Tense and control interpretations in gerund-participle and to-infinitive complement constructions with verbs of risk

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1. Introduction

In English there are a certain number of verbs which include in their meaning a semantic component of 'risk' and which can also be followed by a non-finite verbal complement, namely *risk*, *venture*, *adventure*, *hazard*, *chance*, *face*, *dare*, *jeopardize*, *imperil*, and *endanger*. The items in this list can all be paraphrased by the verb *risk* in at least one of their uses having a non-finite complement. The goal of this study is primarily to investigate the temporal and control interpretations found with these verbs in this type of construction, and to propose an explanation for the distribution of the complement types found with each verb. More specifically, the study will address two main questions. Firstly, why does the gerund-participle show a variation in the temporal relation between the event that it denotes and the event denoted by the main verb according to the latter's lexical content—see (1)–(2) below—whereas the *to*-infinitive manifests a constant temporal relation with the matrix across different matrix verbs, as seen in (3)–(4)?

- (1) She risked losing me, however unhappy it made her, to keep her name clear.

 (British National Corpus [BNC] JY8 4642)
- (2) When our food came, it was only lukewarm. We chanced eating it and hoped we wouldn't get sick. It tasted ok.

(newyork.citysearch.com/review/11279692)

- (3) He never left our shores and he only once ventured to cross the border into Scotland. (BNC J55 200)
- (4) When at last he had dared to creep from his hiding-place and move on tip-toe up the dark stairs, he had counted to 372 and managed to convince himself that any fate was preferable to having an accident down there amongst the coats. (BNC ACW 1619)

In (1) *losing* is understood to be future with respect to *risked*, while in (2) the chancing is the very performance of the eating and so the two events coincide in time; in

(3) and (4), on the other hand, the venturing and the daring are what leads to the actualization of the events expressed by the infinitives following them and so there is a before-after relation between the two actions.

The second question regards control, where a similar contrast arises: the gerund-participle construction allows a variation in control, which can either be by the subject of the matrix verb, as in (1)–(2), or by some other entity, as in (5)–(6); on the other hand, the *to*-infinitive shows constant subject control readings, as seen in (3)–(4). Why is this the case?

- (5) A delay might have jeopardized getting the petitions certified in time for the February 5 ballot. (www.calcoast.org/news/cpr000051.html)
- (6) Clinton and Gore hoped to attend an environmental rock concert featuring Neil Young, Kenny Loggins and Carole King. But political instincts won out: Bill and Al decided that attending the concert risked incurring the wrath of loggers.

(Canadian Index for Periodicals [CPI]: Time)

This study will not deal with constructions in which a pronoun or a noun phrase intervenes between the verb of risk and the verbal complement such as He couldn't risk Jennifer running out on him again. These are structurally more complex than constructions in which the main verb is followed immediately by the non-finite complement and will be left for future research. The study reported here is based on a corpus composed of 1345 attested uses of written English from the end of the 19th to the beginning of the 20th century, taken mainly from the British National Corpus (BNC), the Brown University Corpus (BUC), and the Lancaster-Oslo/Bergen Corpus (LOB), supplemented by examples from the Internet whose main provenance was the Canadian Periodicals Index (CPI), a data bank containing articles from over 700 newspapers and magazines from Canada and other English-speaking countries. No differences associated with particular regional varieties of English were observed with the set of verbs investigated. The examination of the particular verbs chosen for this study raises general problems concerning tense and control. We turn now to these broader theoretical issues in order to set up the framework for the exploration of the data concerning verbs of risk.

2. FEELING TENSE?

Attempts to account for the distinction between the gerund-participle and the *to*-infinitive in temporal terms are common in the literature. Inspired by Bolinger's (1968:126) distinction between reification (gerund-participle) versus hypothesis/ potentiality (*to*-infinitive), a long tradition extends through Dixon (1984), Quirk et al. (1985), Wierzbicka (1988), and Huddleston and Pullum (2002) (to mention just a few of the links in the chain) of treating the gerund-participle as denoting something simultaneous and the *to*-infinitive as expressing something future. Stowell (1982:562) explicitly proposes that "the tense of a *to*-infinitive is that of a possible future", by which he means that "the time frame of the infinitival clause is unrealized with respect to the tense of the matrix", so that in *Jenny remembered to bring the wine*, Jenny had not yet brought the wine at the moment at which she remembered to do

so. While this does seem to correspond in some way to the impression conveyed by the *to*-infinitive, the question as to how a future tense could imply the actual realization of the event that it applies to, as it does in this sentence, remains mysterious. This is not the effect observed with the future tense in languages like French or Spanish, where it implies non-reality:

- (7) Jenny apportera le vin.
- (8) Jenny llevará el vino.

Moreover, it is not clear how the notion of future tense would apply to a use such as (9), where the whole point of the utterance is to convey the actual realization of the infinitive's event:

(9) Jenny managed to pass the course.

In addition, with future tense inflections the verbal event is situated with respect to the moment of speech, whereas with the infinitive and the gerund-participle it is situated with respect to the event expressed by the main verb. To top it all off, it is controversial that English even possesses a future tense at all (see the debate in *English Language and Linguistics* (2010) on future time reference and the existence of a future tense in English). Even if the auxiliary *will* were taken to be the sign of the future tense in English as proposed by Salkie (2010), there is no semiological, syntactic, or semantic relation between the modal verb *will* and the *to* introducing the infinitive: the two linguistic signs are completely distinct semiologically; there are no contexts in which one of the two forms can fill the syntactic slot of the other; and semantically, *to* involves the notion of movement (see Duffley 1992), whereas *will* represents a bleached form of volition which has given rise to a diffuse notion of disposition (Enns 1999).

