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‘Like a N’ constructions and genericity*

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Abstract. In this work, I examine English V + ‘like’ constructions. I analyze ‘is like x_e’ as ‘shares relevant properties with x_e’, which coheres with main psychological accounts of similarity (Tversky, 1977). I also examine the readings of indefinites embedded by such constructions (‘look like a lawyer’). I argue that in the most salient reading of such constructions the indefinite receives a generic interpretation. This explains why they are non-increasing: from the fact that John looks like a British judge it doesn’t follow that he looks like a judge. This also predicts, non-trivially and correctly, quasi-conjunctive narrow readings of disjunction: under the most salient reading of ‘John looks like a lawyer or judge’, John looks like a lawyer *and* like a judge. This is explained by the fact that the disjunction can go into the restrictor of a generic quantifier.

1 Introduction

Notice that in different contexts, one can utter both (1a) and (1b).

(1) a. [Personality is relevant] John is like a lawyer.
b. [Clothing is relevant] John isn’t like a lawyer.

In (2), we can make clear why uttering (1a) and (1b) doesn’t make us incoherent:

(2) In terms of personality, he’s like a lawyer; in terms of clothing, he isn’t like a lawyer.

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This is the first question this paper sets out to discuss, namely how the context-dependence of similarity talk works.

The second issue this paper addresses concerns the readings of indefinites under 'like'. Why is it that (3b) does not follow from (3a)? What interpretation does the indefinite receive in such constructions?

(3) a. John looks like a British judge.
 b. John looke like a judge.

In section 2 I address the first question; in section 3 I address the second.

2 'Like x_e'

2.1 Analysis

Define an *attribute* as a set of mutually exclusive and collectively exhaustive properties, a partition (cf. Fig. 1) over the universe of individuals. A property is a possible *value* for an attribute to which it belongs. For instance, suppose that $\underline{color}_{\langle\langle s,\langle e,t\rangle\rangle,t\rangle} = \{red_{\langle s,\langle e,t\rangle\rangle}, green_{\langle s,\langle e,t\rangle\rangle}, ...\}$. Then, $\underline{color}$ is an attribute and *red* is a possible value for $\underline{color}$. I propose that x is like y iff a has the same value as b for a salient set of attributes[1].

(4) $[\![like]\!]^w = \lambda y.\lambda x.\forall \underline{A}_{\langle s,\langle e,t\rangle\rangle,t\rangle} \in \mathbf{D}_{\langle\langle s,\langle e,t\rangle\rangle,t\rangle,t\rangle}.\iota P_{\langle s,\langle e,t\rangle\rangle}\big(P \in \underline{A} \wedge P(x)(w)\big) = \iota Q_{\langle s,\langle e,t\rangle\rangle}\big(Q \in \underline{A} \wedge Q(y)(w)\big)$

In words, x is like y iff for a set $\mathbf{D}$ of salient attributes $\underline{A}$, x has the same value as y, i.e. the property that is a member of $\underline{A}$ and holds of x is identical to the property that is a member of $\underline{A}$ and holds of y. An intuitive way to see this is that x and y fall in the same cell of the $\underline{A}$-induced partition(s) over the universe of individuals, as exemplified in Figure 1.[2]

$\mathbf{D}$ is a free variable that can be (i) provided by context, as in (5a), or (ii) explicitly via 'with respect to' constructions, as in (5b).[3] This shows why there is a reading under which (5a) is not contradictory to begin with.

(5) a. This banana is like that lemon and it isn't like that lemon.

[1] I allow myself to mix set talk (as in $\underline{A} \in \mathbf{D}$) and function talk (as in $P(x)(w)$).

[2] Properly speaking an attribute isn't a partition, but a function from worlds to partitions; that is, $\underline{color}$ may partition the universe of individuals differently at different worlds: an object that is e.g. red in the evaluation world may be blue at another world. What instead does not change is what properties are cells of a partition, viz. what properties are possible values for an attribute: at different worlds there aren't new colors added. What changes is only the distribution of colors over individuals.

[3] Consider the sentence 'Every student is like a lawyer (in one respect or another).'
A reviewer notes that this sentence has a reading in which the respect in which the given individual is like a lawyer varies for each student. It is possible to accommodate such cases within my system, by replacing the free variable D over sets of attributes by a functional variable that represents a function from individuals to such sets, along the lines of what has been proposed for functional domain restrictions in the scope of quantifiers (see, e.g., Partee (1989)

b. With respect to color, this banana is like that lemon; with respect to shape, it isn't.

