	7.59308441716341	8416	CALL	0.847704293794656
3740	SPLIT	7.15520256119745	8438	HEAR	0.831361544987574
3741	STARE	7.15520256119745	8568	WALK	0.697028011213217
4186	SHUT	6.48392222087731	8687	LEAVE	0.559520689139443
4451	BARGAIN	5.98689537620631	8711	TURN	0.537211747809936
4452	INTERRUPT	5.98689537620631	8944	STOP	0.320858221431116
4453	LAUNCH	5.98689537620631	9022	USE	0.247437918538486
5154	END	4.98754829450725	9057	GIVE	0.223994004176158
5342	OBJECT	4.74521109119079	9292	SPEAK	0.0459091639384382

There is an abundance of verbs of COMMUNICATION and other ACTS OF INTERPERSONAL INTERACTION, such as *point (out)*, *ask*, *add*, *disagree*, *inquire*, *comment*, *mention*, *object*, *question*, *complain*, *express*, *protest*, *tell*, and *speak*. Below are three examples of usage-events in which such verbs appear opposite *polite* in the construction:

- (12) He didn't know my name either and had been too polite to ask. (COCA 1993 FIC Bk:PatronSaintLiars)
- (13) You'll probably want to explain the birthmark to your friends who are too polite to mention it, but you're not obliged to say anything to strangers who stare. (COCA 2007 MAG Parenting)
- (14) I told them about Henry Dawes and John Collier in return, but maybe they knew about them already and were too polite to tell me. (COCA 1998 ACAD AmerIndianQ)

This suggests a possibly conventionalized [*too polite to V^{INTERACTION}*]-schema which encodes certain aspects of the American POLITENESS cultural model. More specifically, these findings indicate that, in this cultural model certain acts of communication and interaction may be considered particularly face-threatening in a number of situational contexts. Thus, the [*too polite to V^{INTERACTION}*] schema encodes the types of interactive actions that are considered face-threatening in the model, and, as the examples above illustrate, the co-text may specify the situational context in which the interaction types are face-threatening. The examples in (12) and (14), which are representative of many cases of [*too polite to V^{INTERACTION}*] in *COCA*, indicate that the situational context itself has to do with access to information and knowledge. In (12), for instance, the other interlocutor's ignorance of the narrator's name is construed as face-threatening to the narrator, and the high degree of politeness assigned to the other interlocutor's character prevents him from actually asking the narrator's name. In (14), it is the speaker's lack of knowledge that his or her fellow interlocutors already have access to the information that the speaker conveyed which is construed as face-threatening, thus preventing – according to the speaker's speculation – the other interlocutors from letting the interlocutor know.

Example (13) represents another typical situational context of [*too polite to V^{INTERACTION}*] – namely that of taboo. It is safe to say that in most western cultures, physical deformity is considered taboo, and it is particularly impolite to talk about it in the presence of the person who suffers from the deformity or of people who are close to this person. This is probably because talking about the deformity is considered face-threatening to the person, or people, in question. Now, at first thought, a birthmark may not seem to qualify as a physical deformity. However, the full discursive context of the example in (13), rendered as (15) below, reveals that this is a particularly large and notable birthmark:

- (15) Q: My baby has a birthmark on her face that people notice and even ask about. How should I answer?
A: For sure, when you see someone ogling your baby, your instinct is to do whatever it takes to get that person to stop. But people are going to stare, and even ask questions, not out of malice but from simple human curiosity. So just try to answer as briefly and matter-of-factly as you can (“Yes, it's a birthmark, and it doesn't hurt her at all”), and move on. You'll probably want to explain the birthmark to your friends who are too polite to mention it, but you're not obliged to say anything to strangers who stare. You don't owe the world an explanation, because your child's face is what it is – the face her mother loves. And no mom ever needs to explain that. (COCA 2007 MAG Parenting)