Rather, the *to* introducing the infinitive has the same semiology and historical origin as the preposition *to*, which in Old English used to govern the dative case on its infinitival object. We will treat *to* in this study as signifying the same notion of movement when it precedes an infinitive as when it precedes a nominal form (Duffley 1992:19–21, 2006:26–28). As for the infinitive itself, it should be noted that although it functions as object of the preposition *to*, and thus resembles a nominal, it is not fully equivalent to a noun on the semantic level: rather, it denotes the "full instantiation" (Langacker 1987:250–252) or integral actualization (Duffley 1992:18) of an event (by this it is meant that it evokes the full realization of an action or the full-fledged existence in time of a state). This explains why *to* + infinitive can express the notion of a movement leading to the complete realization of the infinitive's event, as in (9). In addition, this combination can also represent the infinitive's event as something whose realization requires a yet-to-be-undertaken movement to a subsequent position in time, as in (10).

(10) Jenny wanted to pass the course.

The prepositional nature of the infinitival *to* is clearly manifested in the parallel between (11a) and (11b):

- (11) a. His desire for control was very strong.
 - b. His desire to control people was very strong.

One sees here that the *to*-infinitive behaves like a prepositional phrase: just as *for* specifies the relation between *desire* and the noun *control* in (11a), so *to* specifies the relation between *desire* and the infinitive *control* in (11b).

The view adopted here of the meaning of *to* accounts for the impression of a semantic relation between the *to*-infinitive and the future tense: if the movement denoted by *to* is construed as not actually gone through, this will represent the infinitive's event as non-realized and future with respect to the point of reference. The account proposed here, however, can also cover the cases where the infinitive denotes a realized event such as (9): in such contexts the movement from the matrix verb's event to the infinitive's is conceived as actually carried through, thus representing the infinitive's event as actualized. The approach most closely related to that adopted here is to be found in Egan (2008:103), where the *to*-infinitive is defined as denoting "targeted of several possible situations". The problem with this definition, however, is that it is inapplicable to a good number of uses of the *to*-infinitive, such as those after the verbs *force*, *start*, *begin*, *cause*, and *help*: for instance, in *It started to rain* or *The heat caused the boiler to explode*, there is no impression whatsoever of either the infinitive's event being targeted or any set of several possible alternative situations.

The meaning of the gerund-participle is a vexed question in English grammatical analysis. We have referred above to the tradition stemming from Bolinger (1968) of treating it as denoting the ongoing performance of an event, implying simultaneity with respect to a point of reference. This view is perpetuated in cognitive grammar analyses, for instance Hamawand (2002:64), who defines the *-ing* form as designating an "imperfective temporal relation which views only the internal configuration of the process" and "excludes its initial and final stages". Egan (2008:128–132) offers a more complex version of this position, in which the *-ing* form is claimed to be inherently imperfective and durative but to involve "recursive scanning" of the mid-portion of the event, which the author likens to running on the spot — that is, "a marking of time as it were, wherein one repeatedly goes through the motions of a process without actually starting it" (p. 129). Defining the *-ing* as an imperfective, even with the added component of recursivity, runs into trouble however with cases such as (12) below, where *killing* is classified as punctual and perfective according to commonly accepted aspectual categories (e.g., Comrie 1976).

(12) He admitted killing Rizzuto.

It is not surprising therefore that some authors claim that the gerund-participle has no tense or aspect at all (Stowell 1982:563, Huddleston and Pullum 2002:159–160, 1265).

While this is essentially correct in our view (it explains why the gerund-participle's event can be understood to be simultaneous, prior, or subsequent to that denoted by the main verb, as illustrated in (13)–(15)), it only tells us what the *-ing* form's meaning is not and does not provide a positive definition of it.

(13) He enjoyed eating the cookies.

- (14) He admitted eating the cookies.
- (15) He considered eating the cookies.

This raises the question of what the meaning of the gerund-participle actually is. We will adopt the hypothesis put forward in Duffley (2006:19–21) that the *-ing* form's meaning can be characterized by the highly schematic concept of evoking an event's interiority. This notion can give rise to the impression of imperfectivity if the subject of the event is situated at some specific moment within the event's interiority. It can also be used to evoke the event as a homogenous whole, if reference is made to the entire interiority without situating the subject at any particular position within it. The latter view corresponds to gerundive uses such as (12), the former to the participal use found in the progressive. In the constructions examined in this study, the gerund-participle occurs in its gerundive realization, evoking an event's interiority holistically as a homogenous entity analogous to an abstract noun.

The temporal relation of the gerund-participle's event to that of the matrix in cases such as (13)–(15) depends on the function of the gerund-participle and the meaning of the matrix verb. In these sentences, the gerund-participle is a direct object, denoting that which is enjoyed, admitted, or considered. An event which is enjoyed will normally be understood to be enjoyed at the same time as its performance; an event which is admitted is construed as a misdemeanour committed prior to its confession, i.e., in the past; and one generally considers an action before performing it, which puts the action considered in the future. Thus even though the gerund-participle has no inherent tense or aspect, the fact that it denotes a temporal entity can give rise to the impression of a temporal relation between it and another verb.

3. EVERYTHING UNDER CONTROL?

The term *control* goes back to Postal (1970), who introduced it to describe the relation between an understood argument of a complement or adjunct clause and an explicit element located elsewhere in the sentence whereby the explicit element specifies the identity of the understood argument. The discussion of control has accorded particular attention to the identification of the "missing subject" of gerunds and infinitives, as in (16) and (17); see Chierchia and McConnell-Ginet (1990:247).

- (16) John tried ___ playing tennis.
- (17) John tried ___ to play tennis.

In recent years there has been a renewed interest within the Minimalist Program in the phenomenon of control, stimulated in large part by the Movement Theory of Control (Hornstein 1999; Boeckx and Hornstein 2003, 2004, 2006, 2008; Boeckx, Hornstein, and Nunes 2010).

