Evidentiality and reliability in English copy raising

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Source of evidence in copy raising

(1) Sarah seems like she is tired.

- Copy raising: subject + verb + like/as if + finite clause containing a pronominal copy of the matrix subject
- Copy-raised subjects are interpreted as the perceptual source of evidence for the proposition denoted by the subordinate clause.
- It has therefore been suggested that copy raising encodes **direct evidentiality**.
- **This talk explores the evidential characteristics of English copy raising and related constructions.**

Copy-raised subjects and expletive subjects

(1) Copy raising: Sarah seems like she is tired.

(2) *It* examples: It seems like Sarah is tired.

- Rogers (1971, 1972, 1973), Potsdam and Runner (2001), Asudeh and Toivonen (2007, 2012), Landau (2011), Doran (2015)
- We will use the term *perceptual source verbs* when we do not wish to distinguish between *it* examples and copy raising (following Landau 2011, Asudeh and Toivonen 2012).

English copy raising

- verbs: *seem, appear, look, sound, smell, taste, feel*
- We will focus exclusively on *look* and *sound* in this talk.
- attested copy-raising examples, copied and pasted from www:

(1) Brooke Adams **seems** like she is in a good mood

(2) another boy **appears** as if he's trying to destroy their shelter with an ax

(3) The bathtub **looked** like it hadn't been cleaned ever

(4) the engines will **sound** like they are speeding up

(5) He **smelled** like he'd been outside all day

(6) the shrimp **tasted** like it had come out of a can

(7) The shirt **feels** like it is made with quality materials

Source of evidence

- The copy-raising subject is interpreted as the perceptual source (Rogers 1972, Asudeh and Toivonen 2007, 2012).
- In (1), the evidence that *Sarah is tired* necessarily comes from *Sarah*. This is not the case in (2):

(1) Sarah looks/sounds like she's tired.

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- Experimental evidence: Rett and Hyams (2014), Chapman et al. (2015a,b)
- Some possible complications & tricky examples: Heycock (1994), Landau (2011)

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Copy raising and evidentialiy

- The subject-as-perceptual-source generalization has led Asudeh and Toivonen (2012), Rett and Hyams (2014), Chapman et al. (2015a,b) suggest that copy raising encodes **direct evidentiality**.
- How much does copy raising specifically and perceptual source verbs more generally have in common with what's traditionally called evidentiality marking?

Evidentiality: General definitions

- Chafe & Nichols (1986): Evidentials are devices used by speakers to mark the source and reliability of their knowledge.
- Chafe (1986): 'Evidentiality' can be used broadly to cover any linguistic expression of attitudes toward knowledge.
- McCready (2014): Evidentials are expressions which indicate a speaker's source of justification for the speech act being made.

According to these definitions, perceptual source verbs might be claimed to mark evidentiality.

Evidentiality: More restrictive definitions

- Linguistic evidentiality is marked grammatically (not lexically) and the marking is obligatory (Aikhenvald 2004, Ch. 1).
- Evidentials are not themselves the main predication of the clause but are rather a specification added to a factual claim about something else (Anderson 1986).

According to these definitions, perceptual source verbs do not truly mark evidentiality.

Direct evidentiality

Let's take a look at Cherokee, a language that marks direct and indirect evidentiality grammatically.

Evidentiality & Reliability

Direct and indirect evidentiality, Cherokee

| wesa | u-tlis-**ʌʔi** | 'A cat ran' |
| cat | it-run-FIRSTHAND.PAST | (I saw it running.) |

| uyo | ges-**ʌʔi** | 'It was spoiled' |
| spoiled | be-FIRSTHAND.PAST | (I smelled it) |

| u-wonis-**eʔi** | 'He spoke' |
| he-speak-NON.FIRSTHAND.PAST | (someone told me) |

| u-gahnan-**eʔi** | 'It rained' |
| it-rain-NON.FIRSTHAND.PAST | (I woke up, looked out and saw puddles of water) |

Data from Aikhenvald (2004)

Direct evidentiality?

- Previous claim: copy raising examples encodes direct evidentiality, since direct evidence from the subject is required.

- *John looks like he's been snow boarding.*

- However, we think a more accurate characterization is this:

  Perceptual source verbs indicate *indirect* evidence of a certain type (visual, aural...). In copy raising, the specific source of indirect evidence is the subject.

