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The+VPing as Anaphoric Event-Type Reference

Scott Grimm and Louise McNally

1. Introduction

The nature of *-ing* nominals has been a widely debated topic since the early days of generative grammar (Chomsky 1970, Emonds 1976, Schachter 1976, i.a.). These nominals are standardly divided into those that are more verbal (as in (1), identified inter alia by the possibility of an accusative external argument and direct internal argument to the *-ing* form), and those that are more nominal (as in (2), which can take an article and whose theme participant is introduced by *of*, rather than directly):

- | | | | |
|-----|----|---------------------------|-----------------------|
| (1) | a. | raking the leaves | (PRO- <i>ing</i>) |
| | b. | Al raking the leaves | (ACC- <i>ing</i>) |
| | c. | Al's raking the leaves | (POSS- <i>ing</i>) |
| (2) | a. | the raking of the leaves | (- <i>ing</i> of) |
| | b. | Al's raking of the leaves | (POSS- <i>ing</i> of) |

In this paper, which forms part of a larger project investigating the syntax and semantics of nominalizations, we present new data involving what we call the *the+VPing* construction, illustrated in (3) (taken from the Corpus of Global Web-Based English, or GloWbE corpus, Davies 2013), which calls into question this simple classification and points to the independence of the internal structure of the *-ing* nominal and the possibility of bearing a determiner.¹ We will further argue that the data provides evidence for an event-type layer within VP, parallel to the kind-describing nominal layer within a layered approach to DP (Zamparelli 1995).

- (3) the knowing the answer

Since forms like (3) have generally been considered either ungrammatical or marginal in English (Abney 1987, Pullum 1991, Milsark 2005, i.a.), we proceed, after a brief review of previous discussions of the construction, by demonstrating that *the+VPing* is in fact alive and well in English. We then characterize its rather peculiar semantic and discourse properties and close with a syntactic and semantic analysis.

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¹ Though we will mention a few examples of this construction with determiners other than *the*, we will continue to refer to the construction using *the+VPing* because the variant with *the* is the one we focus on in this paper. In principle we see no reason why the general analysis we defend here could not be extended to cases with other determiners, *mutatis mutandis*.

2. Previous comments on the existence of *the+VPing*

There are well-known attested examples of *the+VPing* from earlier stages of English. For example, the following, mentioned in Poutsma (1923), is sometimes cited:

- (4) I am not disposed to maintain that **the being born in a workhouse** is in itself the most fortunate and enviable circumstance that can possibly befall a human being. (Charles Dickens, *Oliver Twist*, Ch. 1, 19)

Nonetheless, with the exception of Schachter (1976), modern linguists have denied the grammaticality of the construction or relegated it to the margins of English. For example, Abney (1987) proposes that the example in (5-a) is a fixed phrase (*There's no VPing*), and that (5-b) is “disquotational”, by which he means that the VP is effectively treated as an unanalyzed unit comparable to a pro-property.

- (5) a. There's no fixing it now.
b. This telling tales out of school has to stop.

Indeed, the use of examples such as those in (6), from Milsark (2005), and Milsark's corresponding claim that “articles and quantificational determiners are barred” is typical.

- (6) a. *The leaving the city is difficult.
b. *Some leaving the city is difficult.

Milsark considers such data as one of several diagnostics showing that “the internal structure of gerundives resembles in nearly all respects that of a sentence”: presumably the sentential nature bars the determiner.

Pullum (1991) argues that (5-b) does not manifest the properties of other disquotational uses of language, but he nonetheless shares the position that the use of determiners with *VPing* is not productive in contemporary English. His arguments are essentially two. First, many examples cited in the literature simply sound unacceptable, a fact that he considers unexplained if the construction is a productive part of English. Second, he notes that the examples that do sound acceptable have a “special” semantics, referring to “known behavior” or a “familiar attribute..., not a particular [action] that happened to take place on a particular occasion.” He further claims that it is possible to consider even Dickens' use of the construction an archaism. Interestingly, the putative unacceptability of *the+VPing* is somewhat unexpected given Pullum's analysis of *POSS-ing* constructions such as ??, insofar as he treats the *-ing* form as heading a VP and the possessive pronoun essentially as a determiner, and must stipulate that only determiners bearing a [+POSS] feature can combine with *VPing*.