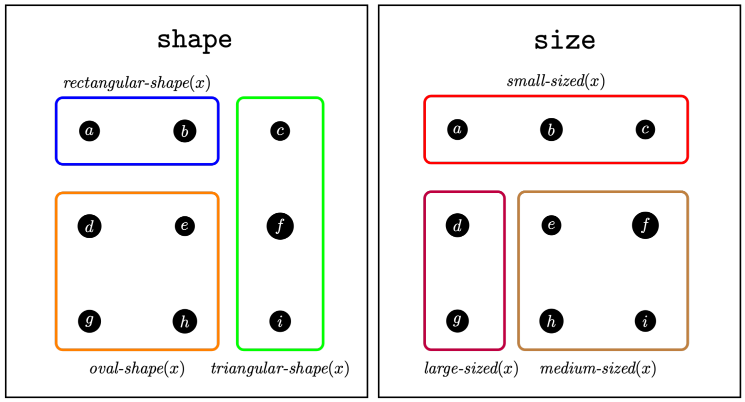

Fig. 1. 'In terms of shape and size, a is like b':
$\forall \underline{A} \in \{\underline{shape}, \underline{size}\}.\iota P\Big(P \in \underline{A} \wedge P(a)(w)\Big) = \iota Q\Big(Q \in \underline{A} \wedge Q(b)(w)\Big)$

To illustrate, consider (6):

(6) With respect to color, this banana is like that lemon; with respect to shape, it isn't like that lemon.

The account cashes this out as:

$$\forall \underline{A}_{\langle s,\langle e,t\rangle\rangle,t\rangle} \in \{\underline{color}\}_{\langle\langle s,\langle e,t\rangle\rangle,t\rangle,t\rangle} \big[\iota P_{\langle s,\langle e,t\rangle\rangle}\big(P \in \underline{A} \wedge P(\textit{this-banana})(w)\big) = \iota Q_{\langle s,\langle e,t\rangle\rangle}\big(Q \in \underline{A} \wedge Q(\textit{that-lemon})(w)\big)\big]$$
$$\&$$
$$\neg\forall \underline{A}_{\langle s,\langle e,t\rangle\rangle,t\rangle} \in \{\underline{shape}\}_{\langle\langle s,\langle e,t\rangle\rangle,t\rangle,t\rangle} \big[\iota P_{\langle s,\langle e,t\rangle\rangle}\big(P \in \underline{A} \wedge P(\textit{this-banana})(w)\big) = \iota Q_{\langle s,\langle e,t\rangle\rangle}\big(Q \in \underline{A} \wedge Q(\textit{that-lemon})(w)\big)\big]$$

Because $\mathbf{D} = \{\underline{color}\}$ and $\mathbf{D}' = \{\underline{shape}\}$ only contain one attribute each, we can simplify the formula:

$$\iota P_{\langle s,\langle e,t\rangle\rangle}\big(P \in \underline{color} \wedge P(\textit{this-banana})(w)\big) = \iota Q_{\langle s,\langle e,t\rangle\rangle}\big(Q \in \underline{color} \wedge Q(\textit{that-lemon})(w)\big)\big]$$
$$\&$$
$$\iota P'_{\langle s,\langle e,t\rangle\rangle}\big(P \in \underline{shape} \wedge P(\textit{this-banana})(w)\big) \neq \iota Q'_{\langle s,\langle e,t\rangle\rangle}\big(Q \in \underline{shape} \wedge Q(\textit{that-lemon})(w)\big)\big]$$

This linguistic view of similarity talk partly coheres with the leading approach to psychological similarity (Tversky, 1977), which views similarity as a set-theoretical relation between bundles of features representing objects. For instance, John may be represented by a set of features:

$$John = \{\textit{blue-eyed, tall, ...}\}$$

Other people may be considered similar to John if they share the features that are relevant in a given context. The difference between Tversky's account and mine is that I take similarity respects to induce partitions over the universe of individuals, while Tversky models them as mere salience differences among the features themselves. A second difference is that Tversky's theory takes similarity to be intrinsically asymmetric. The semantics I propose for 'like', instead, is symmetrical, and explain intuitions of asymmetry by information-structural reasons (cf. section 4 for discussion of asymmetry).