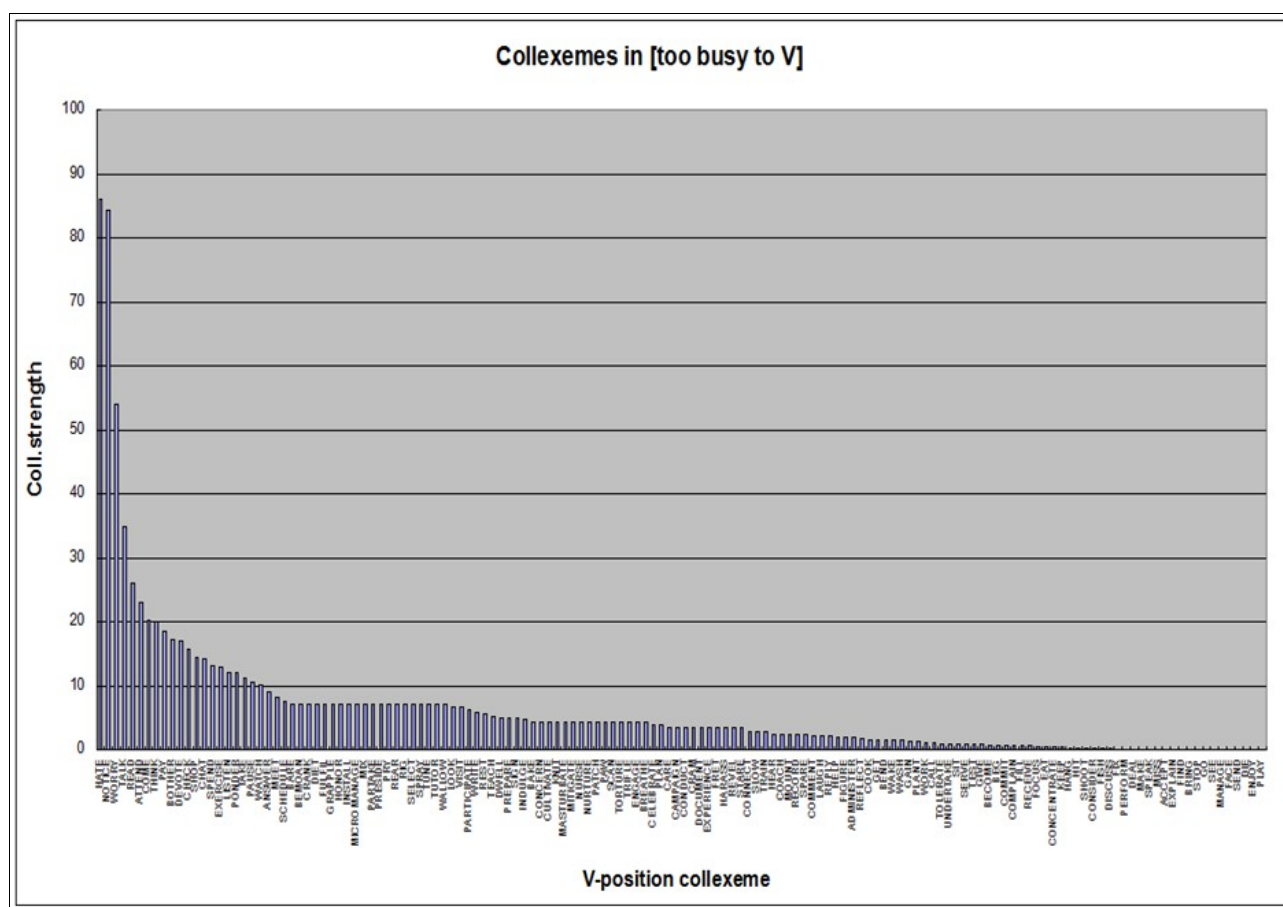
The very fact that the mother asks how to respond to questions about her baby's birthmark signals some social concern, possibly rooted in taboo, in discussing a big birthmark in her baby's face. The person answering the question then hints that such communication may be face-threatening to the mother by suggesting that her friends' politeness might prevent them from mentioning the

birthmark.

Ultimately, our covarying collexeme analysis of lexemes contracted to *polite* in the [*too ADJ to V*]-construction provides us with an idea of the types of actions to be avoided in accordance with the cultural model of POLITENESS.