The Movement Theory of Control has sparked a lively debate with Culicover and Jackendoff (2001, 2005), who claim that, rather than syntactic movement, the thematic role defined by the semantic content of the matrix verb is the key factor in the explanation of control. They argue that "the same syntactic configuration can

be associated with different controller choice", as seen in (18), and that "the controller can appear in different syntactic configurations, while preserving meaning" (2005:419) as illustrated by (19).

- (18) a. John; talked about i/gen dancing with Jeff.
 - b. $John_i$ refrained from $_{i/*gen}$ dancing with Jeff.
 - c. John; persuaded Sarah; to i/*; dance.
 - d. John_i promised Sarah_i to _{i/*i} dance.
- (19) a. Fred;'s order from Bill [to ileave immediately].
 - b. The order from Bill to Fred; [to ; leave immediately].
 - c. Bill ordered Fred; [to ileave immediately].
 - d. Fred;received Bill's order [to;leave immediately].

In (19), the fact that Fred is the controller of *leave* remains constant across widely different syntactic structures. In the two pairs of examples (18a–b) and (18c–d), on the other hand, the structure is the same¹ and the semantic content of the matrix verb appears to be the crucial factor in identifying who does the dancing.

However, control is not merely a question of thematic roles defined by the matrix verb's semantic content. Other evidence shows that the grammatical nature of the verbal complement and the nature of the matrix verb's subject must also be taken into account in order to have a complete account of this phenomenon. The variation in control interpretations found with the verb agree according to whether it is construed with to + infinitive or to + gerund-participle shows that the grammatical form of the complement is a relevant factor in control assignment. Thus in (20) only the subject of agree is understood to be the agent of killing, whereas in (21) it could be some other person:

- (20) Cotroni agreed to kill Rizzuto.
- (21) Cotroni agreed to killing Rizzuto.

Regarding the subject of the matrix verb, the animacy of its referent also seems to play a role in the control readings, as seen in (22)–(23).

- (22) As best he could, Richard increased his pace, though he risked losing the element of surprise. (ikabox.info/2011/nigel-bennett-and-p-n-elrod-keeper-of-the-king/)
- (23) He knew that each hour of delay risked losing the all-important element of surprise. (theasianjournal.blogspot.com/.../mayaquez-and-national-security-decision.html)

In (23) it is not *each hour of delay* which might lose the element of surprise. Verbs of risk thus highlight the need to develop the theory of control further in order to be able to handle cases like (22)–(23). In addition, since some verbs in the class are construed

¹One might quibble with Culicover and Jackendoff's assumption that (18c) and (18d) have identical syntactic structures, as the NP *Sarah* might be argued to be a direct object in the first case and an indirect object in the second. In any case, the linear configuration is the same: V + NP + to + Infinitive.

with the gerund-participle and others with the *to*-infinitive, they can potentially shed light on the contribution of the form of the verbal complement to the determination of control readings. We will now sketch the outlines of a theory capable of achieving a more complete explanation of control. The same theoretical framework will also be shown to be capable of explaining the temporal relations which obtain between the matrix and the complement with verbs of risk.

4. REGAINING CONTROL

The constancy of subject control readings with the *to*-infinitive observed in (3) and (4) is a general characteristic of this complement form. As observed in Duffley (2000:235), in all the discussions around the topic of control, "when the *to*-infinitive is used as a complement of another verb, it always has the same 'subject' as the matrix". Duffley proposes that the explanation of this fact is the infinitive's function with respect to the main verb, along with the semantics of *to* and of the bare infinitive that follows it. Because of the meaning of *to*, when the *to*-infinitive is used as complement of a main verb it fulfils the role of a goal or result specifier. This is illustrated in (24), in which trying is represented as aimed at the achieving of the realization of being careful:

(24) John tried to be careful.

The meaning of *to* represents the infinitive's event as the terminal point of the movement implied by the main verb *try*. Given this semantic configuration, it is logical that the prospective subject of the infinitive should be understood to be the same as that of the main verb: the idea of movement implies that of a mobile entity, and so in (24) the person doing the trying is represented as attempting to move to the realization of the infinitive's event (*be careful*).

The situation with the gerund-participle is different. In most complement constructions the *-ing* form is not a goal or result specifier but simply the direct object of the main verb. Thus, in (25) the gerund-participle denotes that which was enjoyed:

(25) Everyone enjoyed swimming in the warm waters of the Caribbean.

This is confirmed by the fact that the gerund-participle can be explicitly designated as enjoyed in the corresponding passive construction (26) and by the fact that it can be replaced by a nominal pronoun (27).

- (26) Swimming in the warm waters of the Caribbean was enjoyed by everyone.
- (27) Everyone really enjoyed that.

Due to the gerund-participle's function as direct object, control readings in matrix verb + -ing complement structures depend crucially on the lexical meaning of the main verb. Thus an event which is represented as enjoyed will naturally be understood to be performed by the same person who enjoys doing it. On the other hand, an event represented as recommended will be understood as something proposed for someone other than the recommender to perform:

(28) I recommend swimming in the warm waters of the Caribbean.

The variability of control readings observed with the gerund-participle can thus be explained by the interaction between the -ing's direct object function and the lexical meaning of the main verb. The constant subject control interpretation observed with the to-infinitive, on the other hand, is due to the to-infinitive's being construed as a goal or result specifier, with to denoting the potential or actual movement of the matrix verb's subject to the realization of the infinitival complement's event.

The rare exceptions to this general rule are cases where the *to*-infinitive is not a goal or result specifier such as (29).

(29) John said to be careful.

Here *to be careful* denotes what John said, that is to say, the *to*-infinitive has the function of direct object in this case. This is confirmed by the fact that it can be replaced by a pronoun (the passive does not work here for pragmatic reasons):

(30) John said that?

