

Manner modification and *like that*

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1 Introduction

This work has two purposes. Its short term purpose is to provide an analysis of the adverbial *like that* in English and of the manner adverbial paraphrase *the way*. But, a longer term goal of this project is to gain insight into what manners are and how they are composed.

This talk will proceed as follows. I'll present some data about manners relevant to this discussion. Next, I will introduce a particular view of manners as kinds of events, noting a problem with this view. A workaround for that problem will be presented. I'll suggest a semantics for paraphrases of manner adverbials using *the way*, and conclude with some other data that eventually should be accounted for.

2 Some data

Manner adverbials describe the particular way in which an event occurred. A few of their distributional properties:

- Appear post-verbally.

(1) John swam quickly.

(2) Mary fell clumsily.

- Questioned with *how*

(3) How did John swim? *Quickly*.

(4) How did Mary fall? *Clumsily*.

- Paraphrased with *the way*

(cf. Test 3.1, Schäfer, 2006)

(5) The way John swam was quick.

(6) The way Mary fell was clumsy.

The adverbial *like that* behaves like manner adverbials, appearing in those same environments. It intuitively seems anaphoric to the manner being denoted by the manner adverbial.

- Appear post-verbally.

(7) John swam like that / like a fish.

(8) Mary fell like that / like a rock.

- Questioned with *how*

(9) How did John swim? *Like that / like a fish*

(10) How did Mary fall? *Like that / like a stone*

- Paraphrased with *the way*

(11) The way John swam was like that / like a fish.

(12) The way Mary fell was like that / like a stone.

- *Like that* is an anaphor

(13) John swam gracefully, and Mary swam like that, too.

3 Event-kinds and false predictions

3.1 Kinds

Landman and Morzycki (2002) notice a similarity between adnominal modifiers and adverbial modifiers in German and Polish (as well as Russian and Dutch).

(14) **German** (Landman and Morzycki, 2002)

- a. **So ein Hund** ist letzte Nacht davongelaufen.

such a dog is last night away-ran

“Such a dog ran away last night.”

- b. Er hat **so** getanzt. (German)

he has so danced

“He danced like that.”

(15) **Polish** (Landman and Morzycki, 2002)

- a. **Taki pies** uciekł wczoraj w nocy.

such dog ran-away yesterday in night

“Such a dog ran away last night.”

- b. On tańczył **tak**. (Polish)
 he danced so
 “He danced like that.”

These uses are similar to English *such* (adnominally) or *thus, like that, or that way*.

- (16) a. A dog such as that
- b. He danced thus/like that/that way.

Landman (2006) and Landman and Morzycki analyze the adnominal modifiers as making reference to kinds, asserting that the modified noun asserts that there is some contextually salient kind that the noun instantiates.

- (17) a. $\llbracket \text{taki}_i \rrbracket = \lambda x [x \text{ realizes } k_i]$
- b. $\llbracket \text{pies} \rrbracket = \lambda x [x \text{ is a dog}]$
- c. $\llbracket \text{taki}_i \text{ pies} \rrbracket = \lambda x [x \text{ realizes } k_i \text{ and } x \text{ is a dog}]$ (from Landman and Morzycki, 2002)

As adverbials, Landman and Morzycki analyze *taki* and *so* as being anaphoric to a contextually salient kind as well. The difference between the adnominal and the adverbial usages is sortal; the adverbial denotation is a property of events, and the kind it references is an event-kind.

Landman (2006) proposes that *like that* as an adverbial works in the same way. It asserts that some event is an instantiation of some event-kind.

3.2 A Prediction

Landman (2006) claims that *like that* can be anaphoric to manner adverbials themselves. The example below is given as evidence of this.

- (18) Maria stood on one leg, and Jan hopped like that. (Landman, 2006)

If it is the case that just the manner adverbial can be the target of anaphor, however, then we expect sentences like the following to be acceptable.

- (19) *John fell down the hill clumsily, and Sue spilled milk like that.
- (20) *Sue ate the sandwich quickly, and John ran a race like that.