Similarly, while Abney (1987) considers the examples in (4) and (5) to be marginal and/or non-productive, the analysis of the *POSS-ing* construction that he ultimately proposes licenses such sentences. Given that he treats possessives as DPs which select nominalized VP complements, nothing would bar other DPs, such as definite determiners, from selecting VPs as well, as Abney in fact notes (p. 231).

While we share the judgment that many of the examples cited in the literature, including those in (6), sound infelicitous out of the blue, the survey of corpus data to which we now turn shows that, in fact, the construction is productive and not an archaism, even though its use and interpretation are rather specialized, as Pullum's remarks suggested.

3. *the+VPing* Regained

While the *the+VPing* construction does naturally occur in contemporary English, it does so with extreme rarity: only through using very large corpora were we able to observe uses of the construction. Performing regular expression searches over the Corpus of Contemporary American English (COCA, Davies 2008) resulted (subsequent to hand-correcting) in 23 occurrences of the form *the VPing the N*, 3 occurrences of the form *the VPing a(n) N* and no occurrences of the form *the VPing some N*. For instances with negation, there was only one occurrence of the form *the notVPing the N*, and no occurrences either of the form *the not VPing a(n) N* or of the form *the not VPing some N*.²

Given that the COCA corpus contains 450 millions words, transitive instances of *the+VPing* are obviously scarce. Yet, the scarcity of the construction does not appear to be due to its allegedly marginal grammaticality, since the occurrences that are found are fully acceptable, but rather due to the rarity of the discourse conditions that must be fulfilled to license the construction. The following are some of the more representative examples we observed, both in COCA and the GloWbE corpus.

- (7) a. I've recently decided to learn how to wear a bit of make-up ... For a "normal" person, it's **the not wearing make-up** that is stressful and prone to judgment. (COCA)
- b. There was a quiz in class – the question who is the prime minister of Australia? They were in teams but another child commented that "you don't know the answer to that Luca" ha ha ha and well he did but not in that split second.
The topic came up at the dinner table that night. "Mum who is the prime minister of Australia?" By bedtime he was confiding in me and was upset about what happened so it wasn't just **the knowing the answer** it was feeling like he was 'stupid'. (GloWbE)
- c. [After a comment on a blog post that includes the following text: I think the best solution is that your mom doesn't just drop in, your [fiancé] gets a heads up...] I agree with **the giving him a heads up and allowing him space**. (GloWbE)
- d. [After a comment on a blog post that includes the following text: Elle came in and my burden became lighter...She was there to support us as a family and as we parented Rosie. I began to see the good again.] I discovered I had my own attachment disorder and it made the PTSD from this so much worse. The guilt, the depression, the anger, **the not being able to see any of the good in my children (or anything) because I was so overwhelmed**. . . I'm finally in a better place too . . . (GloWbE)
- e. When a proximal goal is perceived to be instrumental to future goal attainment, engagement in the proximal task is supported by both the incentive value of the anticipated immediate outcomes following accomplishment of the proximal goal...and those anticipated for the ultimate attainment of the future goal, which is now a step closer to fruition...[T]here are also the dual incentives of anticipated self-reactions associated with accomplishing the proximal goal itself and the self-reactions associated with **the accomplishing a step on the path** to a personally valued distal goal... (COCA)
- f. [After a comment on a blog post that includes the following text: It's his iphone. He never lets me see it...] I wouldn't say right away that keeping his iPhone on him all the time is an indicator... **The not allowing you to see it** would bug me big time though. (GloWbE)

The+VPing turns out to have a very restricted distribution, occurring primarily in a select number of grammatical contexts. We have repeatedly found them in copular constructions, particularly as the focus of *it*-clefts, as in (7-a) and (7-b); introduced by expressions such as *I agree with...* or *I hear you on...*, as in (7-c); in lists, as in (7-d); or as the object of a preposition, as in (7-e). We did not find examples of the construction in COCA as the argument of a non-copular verb in an episodic tense.