2.2 Appearance verbs

Appearance verbs can build a layer of modality *on top* of quasi-extensional 'like' *PP*s. Rudolph (2019) proposes that sentences like 'Bob looks French' can be captured as $\forall w' \in V(j,w).French(bob)$, i.e. at all worlds compatible with the visual experience of the judge j at w, Bob is French. 'Like x' *PP*s provide a property: the set of individuals that for salient attributes share the same value with x. Extending Rudolph's semantics of 'look P', then, a sentence like 'Bob looks like Carl' is analyzed as in (7).

(7) $\forall w' \in V(j,w).\forall \underline{A} \in \mathbf{D}.\iota P\big(P \in \underline{A} \wedge P(bob)(w')\big) = \iota Q\big(Q \in \underline{A} \wedge Q(carl)(w')\big)$

This allows us to capture the subjectivity of 'look': 'To John, Bob looks like Carl' is captured by a formula almost like (7), but with a different judge argument to V to get the worlds w' in $V(john,w)$, i.e. compatible with *John's* visual experience at w. It also illustrates how 'look' restricts the attributes that can serve as similarity criteria to purely *visual* attributes ('sound' to auditory ones, 'smell' to olfactory ones, and so on).

3 'Like a *N*'

3.1 Genericity

Similarity statements of the form 'x is/looks like a lawyer' can have two different readings, call them the specific (SR) and the general reading (GR). SR involves a run-of-the-mill indefinite: there is a specific lawyer such that x looks like them. Under GR, x has the general appearance of a lawyer. I argue that GR involves a generic indefinite. Adding restrictors like 'typical' to a sentence and checking whether the meaning changes is a well-established test for genericity (Krifka et *al.*, 1995) which GR passes. Adding "typical" to (8a) radically changes the meaning of the sentence: while in (8a) for all we know the bird that is flying could have had seven legs, sentence (8b) necessarily refers to a bird with two legs. The meaning of (9a) is instead roughly equivalent to the meaning of (9b): if I say that a bird flies, I am not thinking about seven-feeted birds.

(8) a. A bird is flying. **($\exists$ ind.)**
b. $\not\approx$ A typical bird is flying.

(9) a. A bird flies.(GEN **ind.**)
b. $\approx$ A typical bird flies.

The same goes for similarity statements: if we zero in on the specific reading, (10a) and (10b) are not equivalent. But if we look at the general reading, (11b) seems to be a nearly equivalent paraphrase of (11a).[4]

(10) a. John looks like a lawyer I know. **(SR)**
b. $\not\approx$John looks like a typical lawyer I know.

(11) a. John looks like a lawyer. **(GR)**
b. $\approx$John looks like a typical lawyer.

This explains why GR, just like genericity, is non-increasing, as shown in (12) and (13).

(12) a. John looks like a British judge.
b. $\not\models$ John looks like a judge.

(13) a. A British judge wears a wig.
b. $\not\models$ A judge wears a wig.

Imagine for instance someone who wears a white, powdered wig: they do not look like a Brit, nor like a judge; but they do look like a British judge. GR, just like genericity, is also non-decreasing, as shown in (14) and (15).

(14) a. John looks like a bird.
b. $\not\models$ John looks like a penguin.

(15) a. A bird flies.
b. $\not\models$ A penguin flies.

3.2 Analysis

Take a standard view of generic quantification: GEN is a silent quantificational adverb that denotes a quantifier that binds non-selectively and relates a restrictor

[4] I ignore the contribution of 'look' here because the data extend to 'is like a N' constructions. For instance, suppose you live in Paris and go to a private highschool that has many features of American schools, e.g. students have their own lockers. Then, 'Your school is like an American college' does not entail 'Your school is like a college.'

and a nucelar scope (Krifka *et al.*, 1995). To illustrate, (16a) is formalised as in (16b) and can be paraphrased as in (16c).

(16) a. A bird flies
b. $\text{GEN}\big[bird(x)\big]\big[fly(x)\big)\big]$
c. 'Typically, if something is a bird, it flies'.

Then, analogously, (17a) is formalized as in (17b) and can be paraphrased as in (17c).