As what was said by John to someone else, *to be careful* is understood as something that John is trying to get the addressee to do by means of this enjoinder. This produces a reading of non-subject control.

5. FACING RISK

The pieces are now in place to turn our attention to the data involving verbs of risk. If the *to*-infinitive is a goal or result specifier with these verbs, one would predict constant temporal and control interpretations. If the gerund-participle is a direct object, some variability in these parameters could be expected. We will now see whether these predictions are borne out.

5.1 The verb risk

The verb *risk* was found only with the gerund-participle in the corpus, as in (1). The *-ing* form is the direct object in this construction, as it corresponds to that which is risked and can be replaced by a pronoun. As shown by Fillmore and Atkins (1992), the direct object of *risk* can correspond either to a potential harm which might be incurred (HARM), a perilous action performed (DEED), or a precious possession which could be endangered by the risking (VALUED OBJECT). All three senses are found with the gerund-participle, with the third one being quite rare (only six cases found out of a total of 391 attestations of *risk* in the corpus):

- (31) On the other hand, by refraining from identifying himself he risked being bludgeoned or arrested. [HARM] (BNC AOU 2443)
- (32) But I still don't know why Scano's boy risked going to the villa unless they've lost a guard too, which would really put them in difficulty. [DEED]

(BNC CJX 2952)

(33) OC Quattro finished in 7 days 23 hours and 51 minutes. Team Brazil finished in 7 days 23 hours and 54 minutes. Life is good! After 30 rigorous hours with minimal rest, OC Quattro collectively opted to take a 4 hour break to re-charge in Hanover, PA. They

knew they would risk maintaining their current placement, but it was more important to finish safely. However, when they started back up, their mission changed slightly—they had to beat Team Brazil. [VALUED OBJECT]

(www.sloptym.com/pdf/SL-Summer06Newsletter.pdf)

(34) But I wouldn't put my job on the line or risk getting a promotion to get more money. [VALUED OBJECT]

(www.onlineworldofwrestling.com/archive/index.php/t-6488.html)

The temporal relation between the matrix and the complement varies according to the particular sense of risk expressed and the nature of the direct object's role. When the latter corresponds to HARM, the gerund-participle's event is understood to be future with respect to the risking, as in (31); when the direct object is cast as DEED, the relation between it and the risking is one of simultaneity, as in (32); when it is a PRECIOUS OBJECT, it can be understood to be either contemporaneous (33) or future (34) with respect to the risking. These temporal readings can be demonstrated to be a product of the particular sense expressed by risk and the fact that the gerundparticiple has the function of direct object. Thus, when risk means 'to perform a risky deed' and the gerund-participle expresses the risky deed performed, it is clear that the risking and the deed risked must be conceived as simultaneous. Indeed, the risking is the very performance of the risky deed itself. When risk means 'to face potential harm by performing a risky deed', on the other hand, since the harm is a possible undesirable consequence of the risking, the gerund-participle's event will be felt to be future with respect to that of risk. In contrast, when risk signifies 'to place a precious object in danger of incurring potential harm by performing a risky deed,' as in (33) and (34), the possibly endangered object may either already exist or be something that its cherisher hopes to realize in the future, and so the risking and the risked object may be understood to be either contemporaneous or future with respect to one another.

As for control, in all cases except three, risk + -ing constructions show constant subject control. For the 'risky deed' sense, the reason for this is obvious: the risking is identical to the performance of the gerund-participle's event, which is the risky deed. In the 'potential harm' sense, by doing something risky the risker may find himself plunged into a situation in which he is doing or experiencing something he would rather have avoided, namely the potential harm. In the 'precious object' sense, by doing something risky the risker jeopardizes his/her ability to continue being or doing something that he/she values, i.e., the precious object.

Here are the three examples in the corpus which did not exhibit subject control:

(35) Moving on climate change might derail health care even further, but waiting too long risked missing the deadline for Copenhagen.

(www.rollingstone.com/politics/news/12697/64918)

- (36) My report was full of modernizing jargon, so no one was going to challenge its conclusions. To do so would have risked being regarded as old-fashioned and that would never do.

 (CPI: Computer Weekly)
- (37) The day before the forest conference in Portland, Oregon, Clinton and Gore hoped to attend an environmental rock concert featuring Neil Young, Kenny Loggins and Carole

King. But political instincts won out: Bill and Al decided that attending the concert risked incurring the wrath of loggers. (CPI: *Time*)

In all three cases, the subject of *risk* is non-animate, being itself a non-finite verbal form, and the *-ing* direct object corresponds to a potential harm that might ensue upon the performance of the risky deed. Here one does not understand the waiting too long, the doing so (i.e., challenging the report's conclusions), or the attending the concert as the subjects of the *-ing* complement's event, so the controller is not the subject of *risk* per se. Rather, it is the persons who wait too long, challenge the conclusions of the report, or attend the concert who will find themselves the unwilling subjects of missing the deadline for Copenhagen, being regarded as old-fashioned, or incurring the wrath of the loggers. One sees here that the nature of the subject of the matrix verb itself can condition control readings. If the matrix-clause subject is a gerund-participle or an infinitive implying a subject of its own (cf. the "missing subject" of Chierchia and McConnell-Ginet (1990:247) and the "generalized person" of Duffley (2006:161ff.)), this subject can be construed as the controller of the complement's event, and not the matrix-clause subject itself. This phenomenon manifests a layer of complexity which has not yet been explored in research on control.

5.2 The verb chance

Like *risk*, the verb *chance* is always found with the gerund-participle when it expresses the notion of risking, with the *-ing* complement exercising the function of direct object. In 90% of the 107 occurrences found in the corpus, *chance* had the sense of performing a risky deed, denoted by the gerund-participle, as in:

(38) So as if the flu-related symptoms weren't enough, I chanced eating a Weis bar last week, which for someone with a citrus allergy, is like playing Russian Roulette with an automatic. (www.tasteslikedrunk.com)

In 10% of cases, *chance* expressed the notion of facing potential harm, as in (39).