We also note that the control properties of the construction correlate with its limited distribution:

² A much larger number of examples of these constructions is attested in the GloWbE corpus, as it contains 1.9 billion words, but we have not yet been able to perform the hand-correction of the data that is necessary to produce reliable statistics.

the+VPing only permits non-obligatory control that is nonetheless not arbitrary. To see this, first consider a context in which Ann's husband has a new job which requires him to get up at 6AM, commute for 3 hours, and arrive home only at 7PM. In such a context, *the+VPing* in (8-a) can pick out either the husband's getting up or, possibly, Ann's (assuming she gets up when her husband does). It does not force the latter reading, as would happen if the PRO were obligatorily controlled (cp. (8-b)).

- (8) a. Ann doesn't like **the getting up at 6AM**.
 b. Ann doesn't like getting up at 6AM.

The impossibility of arbitrary control is evident if we take an example where arbitrary control is clearly felicitous, as in (9-a), and substitute in *the+VPing*, as in (9-b): The example is unacceptable. Compare an attested example of *the drinking beer* in (9-c):³ Here the reference is clearly to beer drinking not by just anyone but rather by bogans.

- (9) a. Beer is 90% water, so you know that it's keeping you moist. Ms. Gerber cites a Finnish study that suggests that the increased hydration that comes with **drinking beer** might help prevent kidney stones...
 (<http://americancraftbeer.com/item/we-knew-it-drinking-beer-makes-you-healthier.html>)
 b. ??...the increased hydration that comes with **the drinking beer** might help prevent kidney stones...
 c. A Crown Lager used to be enough to make the bogan look sophisticated...But globalisation...has meant that the new bogan needs more. [He] now wants to communicate [his] national sophistication by drinking beers from other countries...And so it happened. Soon the shelves of the local bottle shop were seeing more Carlsberg, Beck's, Stella Artois, and Heineken than ever before...Now the new bogan could get his hands on a slab of European beer for under \$45, and gain all of the credibility that a slender green bottle could confer. [Comment:] Is it un-Australian to suggest **the drinking beer from the bottle** is a bogan trait? (<http://thingsboganslike.com/2009/11/11/23-locally-produced-foreign-label-beer/>)

The control properties of *the+VPing* are arguably related to another of its characteristics, namely that it must pick up on, if not be identical to, an eventuality description already present or inferable in the discourse. In some cases (e.g. (7-a), (7-b), (7-d)), there is a change in the polarity of the description; in others (e.g. (7-c), (7-e), (7-f)), the descriptive content of *the+VPing* is a paraphrase of a previously introduced description. Finally, (9-c) shows that it is sufficient for the description to be inferable from a previously introduced eventuality description (in this case, a photograph accompanying the text plus mention of drinking beer and "a slender green bottle"). The eventuality descriptions to which *the+VPing* is anaphoric include, in all the cases we have found, information about the subject. The fact that this subject information forms part of the antecedent description eliminates the possibility of both obligatory control from within the sentence in which *the+VPing* appears, as well as completely arbitrary control. If control were obligatory or impossible, the connection to the antecedent eventuality description would be lost.

Complete identity of the subject descriptions is not a requirement for the felicity of *the+VPing*, but if the subjects differ, at least they have to form part of a larger set. For example, in (7-a), the understood subject of the antecedent description (*to wear a bit of make-up*) is the speaker/writer; that of the *the+VPing* is restricted to being a normal person. The use of the contrastive topic construction plus the fact that the polarity of the eventuality description changes (*to not* wearing make-up) yields the inference that the set of individuals under discussion is divided into two subsets: non-normal people (including the speaker), and normal people.

These observations support Pullum's claim that *the+VPing* has a special semantics that does not involve reference to a particular event. We hypothesize that it refers to an event *type*, as opposed to an event *token* (see section 4.2 for references on event types). This is particularly clear on inspection

³ See <https://en.wikipedia.org/wiki/Bogan> on the term *bogan*.

of the examples in this section in which the subject is not identical between the antecedent and the *the+VPing*: In none of these cases is the latter picking out a single token event. Only in those cases, such as (7-c), where the subjects are clearly identical does it seem that *the+VPing* could pick out an event token. However, even in these cases we submit that the denotation of *the+VPing* is type-level, and token reference is simply an illusion that arises due to the fact that the antecedent event description is associated with a token event. A slightly different version of such illusory token reference was observed by Carlson (1980): expressions that are anaphoric to kind terms (and therefore are presumably kind-referring) sometimes appear to have token reference, as is the case with *they* in (10), simply because they appear in episodic contexts.