(17) a. John is like a duck
b. $\text{GEN}\big[duck(x)(w)\big]\big[\forall \underline{A} \in \mathbf{D}.\iota P\big(P \in \underline{A} \wedge P(john)(w)\big) = \iota Q\big(Q \in \underline{A} \wedge Q(x)(w)\big)\big]$
c. 'Typically, if something is a duck, John is like it'

Then, any interpretation of GEN that guarantees non-monotonicity for sentences like (16a) will also make the right entailment predictions for similarity statements like (17a). One of these is the modal interpretation of GEN from Krifka *et al.* (1995), as in (18) below.[5]

(18) $\text{GEN}\big(duck(x)\big)\big(fly(y)\big)$ is true in w relative to a modal base B_w and an ordering source $\leq_w$ iff:
For every x and every $w' \in B_w$ such that $duck(x)$ is true in w', there is a world $w'' \in B_w$ such that $w'' \leq_w w'$, and for every world $w''' \leq_w w''$, $fly(x)$ is true in w'''.

Then we can spell out the logical form in (17a) as (19):

(19) For every x and every $w' \in B_w$ such that $duck(x)$ is true in w', there is a world $w'' \in B_w$ such that $w'' \leq_w w'$, and for every world $w''' \leq_w w''$, $\forall \underline{A} \in \mathbf{D}.\iota P\big(P \in \underline{A} \wedge P(j)(w''')\big) = \iota Q\big(Q \in \underline{A} \wedge Q(x)(w''')\big)$.

A non-trivial prediction Sentences like 'Bob is like a lawyer or a judge' display scope ambiguity:

(20) a. *is-like(Bob, lawyer)* $\vee$ *is-like(Bob, judge)* (WIDE)
b. *is-like(Bob, lawyer-or-judge)* (NARROW)

Unlike under (20b), under (20a) we get an ignorance (or scalar) implicature from the wide scope disjunction: 'John looks like a lawyer or a judge (but I don't know which)'. On the other hand, unlike under (20a), under (20b) we get the inference that John has properties that a lawyer and judge *share* – implying that a lawyer and a judge look alike. The sentence then becomes almost equivalent

[5] This is just for illustration purposes. We could have taken any other interpretation of the generic quantifier that (correctly) guarantees non-monotonicity, e.g. Asher & Pelletier (1995), Cohen (2001)...

to 'John is like a lawyer *and* a judge'. My account predicts this reading to be possible, as the disjunction can go into the restrictor of GEN:

(21) $\text{GEN}\big[lawyer(x) \vee judge(x)\big]\big[\forall \underline{A} \in \mathbf{D}.\iota P\big(P \in \underline{A} \wedge P(john)\big) = \iota Q\big(Q \in \underline{A} \wedge Q(x)\big)\big]$

3.3 Modality?

Could we do without the semantics for 'like' and simply capture similarity as an attitude? Say we capture 'John is like Mary' as 'at all w' in $R_s(j,w)$ (i.e. worlds w' compatible with, say, j's *similarity judgments* at w) John *is* Mary'. This would predict that if John is like Mary and Sue, he *is* both Mary and Sue at similarity worlds, which I take to be completely undesirable.

Existential modality, instead, fails to predict narrow scope readings of disjunction, since narrow and wide scope are equivalent:

(22)
$$\exists w'\big[w' \in w'.R_s(j,w) \wedge L(x)(w') \vee J(x)(w')\big]$$
$$\leftrightarrow$$
$$\exists w'\big[w' \in R_s(j,w) \wedge L(x)(w')\big] \vee \exists w''\big[w'' \in R_s(j,w) \wedge J(x)(w'')\big]$$

4 Asymmetry

A potential problem for this analysis is that, given that 'like' has a symmetrical semantics, (23a) and (24a) are predicted to be equivalent.

(23) a. John is like a judge.
b. GEN[$judge(x)$][John is like x]

(24) a. A judge is like John.
b. GEN[$judge(x)$][x is like John]

Asymmetry is attested for proper names, too:

(25) Context: Bob has a red nose and John has blue ears
a. John is like Bob. ⇝ John has a red nose.
b. Bob is like John. ⇝ Bob has blue ears.