- The speaker typically has direct evidence from the subject, but this is not necessary:
  "I hope we can also arrange a walk with our dogs as I would love to meet Dinah – <u>she sounds like she is a real character</u>." (www)

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Evidentiality and reliability

- Reliability is relevant for evidentiality.
- Speakers mark the most reliable source of information if more than one type of evidence is available (e.g., Faller, 2002, Aikhenvald 2009).
- For example, direct perceptual evidence outranks indirect perceptual evidence.

Evidential aspects of perceptual source verbs

- Specify the type of source of information:
  - *looks like* – visual
  - *sounds like* – aural
- Indicate *indirect* evidence, compare:
  - It looked like Sue fell. (indirect)
  - I saw Sue fall. (direct)
- Note that not only *it*-examples but also copy-raising verbs indicate indirect evidence, *contra* previous claims.
- If more reliable evidence is available, it is odd to use perceptual source verbs.

The subject as a source of evidence

- Cross-linguistically, evidentiality marking indicates that the evidence is a report or visual evidence, etc., but typically not the exact source (Doran 2015):
- Copy raising would therefore be an unusual type of evidentiality because it has to do with an NP (the subject) and not a clause.
- In Maaka, evidential markers can be attached to NPs, and the implication is that there is evidence from the noun to which the morpheme attaches (Storch and Coly 2014).

Maaka (Storch and Coly 2014)

làa	nàmáa-**dìyà**	sáy	mìnè-póDí-ní	gè-gòrkù-wà
child	this-JOINT:VIS	must	1pl-remove:TEL-OBJ-3sg:MASC	LOC-village-DEF

'This child [whom we can both see], we must chase him from the village.'

- "Reliable knowledge and truth can also be expressed by means of the suffix *-dìyá* which indicates that both speakers and hearer know or see the participant in question."

Direct and indirect evidence

Direct evidence:

(1) Pete saw Sue decorate the office.

(2) Pete heard Sue decorate the office.

Indirect evidence:

(3) (a) It looked like Sue was decorating the office.
(b) Sue looked like she was decorating the office.

(4) (a) It sounded like Sue was decorating the office.
(b) Sue sounded like she was decorating the office.

Reliability

- Indirect evidence: less certain, less reliable
- We conducted psycholinguistic experiments using the methods of Lesage et al. (2015).
- The results indicate that perceptual source examples (including copy raising) do not encode direct evidence: even if it looks like Sue is tired, it is not certain that Sue actually is tired.
- *See/hear* examples were ranked higher than *look like/sound like* examples.
- Copy raising examples were ranked the same as *it* examples.

Study 1: Methods

- Anonymous web-based questionnaire
- First question: Are you a native speaker of English?
- Participants were asked to rate the likelihood that a sentence is true, given that another sentence is true.

Study 1: Instructions

You will be asked to read pairs of sentences. Assume that the first sentence is true, and judge the likelihood of the second sentence using a 5 point scale (where $1 =$ "I have no idea" and $5 =$ "it is true").

Here's an example pair of sentences: Sam is coughing. Sam is sick.

You will rate how likely you think it is that "Sam is sick" (given that "Sam is coughing" is true), using the scale from 1 to 5.

Study 1: Example stimuli

"For each sentence pair below, please evaluate the likelihood that Sentence B is true, given that Sentence A is true." (1: I have no idea, 5: It is true)

  A: It looked like the student was reading.

  B: The student was reading.

  A: The student looked like she was reading.
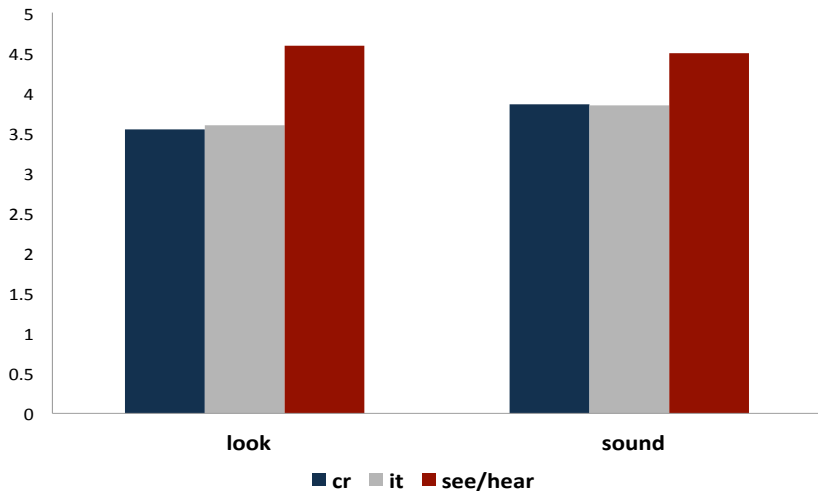
  B: The student was reading.