(10) Mary hates **raccoons** because **they** stole her sweet corn. (Carlson 1980, p. 25)

We therefore see no obstacle to maintaining the hypothesis that *the+VPing* is type-referential even when prima facie it may not seem to be the case.

Summarizing, the new data showing where *the+VPing* may legitimately occur shed light on why so many constructed examples of *the+VPing* have resulted in awkward and “ungrammatical” sentences: the use of the construction implies a context where it must be directly or inferrably anaphoric to an eventuality description – a situation unlikely to be fulfilled in out-of-the-blue constructed examples.⁴

4. Analysis

4.1. Syntax

-ing forms are sometimes considered to be “mixed categories” in their syntactic properties (see e.g. Malouf (1996), who treats them as inheriting features of both nouns and verbs). We will not pursue the question of how best to account for the fact that the same form sometimes manifests verbal properties (for example, taking a direct complement, as in the *the+VPing* construction) and other times nominal properties (for example, in the *-ing_{of}* constructions or, on some views, as indicated by appearing with a determiner; see Moulton 2004 for a summary). Rather, our analysis will simply start from the assumption that the *-ing* form *can* function as a verb in the syntax.

As our main concern involves mapping certain aspects of the syntax of *the+VPing* to its interpretation, we also present a very simple phrasal syntax for those details that are not crucial, in order to facilitate cross-framework portability. The crucial points, however, are the following.

First, we assume that the *-ing* form in the *the+VPing* construction includes the full argument structure, including the external argument. We posit that the external argument is realized by a non-obligatorily controlled PRO projected in the specifier of VP.

Second, we follow e.g. Pires (2006) in taking some *-ing* forms – including that of interest here – to lack a tense projection.⁵ Thus, the internal syntax of the *the+VPing* construction is as in (11).⁶

(11) [_{VP} [PRO] ... [_{VP} VP]]

Finally, following Abney (1987), the determiner is treated as the head of DP and is not restricted to taking nominal complements, but rather can also take any predicate of the appropriate semantic type, including, as we show below, vP:

⁴ Note, incidentally, that the *no VPing* construction illustrated in (5-a) is found precisely in the pivot of existential constructions, as already noted by Quirk et al. 1985; see Abney 1987, p. 185. This is position that selects specifically for type-denoting expressions (McNally 1992).

⁵ Indeed, we will also leave out any sort of aspect projection, in line with observations about past participles in (Fontana, 2014), though a full extension of his analysis to *-ing* forms is beyond the scope of this paper.

⁶ We note that given this structure negation must be treated as a VP modifier, i.e. as constituent negation. See Kim & Sag (2002) and references cited therein for discussion of constituent negation.

(12) [DP [D' the [_{VP} [PRO] ... [_{VP} VP]]]]

This very simple syntactic analysis accounts for the fact that *the+VPing* has the internal syntax of a VP and the external syntax of a nominal – specifically, a DP – in the obvious way. Under the DP hypothesis, there is no reason not to expect that categories other than NP could appear as complements to D; indeed, AP is also arguably possible, as in examples such as (13), (Glass 2014, her (11b), (12a), respectively).

- (13) a. the laity and **the married** are underrepresented in the lists of canonized saints
b. “progress” always seems to go in one direction toward **the dead** and **the dull**.

Before turning to the semantics, we comment on just one further aspect of the syntax, namely the question of whether an overt subject is possible given that PRO is. Again, out-of-the-blue uses of *the+VPing* with an overt subject, as in (14), would appear to be barred and even worse sounding than the examples of *the+VPing* without an overt subject.

(14) *The him raking the leaves

However, examples with overt subjects also exist, as witnessed in (15-a) and (15-b), although their occurrence appears to be even more rare than the cases we have discussed up until this point.