(39) She looked so pathetic and sounded so distraught, I chanced upsetting her and strung both arms around her and soft-talked. "Hey, take as long as you like, baby."

(books.google.ca?id=8EciiBPVGZsC&pg=PA13)

The temporal effects observed are as predicted: with the 'risky deed' sense, since the chancing is the performance of the risky deed itself, the matrix verb and complement events are understood to be simultaneous; with the 'potential harm' sense, since the chancing is conceived as something that might possibly bring down the potential harm denoted by the *-ing* form upon the chancer, the complement's event is understood to be future with respect to that expressed by *chance*. The control readings observed in the two senses of *chance* can also be readily accounted for. When the gerund-participle denotes a risky deed, one chances doing this deed by actually going ahead and performing it oneself, hence the subject control reading. When chancing is conceived as doing something risky that might bring the harm represented by the realization of the *-ing* complement's event upon the chancer's head, the most natural scenario is for the chancer's actualizing event A to be construed as having as a consequence the chancer's also actualizing undesirable event B. One case was found,

however, in which the harm is conceived as an event actualized by some other entity than the subject of *chance*, of the same type as in (35)–(37):

(40) It was too bright to follow them openly, but going behind the building chanced losing the man. (www.sanfiction.net/s/3967291/1/shadoes_of_shadows)

Here, it is not the going itself which might lose the man being shadowed, but rather the person who did the going, who by going behind the building would expose himself to possibly losing sight of the suspect he is following.

5.3 The verb face

Like *risk* and *chance*, the verb *face* was found only with the gerund-participle in the 98 examples occurring in the corpus. The notion of risk is not part of this verb's semantic content per se, as facing has to do strictly speaking with confronting or finding oneself face-to-face with something. The confrontational aspect of its meaning, however, implies that the thing faced is "often unpleasant or difficult" (*Webster's Third International Dictionary*, sub *face*), hence the affinity with the verb *risk* in the sense of exposition to potential harm, exemplified in (41).

(41) Lucy has lost an eye, lost her father and now she faces losing her dearest friends.

(BNC CH6 3717)

Temporally speaking, in all cases the *-ing* complement was observed to be future with respect to the main verb. This is predictable from the fact that the gerund-participle denotes a potential harm that the subject of *face* is confronting, i.e., an unwanted event that the person can see coming in the immediate future. As regards control, it is always the subject of *face* who is the (eventual) controller of the complement event. This is because the future event being faced is something that the person facing it does not want to do (41) or to be the undergoer of (42).

(42) An elderly St. John's couple who faced being split apart because the husband is being admitted to a veterans' pavilion has been granted a reprieve.

(CPI: The Canadian Broadcasting Corporation)

Since only animate subjects make sense with *face*, no examples like (35)–(37) are found.

5.4 The verbs jeopardize, imperil, and endanger

These three verbs are treated together as they are very close in meaning and behave similarly with respect to complementation type, temporal orientation, and control. They are also much less frequent in the constructions under study than *risk*, *chance*, and *face*; no occurrences were found in our main corpora, and all of our data was culled from Internet sources (118 examples of *jeopardize*, 17 of *endanger*, and 10 of *imperil*). In all cases, the matrix verb was followed by a gerund-participle.

The lexical meaning of *jeopardize* is glossed by *Webster's Third* as 'to expose to danger (as of imminent loss, defeat, or serious harm)'. The *-ing* direct object corresponds to the notion of VALUED OBJECT, i.e., something desirable whose realization is potentially put in danger, as in (43).

(43) The good news is that my mom is doing much better. She was discharged from the hospital after about two and a half weeks, and I flew home a couple days after that. I wasn't ready to go, but I had already missed too much school. Any longer and I might have jeopardized getting promoted. (hmp3guru.blogspot.com)

Temporally, the complement's event may be either future, as in (43), or contemporaneous, as in (44), with respect to the jeopardizing:

(44) Why would a guy jeopardize being married to a great woman like my wife by trying to deceive her? (forums.dpreview.com/forums/readflat.asp?forum...1)

Only 40% of the attestations showed subject control, as in (43) and (44). The other 60% manifested non-subject control readings, as in (45) and (46).

- (45) Backers of the initiative had little choice but to submit their voter signatures this week, despite the budget impasse. A delay might have jeopardized getting the petitions certified in time for the Feb. 5 ballot. (www.calcoast.org/news/cpr000051.html)
- (46) Please do not leave anything other than what the recycling bin is labelled for. Doing so may jeopardize having that site available, as the owner or ALPAR will have to clean up trash and dispose of it at the landfill. (anchoragecreeks.org/pages/links.php)

The key factor in this variation in control is the animacy of the subject of *jeopardize*. In the subject control contexts, by doing one thing an animate subject jeopardizes their ability to do or be something they cherish doing or being. In the non-subject control contexts, the non-animate subject of *jeopardize* denotes an event which, if performed, would endanger someone realizing the *-ing* complement's event. The explanation of the temporal readings lies in the fact that a precious-object event can be either something that its subject is presently doing or being (44) or something that it would like very much to be able to do (43).

By analogy with the much more frequent *risk*, the verb *jeopardize* is also used in a small number of cases in the sense of 'to expose oneself to potential harm', as in:

(47) Please adhere to these parking rules so that you do not jeopardize having your vehicle towed at your expense!

(www.ectb.org/ectb/tournament_schedule.asp?tournament=2007)

As expected, these uses all imply temporal subsequence, as the *-ing* complement denotes a potential undesirable consequence of the risk-taking. Both subject (47) and non-subject (48) control are attested:

(48) Mary Campbell refused to compromise on quality. Opening another school would jeopardize losing the uniqueness of Magic Years. No other school could possibly do the original justice.