In those cases, targeting just the adverbial with *like that* and attempting to use it where the adverb itself would otherwise be felicitous (as in 21) is unacceptable.

- (21) a. Sue spilled milk clumsily.

- b. John ran a race quickly.

But, *like that* can be used when there is some vague similarity between the two events. (18) demonstrates this, as does the sentence below.

- (22) Sue jogged quickly, and Mary ran like that.

These suggest that, if manners are event-kinds, then the kind they denote includes part of the verbal denotation as well. For (18), the relevant kind might not be an event-kind of being on one leg, but of standing on one leg.

4 The analysis

4.1 Structure of *like that*

Something about *like that* here.

- (23) John swam quickly, and Mary swam like that, too.

In addition to taking a DP complement *that*, *like* can take a clausal complement.

Evidence for being clausal comes from what looks like ellipsis. In the (a) and (b) case, the ellided material is related to the material in the rest of the sentence.

- (24) a. *John swam like.
b. John swam like a fish.
c. John swam like a fish would.
d. John swam like a fish would swim.

In summary, *like* allows for an obligatory TP complement as well as the DP *that*.

4.2 *Like that* as an adverbial

As an adverbial, *like that* and its related construction *like*-TP pattern like other manner adverbials. Manner adverbials likely have a type $\langle s, t \rangle$ and compose via Predicate Modification (Heim & Kratzer, 1998). *Like that* will remain of this type in order to keep its distribution with other manner adverbials.

4.2.1 *Like-TP*

A first pass at the analysis for these has the complement TP directly denoting an event-kind (which I will notate as s_k). *Like* itself should be looking for an event-kind and yielding a property of events.

$$(25) \quad (\text{Tentative}) \llbracket \text{like} \rrbracket = \lambda k \lambda e [e \text{ realizes the event-kind } k]$$

For the sentence below, the TP complement of *like* will denote the event-kind of FISH-SWIMMING.

$$(26) \quad \text{John swam like } [_{TP} \text{ a fish (would swim)}].$$

Composition of (27a) and (27b) via Predicate Modification will derive the following LF (27c).

$$(27) \quad \begin{array}{ll} \text{a. } \llbracket \text{like a fish} \rrbracket = \lambda e [e \text{ realizes the event-kind FISH-SWIMMING}] \\ \text{b. } \llbracket [_{vP} \text{ John swim}] \rrbracket = \lambda e [\text{swim}(e) \text{ and Agent}(e)] \\ \text{c. } \lambda e [\text{swim}(e) \text{ and Agent}(e, \text{John}) \text{ and } e \text{ realizes the event-kind FISH-SWIMMING}] \end{array}$$

There's an immediate problem: John can't instantiate FISH-SWIMMING unless he also happens to be a fish. Tweaking the denotation so that the main event merely resembles some realization of the event-kind is an intuitive fix.

$$(28) \quad (\text{final}) \llbracket \text{like} \rrbracket = \lambda k \lambda e \exists e' [e' \text{ realizes the event kind } k \text{ and } e \text{ resembles } e']$$

Asserting that an event is like some other event means that there is some event-kind and that the modified event resembles (in some fashion) an instance of that kind.

Some evidence that the complement is kind-denoting may come from trying to use events that don't have an associated event-kind.

$$(29) \quad \# \text{John swam like a giraffe (would swim).}$$

$$(30) \quad \# \text{Mary fell like a couch (would fall).}$$

These are obviously absurd examples, but their oddity and the intuition that there is no kind associated with them supports an analysis that uses kinds.

The resembles relation is an important piece of this analysis, and further work would need to spell out under what conditions two events can be said to resemble each other.

4.2.2 *Like that*

Landman (2006) proposes a denotation for *like that* as below.

$$(31) \quad \llbracket \text{like that}_i \rrbracket^g = \lambda x [x \leq g(i)] \quad (\text{Landman 2006})$$

Like that is anaphoric to some kind picked out by the assignment function g and the index i . x is asserted to be an individual of that kind.