- (15) a. [After a comment on a blog post that includes the following text: As for Laurel fans using the canon argument to claim the validity or inevitability of Laurel and Oliver as endgame, I actually know lots of Laurel fans who don't want Laurel anywhere near Ollie's man parts! In fact, many of them think that he is quite a jerk, as well as a hypocrite, and they frankly don't believe that he's such a great catch...] Though I love Olicity and Oliver, I kinda agree with you on **the him not being much of a catch**. (https://www.reddit.com/r/arrow/comments/2pzrgh/is_it_possible_to_criticize_felicity_on_this)
b. Her being into him is less of a problem. It's **the him wanting someone else** that's the problem. (https://www.reddit.com/r/relationship_advice/comments/351xmu/bf_24_of_2_years_has_f23_friend_who_i_think_is)

The characteristics of these examples align with the previous observations for the examples of *the+VPing* in (7). The example in (15-a) is introduced by the expression *I agree with you on* and the example in (15-b) occurs in the focus of an *it*-cleft, both of which are grammatical contexts which were observed for the examples of *the+VPing* without overt subjects. Both examples are also clearly anaphoric, picking up on an eventuality description already present in the discourse. Accordingly, instances of *the+VPing* with a specified subject are of a kind with those where a PRO is present.

From a semantic perspective, it should also not be surprising that an overt subject might be present in *the+VPing*: After all, the construction denotes the description of a type of eventuality, and the overt subject contributes to that description. We now consider the details of this semantics.

4.2. Semantics

Our semantics extends to verbs a version of the layered-DP analysis of ordinary nominals first developed in Zamparelli (1995). On this analysis, illustrated in (16), nouns denote kinds, rather than of properties of (token-level) entities. Functional material – here we assume Number in the case of nouns – converts the kind into a property of either token level individuals (illustrated in (16-b)) or subkinds.

- (16) a. $[_{NP}[_N \text{ dog}]]$: **dog**, a kind-level entity
 b. $[_{NumP}[_{NP} \text{ dog}]]$: $\lambda x[R(x, \text{dog})]$

Analogously, we take *-ing* forms to denote *kinds of events*, as opposed to properties of (token) events (see e.g. Landman & Morzycki 2003, van Lambalgen & Hamm 2005, as well as much earlier antecedents in Situation Semantics, Barwise & Perry 1983). Although event kinds or types are not common in the literature on nominalizations, there are several precedents in other analyses of verbal semantics. In particular, Carlson (2003), in his study of phenomena related to weak indefinites, argues for event types as VP denotations:

I want to argue that the VP is the domain of a context-free interpretive mechanism specifying an event-type, which is then the input to the usual context-sensitive propositional semantics generally assumed for all levels of the sentence. That is, something fundamentally different goes on within the VP that does not go on “above” the VP – it is only information about types/properties that appears there and not information about (contingent) particulars.
 (p. 198)

Though Carlson’s claim that the VP contains no information about contingent particulars arguably needs qualification, we nonetheless maintain the association of VP (and, indeed, vP) with event kind descriptions.

As for the specification of verbal argument structure, we maintain the “classical” hypothesis that verbs have an ordered argument denotation. In this, we take them to differ from nouns (even event nouns), based on the results reported in Grimm & McNally (2013).⁷ As a result, in order to function as a verb, an *-ing* form, e.g. **raking**, must not only be supplemented with arguments but also be converted into an event kind description. We do this via the function \cup of type $\langle e_k, \langle e, t \rangle \rangle$, a version of Chierchia’s (1998) predicativizing functor, as in (17).

- (17) $[_V \text{ raking}]$: $\lambda y \lambda x \lambda e_k [\cup \text{raking}(e_k) \wedge \mathbf{Theme}(y, e_k) \wedge \mathbf{Agent}(x, e_k)]$

Given that the denotation in (17), once saturated with object and subject arguments, is simply a property, there is no reason why it would not be compatible with a standard analysis of the definite determiner, as in (18-a). The denotation of a full *the+VPing* can thus be derived as in (18-e), where we take non-obligatorily controlled PRO to introduce a free variable that is contextually valued.⁸

- (18) a. $[_D \text{ the}]$: $\lambda P \iota x [P(x)]$
 b. $[_{DP} \text{ the leaves}]$: $\lambda P \iota x [P(x)] (\lambda y [\mathbf{leaves}(y)]) = \iota x [\mathbf{leaves}(x)]$
 c. $[_{VP} \text{ raking the leaves}]$:
 $\lambda y \lambda x \lambda e_k [\cup \text{raking}(e_k) \wedge \mathbf{Theme}(y, e_k) \wedge \mathbf{Agent}(x, e_k)] (\iota x [\mathbf{leaves}(x)])$
 $= \lambda x \lambda e_k [\cup \text{raking}(e_k) \wedge \mathbf{Theme}(\iota x [\mathbf{leaves}(x)], e_k) \wedge \mathbf{Agent}(x, e_k)]$

⁷ Thus, we adopt Dowty (1989)’s conjecture that the expression of participants with verbs is fundamentally different from that with nouns. The proposal in this section therefore diverges from works such as Carlson (1984) and Zucchi (1993), where verbs are taken to denote 1-place properties without ordered arguments.