(video.filestube.com/.../why-did-you-resist-expanding-magic-years-nursery-school-interview.html)

The critical factor once again is the animacy of the subject of the matrix verb. Animate subjects are conceived of as running the risk of actualizing an unwanted event, as in (47), with subject control. Non-animate subjects are conceived of as events possibly triggering the actualization of undesirable events, as in (48), where the opening

of another school would lead to the loss of the uniqueness of the already existing nursery.

The meaning of *endanger* is very similar to that of *jeopardize*: *Webster's Third* defines it as 'to bring into danger or peril of probable harm or loss'. Two senses were found in *-ing* complement constructions. The more frequent is that of putting the realization of a positively valued action in danger:

(49) I hurt myself laughing, like any of these nominees would ever endanger getting themselves a cushy job. (reason.com/archives/2010/09/28/confirmation-theater)

However, a few uses were found in which *endanger* denoted exposing oneself to potential harm:

(50) Others argue that reporters should not carry weapons when covering a war because they endanger being viewed as "taking part" in the combat. (www.rutgersoberver.com)

In this latter sense, the temporal relation between the matrix and the complement is always one of subsequence, due to the fact that the potential harm is the possible consequence of doing the risky action. Control readings vary between subject (50) and non-subject (51) according to the animacy/non-animacy of the subject:

(51) I previously posted that a Pour-over Will is fine for minor miscellaneous stuff, but utilizing a Pour-over Will as a "catch-all" as you suggest endangers being subject to probate. (www.fatwallet.com/forums/finance)

Animate subjects are construed as running the risk of involuntarily actualizing something they would like to avoid doing; non-animates are construed as potential triggers possibly causing an agent other than the non-animate to actualize the event denoted by the *-ing*.

In the 'put in danger' sense, the control readings show the same variation according to the subject's animacy, and the same explanation applies. With animate subjects, there is subject control, as in (49). With non-animates, some other entity than the inanimate subject is understood to be the realizer of the -*ing* complement's event, as in (52).

(52) It would defeat the object entirely to get involved in an action that might endanger getting the information back to Squadron H.Q.

(www.bbc.co.uk/ww2peopleswar/stories/78/a4589878.shtml)

Temporally, the event denoted by the gerund-participle complement is usually understood to be future with respect to the endangering, as in both (49) and (51): doing A is conceived as possibly putting in danger one's ability to do B. It is also possible for the VALUED OBJECT to be something that already exists at the moment in time at which it is endangered. This is the case in (53), where Obama is conceived of as already being in bed with corporate interests:

(53) You are indeed delusional if you believe the corruption of Wall Street has occurred strictly at the hands of the Republicans. Both parties have used it to THEIR advantage. Obama will not get it back, because he himself takes money from corporations and there is no way he will endanger being bedfellows with those who have deep pockets.

(https://www.ingtotalmoneymakeover.com/.../messageview.ctm?...)

The third verb, *imperil*, behaves similarly, although it is much rarer in construction with -*ing* complements. The majority of occurrences show *imperil* in the sense of 'to put something in peril,' as in:

(54) Well this certainly imperils getting a letter of recommendation from this office.

(books.google.ca/books?id=5D4KYGqeoC+pg=PA34)

Temporally, the event denoted by the *-ing* complement may be future to the imperilling, as in (54), or construable as an already existing situation, as in (55).

(55) In the longer term, failure to achieve this objective imperils maintaining UK's impressive record in reducing the number of skidding related accidents.

(www.iht.org/news/pressreleases/downloads/Prhighmaintenance200ctch.doc)

Depending on the animacy of the subject, one finds both non-subject (54) and subject (56) control.

(56) If you overstay, you may imperil being able to return for another visit. The $B \frac{1}{2}$ visa can be renewed, but ...

(www.tripadvisor.com/.../Is_it_worth_moving_from_London_to_LA...)

In a couple of instances, *imperil* was found in the sense of 'expose oneself to potential harm', as in:

(57) If you don't sustenance Israel unconditionally, you imperil being labelled a hater or a naïf. (www.firstpopcorn.com/Food/Thomas.Gift/)

In this case the potential harm expressed by the -ing complement is felt to be future with respect to imperil. In all of the uses attested, subject control is observed. As predicted, this correlates with the occurrence of a human animate subject.

5.5 The verbs venture and adventure

The first of these verbs is by far the more frequent, with 170 examples in our non-Internet corpus as against only 12, exclusively Internet, attestations for the latter. Historically, *venture* developed in the 15th century as an aphetic form of *adventure* and our data confirms that the shorter form has practically completed the take-over. Both convey the idea of advancing with a certain trepidation into unknown territory, and both are construed exclusively with the *to*-infinitive when they are used in non-finite complement constructions expressing the notion of risk. The two examples below are typical:

- (58) He never left our shores and he only once ventured to cross the border into Scotland.

 (BNC J55 200)
- (59) I was the center of attention in every shop I was in. People stared, pointed, smiled, laughed, said hello, said things to me in Chinese, looked at me, tapped their friends and then they looked over too, followed me around, started looking at whatever I was looking at as if they had never noticed it before. . . . It's a week later and I adventured to go shopping again. While I knew better where to go and had an idea of stuff I wanted to get, I still didn't enjoy all the attention I received.

(www.sharononline.net/china/indes.htm)

The control reading found in all cases was that of subject control; temporally, while one might get a first impression of simultaneity with these verbs, closer inspection reveals that they are cases of subsequent actualization (Duffley 1992:89): the venturing/adventuring is construed as a movement leading to the actualization of the infinitive's event. Support for this analysis is found in the existence of other constructions in which *venture* and *adventure* are followed by path prepositions and adverbials, such as:

- (60) Cautiously she ventured into her own bedroom first. (BNC HRB 525)
- (61) The point is that we will never know what God can do with us until we've ventured forward with a little faith. (BNC G5H 214)
- (62) We were surprised to find when we arrived that it was snowing out! And I don't mean just a little, it was practically a blizzard. Nonetheless we adventured towards our first stop, Anne Frank's house.