Landman's claim is that event-kinds denoted by manner adverbials can be referenced, but from above it seems to be the case that the event modified by the adverbial must be included in the kind as well.

$$(32) \quad \llbracket \text{like that}_i \rrbracket^g = \lambda x \exists y [y \text{ realizes } g(i) \text{ and } x \text{ resembles } y]$$

4.3 *The way* paraphrases

4.3.1 Structure of *the way*

The way can be used to paraphrase manner adverbials.

- (33) a. John swam quickly.
b. The way John swam was quick.

Like that and *like*-TP are both acceptable with *the way* as well.

- (34) The way John swam was like that / like a fish.

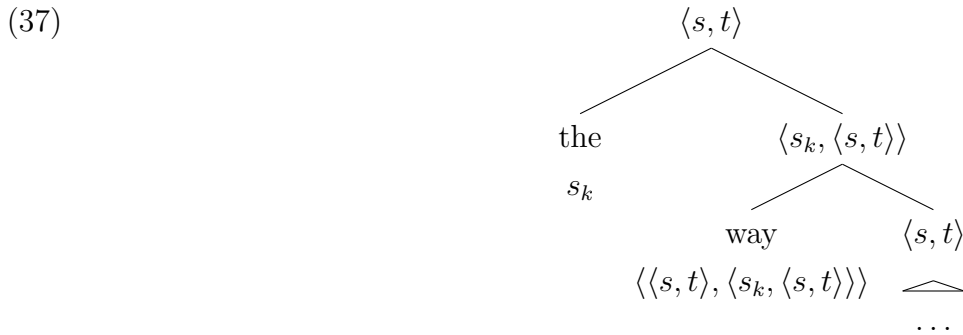
Way takes a CP complement, as evidenced by the fact that *that* is optional for the complement clause.

- (35) The way (that) John swam was quick.

I suppose that the CP complement is a function of type $\langle s, t \rangle$. The noun *way* is of type $\langle \langle s, t \rangle, \langle s_k, \langle s, t \rangle \rangle \rangle$.

$$(36) \quad \llbracket \text{way} \rrbracket = \lambda f_{\langle s, t \rangle} \lambda k \lambda e \exists e' [f(e) \text{ and } e' \text{ realizes } k \text{ and } e \text{ resembles } e']$$

Way is true if an event e makes the property of events denoted by the CP true and if it resembles some event e' which instantiates an event-kind k . This will be built compositionally as such.



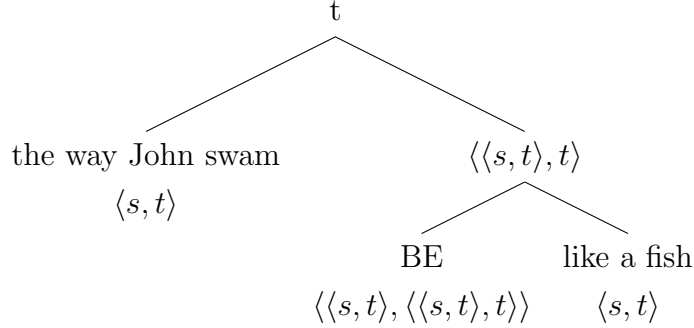
The is an existential quantifier here for a kind.

$$(38) \quad \llbracket \text{the way John swam} \rrbracket = \lambda e \exists k \exists e' [\text{JOHN-SWIMMING-EVENT}(e) \text{ and } e' \text{ realizes } k \text{ and } e \text{ resembles } e']$$

I use a naive view of the copula (39).

$$(39) \quad \llbracket BE \rrbracket = \lambda f_{\langle s,t \rangle} \lambda g_{\langle s,t \rangle} \exists e [f(e) = g(e)]$$

(40)



$$(41) \quad \llbracket \text{The way John swam was like a fish} \rrbracket = \exists e [\llbracket \text{the way John swam} \rrbracket(e) = \llbracket \text{like a fish} \rrbracket(e)]$$

Further work on the semantics of the paraphrase *the way* needs to be done. Taking *the* to introduce existential quantification is suspect, as is having the entire DP being a property of events rather than being individual denoting. Worth noting, though, is that there are some restrictions on the determiner on *the way* paraphrases.