  A: Paul saw the student reading.

  B: The student was reading.

Study 1: Participants

- 69 voluntary participants (this excludes non-native speakers and participants that did not complete the survey)

Study 1: Results

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	Example	Mean	SD
see	"Ron saw the kids playing"	**4.59**	0.69
cr-look	"The kids looked like they were playing"	**3.54**	0.96
it-look	"It looked like the kids were playing"	**3.59**	0.85

ANOVA: $F(2,206) = 34.3$, $p < 0.01$

	Example	Mean	SD
hear	"Paul heard the dog barking"	**4.49**	0.74
cr-sound	"The dog sounded like it was barking"	**3.86**	0.94
it-sound	"It sounded like the dog was barking"	**3.84**	0.79

ANOVA: $F(2,205) = 13.89$, $p < 0.01$

Follow-up studies

- Our study replicated the study in Lesage et al. (2015), and further showed no difference between *it*-examples and copy raising.
- However, we had two worries:
  - Perhaps our stimuli were problematic.
  - Perhaps our method was not sensitive enough to detect a difference between *it*-examples and copy raising.
- We therefore conducted one additional study using the same method as Study 1 but different stimuli, as well as two additional studies using a forced-choice method.
- The results of the follow-up studies were consistent with Study 1.

Study 2: Results

69 participants

	Example	Mean	SD
cr-look	"Sue looked like she was studying"	**3.21**	1.03
it-look	"It looked like Sue was studying"	**3.22**	1.03
cr-sound	"Frank sounded like he was happy"	**3.57**	1.11
it-sound	"It sounded like George was happy"	**3.45**	1.04

- A Welch t-test showed that the difference in ratings between *cr-look* and *it-look* was not significant.
- The difference in ratings between *cr-sound* and *it-sound* was also not significant.

Studies 3 and 4: Forced choice

- We also conducted a forced-choice study.
- Study 3 contrasted copy raising and *it* examples.
- Study 4 contrasted *see/hear* with *look/sound* (perceptual source verbs).
- The results were the same as in Studies 1 and 2.

Studies 3 and 4: Methods

- Anonymous web-based questionnaire
- First question: Are you a native speaker of English?
- Participants were asked to select which of two sentences they thought made another sentence more likely to be true.

Study 3: Example stimuli

For each question, please select the case in which you believe the bolded sentence is more likely to be true.

In which case is **The woman was reading** more likely to be true?

- The woman looked like she was reading.
- It looked like the woman was reading.

In which case is **The dog was barking** more likely to be true?

- The dog sounded like it was barking.
- It looked like the dog was barking.

Study 3: Results

266 participants

	copy raising	*it*-examples	binomial test
look	53%	47%	p=0.12
sound	46%	54%	p=0.14

Study 4: Example stimuli

For each question, please select the case in which you believe the bolded sentence is more likely to be true.

In which case is **The boy was studying** more likely to be true?

- Kate saw the boy study.
- The boy looked like he was studying.

In which case is **The boy was studying** more likely to be true?

- Kate saw the boy study.
- It looked like the boy was studying.

Study 4: Results

296 participants

	see/hear	cr/it	binomial test
see/cr-look	68%	32%	p<0.01
see/it-look	68%	32%	p<0.01
hear/cr-sound	82.5%	17.5%	p<0.01
hear/it-sound	79%	21%	p<0.01

Conclusions

- We have explored perceptual source verbs as a means to express information about evidential sources in English.
- Perceptual source verbs express evidential type (visual, aural).
- Perceptual source verbs also express that evidence for the embedded proposition is indirect.
- The difference between copy raising and *it* examples is that copy raising further specifies that the information comes from the subject.

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Instructions

You will be given a sentence and asked to judge in which of two cases that sentence is more likely to be true. You should imagine that the two cases come from reliable sources. Here is an example:

In which case is "Sam is sick" more likely to be true?

- *Sam is probably sick.*
- *Sam might be sick.*

You will judge whether "Sam is sick" is more likely to be true if "Sam is probably sick" or if "Sam might be sick."