Causal reference and inverse scope as mixed quotation

Chung-chieh Shan, Rutgers University
Mixing mention and use

Pure/direct quotation
Quine says ‘quotation has a certain anomalous feature.’

Indirect quotation
Quine says quotation has a certain anomalous feature.

Mixed quotation
Quine says quotation ‘has a certain anomalous feature.’

(Davidson 1979)
Most speech is made of mixed quotes.

- **Empirical observations**
  - Nested mixed quotes
  - Mixed quotes of constructions

The essence of mixed quotation
  - A sketch of a formalization
  - Formal languages

The prevalence of mixed quotation
  - Names, definitions, non-coinages
  - Quantification and polarity
Internalizing interpretation

A mixed quote means what someone uses the quoted expression to mean (Geurts and Maier 2003).

The journalist
The president said he has an ‘eclectic’ reading list.

The politician
I am sorry to have used an ‘epithet’.
Nested mixed quotes

The journalist
The politician said she is ‘sorry to have used an ‘epithet’’.

Just like mixed-quoting any other form.
The journalist

The politician said she is ‘sorry to have used an ‘epithet’’. The politician said she is sorry to have used an ‘‘epithet’’.

Just like mixed-quoting any other form.
Mixed quotes of constructions

The journalist
The politician admitted that she ‘lied [her] way into [her job]’.

The politician
It is a long story how I lied my way into this despicable position of deception.
Mixed quotes of constructions

The journalist
The politician admitted that she ‘lied [her] way into [her job]’.

The politician
It is a long story how I lied my way into this despicable position of deception.

Mary
John doesn’t know much French, but he thinks he does and tries to show it off whenever possible. At dinner, he ordered not ‘[some dessert] à la mode’ but ‘à la mode [some dessert]’.

John
I would like some à la mode [apple pie] please.
Mixed quotes of constructions

Abbott 2003: Mixed quotes of non-constituents?
Mary allowed as how her dog ate ‘odd things, when left to his own devices’.

Mary
Fido devoured odd things, when left to his own devices.
Abbott 2003: Mixed quotes of non-constituents?
Mary allowed as how her dog ‘[ate] odd things, when left to his own devices’.

Mary
Fido devoured odd things, when left to his own devices.
Abbott 2003: Mixed quotes of non-constituents?
Mary allowed as how her dog ‘[ate] odd things, when left to his own devices’.

Mary
Fido devoured odd things, when left to his own devices.

Not Mary
Whereas under human supervision Fido ate odd things, when left to his own devices he would only eat Nutrapup.

Constructions are meaningful non-constituents?
Mixed quotes of constructions

The journalist: semantic interjection
The politician admitted that she ‘lied [her] way into [her job]’.

The politician
It is a long story how I lied my way into this despicable position of deception.
Mixed quotes of constructions

The politician
It is a long story how I lied my way into this despicable position of deception.

The journalist: syntactic interjection
The secret guide suggested that interested eaters ‘kiss up to [name redacted], class of 2008, for a good meal’ at the Ivy.

The secret guide
You should kiss up to John Doe, class of 2008, for a good meal if you are interested.
Mixed quotes of constructions

The journalist: semantic interjection
The politician admitted that she !闰 lied %[her] way into %[her job]⁷.

The politician
It is a long story how I lied my way into this despicable position of deception.

The journalist: syntactic interjection
The secret guide suggested that interested eaters !闰 kiss up to ~[name redacted], class of 2008, for a good meal⁷ at the Ivy.

The secret guide
You should kiss up to John Doe, class of 2008, for a good meal if you are interested.

Use notation from multistage programming languages.
Most speech is made of mixed quotes.

Empirical observations
  Nested mixed quotes
  Mixed quotes of constructions

► The essence of mixed quotation
  A sketch of a formalization
  Formal languages

The prevalence of mixed quotation
  Names, definitions, non-coinages
  Quantification and polarity
A sketch of a formalization

A construction has a form (function) and a meaning (function). For a mixed quote:

▶ The form is

$$Qf$$

where $f$ is a form.

For example,

$$Qf x_1 \ldots x_n = {^i}(f([\^x_1\^])\ldots([\^x_n\^]))\bar{^i}$$

in written English.

▶ The meaning is

$\nu g. \: x$ uses the form $f$ to mean $g$

with unresolved anaphora and presupposition.
A sketch of a formalization

A construction has a form (function) and a meaning (function). For a mixed quote:

- The form is

\[ Q f \]

where \( f \) is a form.

For example,

\[ Q f x_1 \ldots x_n = \hat{\iota} \land (f(\hat{x}_1) \ldots (\hat{x}_n))^{\land'} \]

in written English.

- The meaning is

\[ \nu g. \; x \text{ uses the form } f \text{ to mean } g \]

with unresolved anaphora and presupposition.
A sketch of a formalization

A construction has a form (function) and a meaning (function). For a mixed quote:

- The form is

\[ Qf \]

where \( f \) is a form.

For example,

\[ Qf x_1 \ldots x_n = i \circ(f([x_1]) \ldots ([x_n])) \]

in written English.