4.3 [*Too busy to V*] and cultural models of BEING BUSY

As with POLITENESS, the state of BEING BUSY also causes an individual to avoid certain types of situations. Of course, the circumstances are rather different. While POLITENESS has to do with avoidance of situations in the name of saving face or avoiding taboo, BEING BUSY leads to avoidance of situations which the person in question does not have the time to get involved in. In other words, the person in question will have to prioritize some situations and deprioritize others. Investigating the collexemes contracted to *busy* in the [*too ADJ to V*]-construction in COCA may reveal underlying conceptual patterns pertaining to the cultural perception in American culture of the types of situations which are typically deprioritized. Table 3 provides a list of collexemes contracted to *busy* in the [*too ADJ to V*]-construction:



Among the lexical items on the list, we find a number of verbs of HUMAN INTERACTION, such as *talk*, *attend*, *chat*, *answer*, *meet*, *visit*, *hang*, *discuss*, *speak*, and *play*. Below are three illustrative examples from the corpus:

- (16) Why does the sign say Two Cats Company? I only see one. "It's too busy to talk. Let's get to work," I said. (COCA 1991 FIC VirginiaQRev)
- (17) You might be referred to a hospital for treatment in an emergency or when you're ill, due to the possibility that your physician may be too busy to see you himself. (COCA 2007 MAG Prevention)
- (18) I will write them and say you're too busy to visit this summer. Agreed? (COCA 1990 FIC Ploughshares)

As we see in examples (16-18), the construction sets up scenarios in which two people (and a cat) are construed as being so busy that they are prevented partaking in the situation expressed by the infinitive clauses associated with the V-position, thus causing the situations not to happen. The list of collexemes in table 3 suggests that, in an American context, among the typically deprioritized situations we find that activities of human communication, interaction, and social company are prominent.

Thus, if there is indeed an American cultural model of BEING BUSY, we can assume that it includes various types of HUMAN INTERACTION as a category, or maybe a set of categories, of deprioritized situations. In other words, if the hypothesis of an underlying cultural model of BEING BUSY is verifiable, we can assume that social life is generally deprioritized – and deprioritizing it might even be sanctioned – in that model.

5. The role of co-text and the current discourse space

We have seen that the semantic relations among contracted items in the construction may be indicative of underlying cultural models. However, in virtually all of the examples listed throughout this paper, we see that there are cues in the immediate discursive context which may also evoke or specify the cultural model in question, or at least an element within it. We may assume that in canonical discourse situations, or usage-events, there is thematic coherence between an individual linguistic unit or constellation, such as a lexical or a constructional instance, and the co-text. Co-text is defined as “items in the text which accompany the item under discussion” Catford (1965: 31fn2). This thematic coherence may lie in the cultural model being activated – either by cues in the preceding co-text or the instance of the construction (or, of course, various extralinguistic contextual factors) – in the current discourse space. Langacker defines the current discourse space (2001: 144) as “the mental space comprising those elements and relations construed as being shared by the speaker and hearer as a basis for communication at a given moment in the flow of discourse.” Consequently, in analyzing the emergence, or reflection, of cultural models in verbal behavior, it is important to also take into consideration the co-text, because the co-text may provide cues that activate underlying cultural models or specify elements within such models.

Ideally, co-textual features indicative of cultural models should be operationalized and quantified such that potential patterns may be identified. However, this would be a considerably time-consuming affair. Consequently, in this paper, only three examples will be subject to qualitative analysis for illustrative purposes. For the sake of simplicity and clarity, the discussion is limited to [*too young to V*]:

- (19) They called them crazy when they started out. Said, “Seventeen’s too young to know what love’s about.” (COCA 2011 SPOK NBC_TODAY)

In this particular usage-event, which is part of the lyrics of a love song entitled “Love Like Crazy”, we encounter the hypothesized [*too young to V*^{COGNITION}]-schema. There are a number of elements in the co-text of the instance of the schema that activate cognitive models in the current discourse space which are in interplay with *too young to know*. Firstly, the title, which the speaker mentions in a brief introduction of the song before he starts to recite it, evokes in the listener the cognitive model of LOVE (Steen 2003). Secondly, a scenario is set up in which a group of antagonists, using the [*too young to V*^{COGNITION}]-schema, negatively evaluate protagonists’ mutual romantic interest by imposing a preventive force-dynamic relation between the protagonists’ YOUNG AGE and their knowledge about love. Thus, we can assume a conceptual connection between the cognitive model of LOVE (which is likely to be a culturally specific one) and the culturally perceived relation between YOUNG AGE and LIMITED INTELLECTUAL CAPACITY. It may indeed be the case that there are age-specifications and associated force-dynamic relations associated with the model of LOVE. Thirdly, by mentioning that the protagonists are seventeen years old, the song specifies, to some extent, the age that constitutes the degree of YOUNGNESS at which knowledge of love is not to be

expected.