(ajg8-londoncalling.blogspot.com/2008_04_01_archive.html)

Given the semantic configuration found in these constructions, the temporal and control readings fall out as expected. Since the venturing/adventuring is conceived as a movement leading to the actualization of the infinitive's event, the latter is felt to be both subsequent and actually realized, hence the impression that both the matrix and the complement's event share the same reality-status, although they are not simultaneous. And since venturing is a movement of the venturer to the realization of the infinitive's event, subject control is also fully predictable.

5.6 The verb dare

Webster's Third describes the meaning of dare as 'to have the bravery, boldness, or fortitude to contend against, venture, or try'. The semantic component of bravery/boldness/fortitude implies the presence of risks, hence the inclusion of this lexeme among the verbs covered in this study. In all 371 occurrences found in our corpus, dare was followed directly by the to-infinitive.² The message conveyed is generally that of bravely/boldly going ahead and performing a risky deed, as in:

(63) Now, an anonymous female member of the Saudi Royal Family has dared to speak out about the reality of life for women in Saudi Arabia. (BNC CJP 402)

In a small number of cases, *dare* is stative and expresses the idea of possessing sufficient courage/audacity to perform a risky deed, as in (64).

(64) Against that background, does the Prime Minister still dare to say to those people and their families that their prolonged misery is a price well worth paying?

(BNC HHV 19818)

²Dare can also be followed by the bare infinitive. In this case however it behaves like a modal auxiliary, expressing a particular form of possibility. As this study deals only with gerund-participle and *to*-infinitive complementation, the modal use with the bare infinitive will not be considered here. For a detailed account of this construction, see Duffley (1994).

In this case the infinitive's event is clearly future with respect to the possession of daring. In the more numerous cases where the matrix evokes the exercise of daring, the infinitive's event is also subsequent, being represented as something whose actualization has been achieved due to the action of daring. These relations are predictable based on the presence of to before the infinitive, which represents the latter's event as the terminus of a (possible or actual) movement. The presence of to also construes daring as implying a possible or actual movement of the darer to the realization of the risky event denoted by the infinitive, thus giving rise exclusively to subject control readings in dare + to-infinitive constructions.

5.7 The verb hazard

This verb has been saved for the last as it is found with both gerund-participle and *to*-infinitive complements, with a preference for the latter (45 of the 64 attestations). All of these examples were gathered on the Internet, which indicates that *hazard* is much less frequent than *risk*, *venture*, and *dare* in the constructions under consideration.

The *to*-infinitive construction is the most straightforward to analyze: as predicted by our hypothesis, it manifests constant temporal (subsequent actualization) and subject control readings:

(65) We ride the Colorado River below the Parker strip to stay away from the nuts like this, and only on weekdays do we hazard to go near Havasu or Needles.

(www.sea-doo.net/board/thread.asp?threadid=93681)

Here, *hazard* conveys a meaning similar to that of *dare*, that of going ahead and performing a hazardous event. The preposition *to* expresses the moving of the hazarder to the actualization of the infinitive's event implied by the matrix verb. Temporal and control readings fall out as expected from this constellation of meanings.

With the gerund-participle, the situation is more complex, as is the case with the *risk* + gerund-participle construction. When complemented by an *-ing* form, *hazard* can convey two of the three senses found with *risk* + gerund-participle: 'to expose oneself to a potential harm/hazard' (66) and 'to perform a hazardous deed' (67):

(66) While pet shops may meet these prices, without the above guarantees you hazard getting an animal that may have been culled from a breeder's stock, a rancher's unwanted leftovers or from an inexperienced breeder.

(www.petplace.com/small-mammals/buying-a-chinchilla/page1.aspx)

(67) At the risk of making one of William Blake's idiotic generalizations, I might hazard saying that in the 1960's and '70s there existed a sort of dichotomy between prayer and action in the priesthood, resulting at times in a failure to integrate both into the one following of Jesus Christ. (www.ewtn.com/library/priests/prlifepr.txt)

In the 'perform a hazardous deed' sense exemplified in (67), one observes exclusively simultaneity and subject control readings. This is because *hazard* denotes the performance of the hazardous deed represented by the gerund-participle, so the hazarder and the deed-doer are necessarily one and the same person, and the hazarding takes place at the very same time as the performance of the hazardous deed. In the 'expose to a potential hazard' sense, the temporal reading is constant (futurity or subsequent

potentiality) due to the *-ing*'s event being represented as a potential harm faced, but control readings vary. While most contexts show subject control, as in (66), a couple of instances have been found which involve non-subject controllers:

- (68) The house was old and dilapidated ... but the sign was strong and new, and brightly painted, displaying a heraldic shield (three shuttles in a field diapré), a web partly unfolded for crest, and two stout giants for supporters, each one holding a weaver's beam proper. To have displayed this monstrous emblem on the front of the house might have hazarded bringing down the wall, but for certain would have blocked up one or two windows.

 (books.google.ca/books?id=qFweAAAAMAAJ...)
- (69) As a result, it would be rather problematic to give a story that did not accord central place to the importance of the missing from researchers' accounts. As part of this, what is needed is not only to note various 'blind spots' associated with our understanding from one point in time. This would hazard providing a flat account that abstracts utterances and actions from the contexts that make them meaningful and the contexts that they make meaningful... (qrj.sagepub.com/content/10/5/571.full.pdf)

As expected, these both contain non-animate subjects denoting actions whose realization could cause the occurrence of an undesirable consequence, namely the *-ing* complement's event. It is not the subject of *hazard* (displaying the emblem or merely noting blind spots) that runs the risk of actualizing the unwanted possible result, but rather the agent who would dare display such an emblem or who would be content to merely note blind spots. With animate subjects, on the other hand, the subject of *hazard* is represented as running the risk of finding himself the actualizer of an undesirable event if he is not careful.