- (42) a. the way John swam was . . .
b. ??a way John swam was . . .
c. ?every way John swam was . . .
d. *some way John swam was . . .

Determiners other than *the* are strange or ungrammatical. The fact that determiner choice is so rigid might be circumstantial evidence for an idiosyncratic denotation for *the way* paraphrases.

4.4 Perception verbs

One objection to this type of analysis comes from perception verbs. The complement of perception verbs must be something that can be perceived.

(43) Mary saw John eat.

(44) John heard Mary walking.

Free relatives can be the complement to perception complements as well. A *how*-relative intuitively describes a manner.

(45) Mary saw how John ate.

(46) John heard how Mary walked.

Following the intuition that *how*-relatives are manner, they from the analysis above we naively expect them to be event-kind denoting as well. This is a problematic, as events-kinds are abstract objects that cannot be perceived.

Derived Kind Predication (Chierchia, 1998) will apply when a kind is an argument to a function that needs a concrete individual. DKP fixes the sort mismatch and allows an otherwise kind-denoting free relative to be used as a perception complement.

- (47) **Derived Kind Predication:** if P applies to objects and k denotes a kind, then

$$P(k) = \exists x [\cup k(x) \wedge P(x)]$$
 (Chierchia, 1998)

If a function is being applied to a kind when that function needs a concrete individual, then an individual realizing that kind will be brought in. If *see* is being applied to some kind, as in (48a, 49b), then DKP will step in and give us some individual of that kind (48b, 48c).

- (48) a. $\lambda e \exists k [\dots \text{see}(e, k) \dots]$
b. $\lambda e \exists k \exists x [\dots \text{see}(e, x) \text{ and } \cup k(x)]$
- (49) a. Mary saw how John danced.
b. $\lambda e [\text{see}(e, \text{JOHN-DANCING-KIND})]$
c. $\lambda e \exists x [\text{see}(e, x) \text{ and } \cup \text{JOHN-DANCING-KIND}(x)]$

4.5 Summary

To summarize, both *like that* and *like*-TP are type $\langle s, t \rangle$. The difference between them is that while *like that* is anaphoric to some event, a TP complement to *like* can pick out some event-kind. *The way* paraphrases of manner adverbials involved a DP that denotes a property of events. It asserts that the event paraphrased resembles some other event that is an instantiation of an event kind. Crucial to the analysis is the resembles relation, which is true if two events resemble each other in some unknown way.

5 Some other puzzling data

Like that is anaphoric to other things that are manner-like. There's a variety of things that *like that* can refer to.

- Means expressed in a *by*-phrase:

- (50) John arrived by bus, and Mary arrived like that, too.
(51) Mary started the machine by flipping a switch, and John started one like that, too.

- Manner of death verbs and other verbs that encode an instrument:

(52) Marie got guillotined, and Louis died like that, too.

(53) Steve was beheaded, and Sue died like that, too.

(54) Greg was stabbed, and Jason was wounded like that, too.

- The judgements are hazier, but verbs of sound emission might also be ok.

(55) The magician popped in, and his assistant arrived like that, too.

(56) The bullet whistled past, and the train passed like that, too.

I propose no analysis for these, but *like that* may be able to eventually shed some light on how manner is encoded in these cases.

6 Conclusion

I've discussed the event-kind approach offered by Landman (2006) and Landman and Morzycki (2002). I showed how manners involve part of the verb, imposing a requirement of similarity. This is encoded with the resembles relation, which compares two events and checks to see if they're similar. The requirements of resembles is left for further study. Using resembles fixes a problem with the Landman approach to the adverbial *like that*. I analyze the semantics of *like* with a clausal complement, and provide a tentative analysis for *the way* paraphrases of manner adverbials.

References

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