The following example is similar in some ways:

(20) This couldn't be happening. Amanda was much too young to die. Why, she was only 16!
(COCA 2001 FIC Listen)

As with (19), the age that specifies the high degree of YOUNGNESS is specified. In this case, a worldview emerges in which being sixteen years old is not an appropriate age to die at, and thus a negated preventive relation is set up. Prior to the three sentences in (20), the narrator has been informed by her father that her cousin Amanda had been killed. Unlike (19), of course, the age specification is located in the subsequent co-text, so there are differences in terms of the order of activation and specification of concepts in the current discourse space. Note that the underlying worldview seems to be assigned a commonsensical status in the narrator's exclamation, presenting an argument in which the discrepancy between being sixteen years old and dying is construed as a taken-for-granted objective truth. In a similar fashion, the antagonists in (19) present the discrepancy between being seventeen years old and knowing about love as commonsensical. As mentioned earlier Quinn & Holland (1987: 4) point out that cultural models are taken for granted by members of the community in question.

6. Concluding remarks

We set out to investigate the possibility of the discursive behavior of the [*too ADJ to V*]-construction reflecting underlying cultural models.

Cultural models are schematic cognitive models that are intersubjectively shared by the members of a community, which guide its members' understanding of the world and people's behavior; it also mediates and regulates the behavior of the community members. Cultural models are based on universal cognitive principles, but are culture-specific, but their specifics are culture-specific. Given that they are behavior-mediating and –regulating, we can assume that underlying cultural models surface in behavior, including verbal behavior. Thus, analysis of corpus data may, in addition to patterns in verbal behavior itself, reveal emergent cultural models.

Our primary method of analysis is covarying collexeme analysis, which allows us to measure the degree of coattraction among the lexemes that appear in two positions in a construction. Given the principle of semantic coherence (Stefanowitsch & Gries 2005: 11), we can assume that the semantic relations in cocontracted collexeme pairs are reflective of the constructional semantic relations between the two positions. There is an implied force-dynamic relation of PREVENTION, ultimately based on BLOCKAGE (Johnson 1987: 45-46), between the ADJ- and V-positions. Covarying collexeme analysis reveals that the construction is used to express both 'natural', force-dynamic relations of prevention and culturally filtered ones. The culturally filtered relations are held to be reflective of force-dynamic cultural models.

In focusing on [*too young to V*], [*too polite to V*], and [*too busy to V*], we saw several attraction patterns among their respective collexemes that suggest cultural models of force-dynamics. The fact that young is cocontracted to a number of cognitive and evaluative verbs in the [*too ADJ to V*]-construction suggests a perception of young age having a preventive effect on cognition, intellect, and morality, while *polite* was cocontracted to verbs of human interaction and communication in the construction, indicating that – in certain contexts – acts of communication may be face-threatening in American culture. Finally, among the verbs cocontracted to *busy* in the construction, we found a number of verbs of interaction, communication, and human sociality, suggesting that, in American culture, there may be a tendency to deprioritize social situations when one is busy. Our brief discussion of co-texts and current discourse spaces additionally seems to support the tenet in cognitive anthropology that people draw on the commonsensical perception of cultural models as a means to aid them in evaluation of people and situations as well as in decision-making.

I think we can rather safely argue that the [*too ADJ to V*]-construction may indeed be used

to express underlying cultural models of PREVENTION. The question that this raises is whether or not our covarying collexeme analysis reveals the cultural models in their entirety. The answer must be that we have only inferred parts of the cultural models of AGE, POLITENESS, and BEING BUSY in our covarying collexeme analysis. Our brief discussion of the role of discourse spaces shows that taking into account co-text is important, and I would suggest that methods of operationalization and quantification of so-textual cues should be developed in the future. Ultimately, corpus data and methodology are useful in the identification and analysis of the reflection of cultural models in verbal behavior, and it is worth considering adding corpus methodology to the arsenal of methods already used in the study of cultural models in cognitive anthropology and cognitive linguistics, so as to establish an empirically strong triangulatory methodological apparatus.

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