⁸ An alternate analysis suggests itself in light of Espinal (2010), who starts from the proposal in McNally & Boleda (2004) that nouns denote properties of kinds, rather than kinds qua entities. For the analysis of definite kind terms, she then proposes that an NP can combine directly with D, as in (i):

- (i) a. $[_{DP}[_{D'} \text{ the } [_{NP} \text{ dodo}]]]$ is extinct.
 b. $\iota x_k [\mathbf{dodo}(x_k)]$

One could then extend Espinal’s treatment of definite kind terms to the *the+VPing* construction as in (ii).

- (ii) a. $[_{DP}[_{D'} \text{ the } [_{VP}[_{V'} \text{ raking the leaves}]]]]]$
 b. $\iota e_k [\mathbf{raking}(e_k) \wedge \mathbf{Theme}(\iota x [\mathbf{leaves}(x)], e_k) \wedge \mathbf{Agent}(z_i, e_k)]$

See McNally (2014) for comparison of kind vs. property-of-kind analyses of nouns and an alternative account that reconciles their differences.

- d. $[_{DP} \text{PRO}] : z_i$
 e. $[_{vP} \text{the raking the leaves}] :$
 $\lambda x \lambda e_k [\cup \text{raking}(e_k) \wedge \text{Theme}(\iota x[\text{leaves}(x)], e_k) \wedge \text{Agent}(x, e_k)](z_i)$
 $= \iota e_k [\cup \text{raking}(e_k) \wedge \text{Theme}(\iota x[\text{leaves}(x)], e_k) \wedge \text{Agent}(z_i, e_k)]$

The syntax and semantics that we have assigned to *the+VPing* accounts directly for the observed properties of the examples seen in section 3, namely obligatory type-reference and anaphoricity. The semantic form in (18-e) is an event kind description; the syntax does not contain a Tense projection, which is consistent with the lack of temporal specification for *the+VPing*. If one assumes, following Kratzer (1996), that Tense is responsible for the existential quantification of the token event argument, the lack of Tense yields the interpretation of type-level reference.

Accounting for the examples like those in (14) where the subject is specified by a pronoun instead of PRO is also straightforward. The variable contributed by PRO is simply substituted for the one contributed by the pronoun; any differences in interpretation will follow from the differences in the restrictions on how non-obligatorily controlled PRO and ordinary pronouns can be valued in discourse. From the syntactic structure assigned to the *the+VPing* construction, the subject could, in principle, be specified by all sorts of other nonimals beyond pronouns, such as definite or indefinite nouns phrases, or proper nouns. Yet to date we have not been able to find such examples, and we do not expect to. First, the anaphoric nature of the construction militates against any subjects which would not have been previously mentioned in the discourse and accordingly favors the presence of a pronoun instead of a proper noun. Second, if the subject were to be specified by a (in)definite noun phrase, the result would contain stacked determiners (e.g. *the the boyfriend wanting someone else*), which is likely to be dispreferred for processing reasons.

5. Conclusion

At the empirical level this study of *the+VPing* opens new avenues for investigation into the subtle contrasts within the paradigm of *-ing* forms, most notably POSS-*ing*. In Grimm & McNally (2015) we undertake this task.

Methodologically, this work underscores the potential for large corpora to uncover the synchronic robustness and theoretical interest of what had been generally considered a residual or even non-existent construction. Most relevantly, we note that the limited distribution of a construction can point not to a lack of productivity but simply to very specific conditions on use. This specificity, however, does not reduce the potential for the construction to provide revealing information about the grammar.

Finally, at the theoretical level, *the+VPing* has at least two implications. First, it adds a novel type of evidence for the crucial role of the type/token distinction in grammar that reinforces the long argued-for parallelism between the nominal and verbal domain. Second, it lends further support to the unexceptionality of VP as a complement to D, which is fully expected on the DP hypothesis.

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