6. OVERALL DISTRIBUTION OF COMPLEMENT TYPES WITH VERBS OF RISK

The overall distribution of the complement types found with the verbs examined in this study shows a majority being construed exclusively with the gerund-participle (risk, chance, face, jeopardize, imperil, endanger), three verbs construed exclusively with the to-infinitive (venture, adventure, dare), and one verb which is construable with either the to-infinitive or the gerund-participle (hazard). The three verbs construed with the to-infinitive all involve the idea of movement to the actualization of the action expressed by the infinitive. This is clearest with venture and adventure, which can also be complemented by path prepositions, as illustrated in (60)–(62). Dare usually conveys the notion of boldly going ahead and moving to the actualization of the action expressed by the infinitive, as in (63); in some cases, it can evoke the possession of the courage necessary in order to move to the actualization of this action (64).

The notion of risking, however, contains no idea of movement to actualization, but rather the gerund-participle's event is simply conceived as that which is risked, either in the sense of 'possibly incurred as a potential harm' (31), 'performed in spite of being risky' (32), or 'put in a position where it may incur potential harm' (33). When *chance* is used in the sense of 'risk', no idea of movement to actualization is involved either; rather, the gerund-participle's event is conceived as that which is chanced, either in the sense of 'possibly incurred as a potential harm' (39) or in that

of 'performed in spite of being chancy' (38). When used in another sense than that of 'risk', the verb *chance* can, however, be construed with the *to*-infinitive, as in (70) where it expresses the idea of 'occur fortuitously':

(70) The other day I chanced to meet an old friend at the mall.

Here the intervention of chance is represented as the cause leading to the occurrence of the meeting in question (cf. *our meeting happened completely by chance*) and so the notion of movement leading to actualization is present in this case.

The verb *face* involves no idea of movement either, but rather that of confronting something. The idea of risk is understood to be involved when that which is faced is a potential harm which might be incurred by the person facing it, as in (41). *Jeopardize*, *imperil*, and *endanger* are also exempt from any idea of movement leading to actualization. Rather, the gerund-participle corresponds to that which is jeopardized, imperilled or endangered, usually in the sense of 'put in a position where it may incur potential harm', as in (43), more rarely in the sense of 'possibly incurred as a potential harm', as in (47).

The one verb that can be construed either with the *to*-infinitive or the gerund-participle, *hazard*, has a sufficiently versatile lexical content to be usable analogously either to *dare* or to *risk*. When analogous to *dare*, it denotes the movement of actually going ahead and performing a hazardous deed, as in (65). When analogous to *risk*, it can express the notions of 'possibly incurring a potential harm' (66) or 'performing a hazardous deed' (67). It is interesting to note that in (67) the *to*-infinitive could be substituted for the gerund-participle with a negligible effect on the overall message conveyed. This suggests that the impression of movement is part of the semantic potential of *hazard* but is not necessarily brought to the surface in every use.

7. CONCLUSION

The preceding section has shown that the meanings postulated for the gerundparticiple, the preposition to, and the infinitive are capable of accounting for the distribution of complement types with verbs of risk in English. The main thrust of this study, however, has concerned control and temporal orientation, and the same explanatory parameters provide a more satisfactory understanding of these. The approach applied here has focussed fundamentally on the linguistic items of which the utterance is constituted, and has treated these items as inherently meaningful entities assembled by an intelligent agent (the speaker) with a view to conveying a certain message. Semantic descriptions of the meanings of the gerund-participle, the infinitive, and the preposition to have been proposed, as well as of the relation between the matrix verb and its complement (i.e., whether the complement is a direct object of the matrix verb or a goal-result specifier). Based on these meanings and meaningful relations, it has been shown how temporal and control interpretations arise as implications grounded in the semantic content of what is linguistically expressed. To take the case of the verb *risk*, we have argued that it almost always shows subject control, because when it denotes 'perform a risky deed' the risker and the doer of the risky deed are necessarily one and the same person (32), when it denotes 'put in a position

where it may incur potential harm' the risker puts at risk his own ability to do or be something that he values (33), and when it denotes 'possibly incur a potential harm' the risker is usually the one who faces doing some action or being in some situation that they would rather avoid (31). However, we have also seen that in the last sense the use of a non-animate subject can obviate the possibility of a subject control reading, as in (35)–(37), where the subject of risk denotes an action; since this action implies an agent, this agent represents a candidate for controlling the complement's event. Regarding temporality, it has been shown that when risk means 'perform a risky deed' the gerund-participle complement denotes the risky deed, and the performance of the risky deed and the coming into being of this deed are necessarily simultaneous (32); when, however, risk means 'possibly incur a potential harm by doing something risky', the gerund-participle complement denotes the possibly incurred potential harm and so is understood to be in the possible future with respect to the risking (31); and when risk signifies 'put in a position where it may incur potential harm', the -ing complement denotes that which is placed in danger of incurring harm and so it can be either something already existent and contemporaneous with the risking (33) or something whose future realization is endangered (34).

We hope to have demonstrated that in gerund-participle and *to*-infinitive constructions with verbs of risk, control, and tense interpretations are fully explainable as products of the semantics and pragmatics of the utterance, as is the distribution of complement types found with these verbs. Since this has been achieved without the machinery of formal semantics, it constitutes important evidence that a non-formal natural-language semantic approach such as the one adopted here can contribute to a deeper understanding of English complementation constructions.³

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³For an application of this approach to another class of verbs, those expressing choice, see Duffley and Abida (2009).

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