Ortony (1979) (a.o.) argues that in similarity judgments first and second argument are respectively Topic and Comment (cf. Halliday, 1967 and Clark and Haviland, 1977 a.o.). According to the given-new principle (Danes, 1970 a.o.), the comment, not the topic, provides new information.The asymmetry can thus be attributed to differences in information structure, with the effect that the complement of 'like' serves as the 'anchor' to determine the relevant attributes, allowing us to maintain a symmetrical *semantics*. Note that the truth-conditional asymmetry disappears when we zero in on one specific similarity criterion, and intuitions become even clearer if we cancel any informational asymmetry suggested by the topic-comment structure:

(26) I know nothing about Bill and Sue, but I know that...
  a. With respect to eye color, Bill is like Sue.
  $\approx$
  b. With respect to eye color, Sue is like Bill.

Similarly for 'like a N' (although (27b) is less natural):

(27) Context: I know nothing about John or judges, but...
  a. With respect to clothing, John is like a judge
  $\approx$
  b. With respect to clothing, a judge is like John.

This, however, leaves us with an open issue. To see this, consider the following two facts. First, we saw that the received view conceives of GEN as a silent quantificational adverb. Second, it seems that the complement of the 'like' PP is systematically assigned to the Comment of a sentence, by reason of the rigid information structure of similarity statements. However, most theorists argue that in order for an indefinite to be bound by a quantificational adverb, it must be a Topic (Chierchia, 1995, 2009; De Swart, 1996). If GEN is a quantificational adverb, how can it bind something that is in the Comment of a sentence? To wit, in (28a), the indefinite can go into the restriction of GEN because it is in the Topic of the sentence. But why can the indefinite in (28b) go into the restriction of GEN and simultaneously be in the Comment?

(28) a. A duck flies.
  $\approx \text{GEN}[\textit{duck}(x)][\textit{fly}(x)]$
  b. Bob is like a lawyer.
  $\approx \text{GEN}[\textit{lawyer}(x)][\textit{is-like}(Bob, x)]$

Importantly, notice that other, *overt* quantificational adverbs do not seem to give rise to quantificational readings parallel to a generic reading.

(29) a. A duck rarely flies.
  $\approx \text{FEW}[\textit{duck}(x)][\textit{fly}(x)]$
  b. Bob is rarely like a lawyer.
  $\not\approx \text{FEW}[\textit{lawyer}(x)][\textit{is-like}(Bob, x)]$

I will not address this issue here, but it is worth spelling out what the possible routes are. I see two: one is that 'like' is inherently generic, and indefinites embedded by it end up receiving a generic interpretation. A second possibility is that the phenomenon of genericity is not limited to the quantificational adverb GEN, and that we should explore what mechanisms could yield generic interpretations that are independent from the information structure. In this connection, I want to point to a couple of other sentences where generic interpretations of indefinites seem not to line up with quantificational interpretations of indefinites under quantificational adverbs: in (30) and (32) the indefinite seems to go into the restrictor of GEN, but in (31) and (33) it seems to stay out of the restrictor of RARELY.

(30) a. John is more competent than a lawyer.
$\approx$
b. GEN[x is a lawyer][John is more competent than x]

(31) a. John is rarely more competent than a lawyer.
$\not\approx$
b. FEW[x is a lawyer][John is more competent than x]

(32) a. John has the charisma of a lawyer.
$\approx$
b. GEN[x is a lawyer][John has the charisma of x]

(33) a. John has rarely the charisma of a lawyer.
$\not\approx$
b. FEW[x is a lawyer][John has the charisma of x]

5 Conclusion

I have made two main points in this paper. First, I argued that 'like' PPs are context-sensitive because they come with a similarity respect, which can be left implicit or overtly specified via constructions such as 'with respect to' and 'in terms of'. I argued that such similarity respects are best captured as partitions over the universe of individuals: 'color', for instance, is a set of mutually exclusive and collectively exhaustive properties such as 'red', 'blue'. Two entities share a similarity respect if they fall in the same cell of the corresponding partition. Second, I argued that in the most available reading of 'like a *N*' constructions the indefinite receives a generic interpretation. I have shown that this has significant advantages: it allows us to explain the singular behavior in terms of entailments ('look like a British judge' $\not\models$ 'look like a judge') and the presence of narrow readings of disjunction ('look like a lawyer or a judge' $\approx$ 'look like a lawyer *and* a judge').

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