- The meaning is

\[ \nu g. \ x \text{ uses the form } f \text{ to mean } g \]

with unresolved anaphora and presupposition.
A sketch of a formalization

A construction has a form (function) and a meaning (function). For a mixed quote:

- The form is

\[ Qf \]

where \( f \) is a form. For example,

\[ Qf x_1 \ldots x_n = \overset{\wedge}{\wedge}(f(\overset{\wedge}{\wedge}x_1 \overset{\wedge}{\wedge})) \ldots (\overset{\wedge}{\wedge}x_n \overset{\wedge}{\wedge}) \]

in written English.

- The meaning is

\[ \text{i.e. } x \text{ uses the form } f \text{ to mean } g \]

with unresolved anaphora and presupposition.
Formal languages

Code switching
Alice said $\Gamma(2)$ is negative.

Paraphrase
Alice said what mathematicians use $\Gamma(2)$ to mean is negative.

A mixed quote is an interpreted Gödel number.
Most speech is made of mixed quotes.

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A causal chain of naming

Perhaps with generic events and institutional speakers.
Names, definitions, non-coinages

A causal chain of naming

\[ e = \lim_{n \to \infty} \left(1 + \frac{1}{n}\right)^n. \]

The number \( e^{i\pi} \) is equal to \(-1\).
Names, definitions, non-coinages

A causal chain of naming

Perhaps with generic events and institutional speakers.

Definitions

Let \( e = \lim_{n \to \infty} (1 + \frac{1}{n})^n \). The number \( e^{i\pi} \) is equal to \(-1\).
Names, definitions, non-coinages

A causal chain of naming

$\text{\ldots Aristotle \ldots}$

Perhaps with generic events and institutional speakers.

Definitions

Let $e = \lim_{n \to \infty} \left(1 + \frac{1}{n}\right)^n$. $\text{The number } e^{i\pi} \text{ is equal to } -1.$

Non-coinages

$\text{Aristotle saw his sister}\ldots$
Scope freedom in mixed quotes?

Names take scope differently from ordinary mixed quotes (Michael Johnson, p.c.).

1. Quine might have said that quotation ‘has a certain anomalous feature’.

2. It might have been the case that Aristotle was not named ‘Aristotle’.
Scope freedom in mixed quotes?

Names take scope differently from ordinary mixed quotes (Michael Johnson, p.c.).

1. Quine might have said that quotation ‘has a certain anomalous feature’.

2. It might have been the case that Aristotle was not named ‘Aristotle’.

Ordinary constructions allow wh-extraction and quantifying-in.

1. Who did !%[!‘Aristotle’] see %[ ]?

2. !%[!‘Aristotle’] saw %[nobody]
Quantification

Think of a quantifier as a meta-construction, as usual. Suppose construction abstraction is not freely available.

everyone : \( (e \to t) \to t \)  
Mary saw someone.
someone : \( (e \to t) \to t \)  
Mary saw someone.
Think of a quantifier as a meta-construction, as usual. Suppose construction abstraction is not freely available.

\[
everyone : (e \rightarrow t) \rightarrow t \quad \text{Everyone saw Mary.}
\]
\[
someone : (e \rightarrow t) \rightarrow t \quad \text{Mary saw someone.}
\]
\[
ersomeone : (e_0 \rightarrow e \rightarrow t) \rightarrow (e_0 \rightarrow t) \quad \text{Everyone saw someone.}
\]

Want to maintain uniform left-to-right evaluation.
Quantification

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\[
\text{everyone : } (e \to t) \to t \quad \text{Everyone saw Mary.}
\]
\[
\text{someone : } (e \to t) \to t \quad \text{Mary saw someone.}
\]
\[
\text{someone : } (e \to e' \to t) \to (e' \to t) \quad \text{Everyone saw someone.}
\]
\[
\text{someone : } (e' \to e \to t) \to (e' \to t) \quad \text{Everyone saw someone.}
\]
Quantification

Think of a quantifier as a meta-construction, as usual. Suppose construction abstraction is not freely available.

everyone : \((e \rightarrow t) \rightarrow t\)  
Everyone saw Mary.
someone : \((e \rightarrow t) \rightarrow t\)  
Mary saw someone.
someone : \((e \rightarrow e' \rightarrow t) \rightarrow (e' \rightarrow t)\)  
Everyone saw someone.
someone : \((e' \rightarrow e \rightarrow t) \rightarrow (e' \rightarrow t)\)  
Everyone saw someone.

Want to maintain uniform left-to-right evaluation.
Inverse scope

Mixed-quote the scope of the later quantifier

\[ !\left[ \text{Someone saw } \%[\text{everyone}] \right] . \]
For everyone \( y \), the sentence \( !\left[ \text{Someone saw } \%[y] \right] \) is true.
Inverse scope

Mixed-quote the scope of the later quantifier

!\[Someone saw \%[everyone]\].
For everyone y, the sentence [Someone saw \%[y]] is true.

Polarity licensing

Alice introduced nobody to anybody.
Inverse scope

Mixed-quote the scope of the later quantifier!

!∀Someone saw %[everyone].
For everyone y, the sentence ∀Someone saw %[y] is true.

Polarity licensing

Alice introduced nobody to anybody.

No inverse polarity licensing

!*∀Alice introduced anybody to %[nobody].
For nobody y, the sentence ∀Alice introduced anybody to %[y] is true.
Most speech is made of mixed quotes.

- Names
- Definitions
- Non-coinages
- Quantifier scope

Quotation is modality.

What does ‘use to mean’ mean?