Grammaticalizing mixed quotations

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Pure/direct quotation (mention)

Quine says 'quotation has a certain anomalous feature'.

Indirect quotation (use)

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Mixed quotation (Davidson 1979)

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Mixed quotation by presupposition (Geurts & Maier 2003)

Bush is proud of his 'eckullectic' reading list.

'eckullectic' $\approx \underline{x} \; \underline{e} \; \underline{Q} \; \underline{E_e(x, Q,} \;$ 'eckullectic'$) \; Q$

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Bush is proud of his 'eckullectic' reading list.

$$\approx \underline{e}\ \underline{Q}\ \underline{E_e}(\text{Bush}, Q, \text{'eckullectic'})$$

Bush is proud of his Q reading list

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Bush is proud of his 'eckullectic' reading list.
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$$\text{Bush is proud of his } Q \text{ reading list}$$

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Quine says 'quotation has a certain anomalous feature'.

Indirect quotation (use)

Quine says quotation has a certain anomalous feature.

Mixed quotation (Davidson 1979)

Quine says quotation 'has a certain anomalous feature'.

$\approx \exists e.\ \underline{Q}\ \underline{E_e(\text{Quine}, Q, \text{'has a certain anomalous feature'})}$
Quine says$_e$ quotation Q

'has a certain anomalous feature'

$\approx \underline{x}\ \underline{e}\ \underline{Q}\ \underline{E_e(x, Q, \text{'has a certain anomalous feature'})}\ Q$

Mixed quotation by presupposition (Geurts & Maier 2003)

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The syntax of mixed quotation

Hard vs soft presupposition failure?

1. Bush is proud of his 'eckullectic' reading list.

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2. Bush is proud of his 'misunderestimate' reading list.

3. Bush says his reading list 'eckullectic'.

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4. Bush met the king of France.

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This talk

What	To enshrine presupposition failure in mixed quotation as ungrammaticality
How	A modal interface between syntax and semantics
On the way	Semantic interjection
	Quoted languages are like possible worlds

Starting point

$$A ::= A/B \; B$$
$$A ::= B \; B\backslash A$$

$$\mathrm{DP} ::= \text{Quine}$$
$$\mathrm{DP} ::= \text{Bush}$$
$$\mathrm{DP} ::= \text{quotation}$$
$$(\mathrm{DP}\backslash\mathrm{S})/\mathrm{S} ::= \text{says}$$
$$\mathrm{TV} ::= \text{is proud of} \qquad (\mathrm{TV} = (\mathrm{DP}\backslash\mathrm{S})/\mathrm{DP})$$
$$\mathrm{N}/\mathrm{N} ::= \text{eclectic}$$
$$\mathrm{N} ::= \text{reading list}$$

Starting point

Abusing notation: $[\![A]\!]$

$$A ::= A/B \quad B \qquad [\![A]\!](w) = [\![A/B]\!](w)([\![B]\!])$$
$$A ::= B \quad B\backslash A \qquad [\![A]\!](w) = [\![B\backslash A]\!](w)([\![B]\!])$$

$\mathrm{DP} ::=$ Quine $\qquad\qquad \vdots$

$\mathrm{DP} ::=$ Bush

$\mathrm{DP} ::=$ quotation

$(\mathrm{DP}\backslash \mathrm{S})/\mathrm{S} ::=$ says

$\mathrm{TV} ::=$ is proud of $\qquad (\mathrm{TV} = (\mathrm{DP}\backslash \mathrm{S})/\mathrm{DP})$

$\mathrm{N}/\mathrm{N} ::=$ eclectic

$\mathrm{N} ::=$ reading list

The type of $[\![A]\!]$ is $\tau(A)$, defined to be $\langle s, \sigma(A)\rangle$, where

$$\sigma(A/B) = \sigma(B\backslash A) = \langle \tau(B), \sigma(A)\rangle, \quad \sigma(\mathrm{DP}) = e, \quad \sigma(\mathrm{S}) = t, \quad \dots .$$

Presupposing mixed quotes

$$A ::= \text{`}\dots\text{'} \qquad [\![A]\!] = \underline{x} \; \underline{e} \; Q \; \underline{E_e}(x, \textcolor{red}{A}, Q, \text{`}\dots\text{'}) \; Q$$

The type of Q is $\tau(A)$.

$$\exists e. \; \exists Q. \; E_e(\text{Bush}, \text{N/N}, Q, \text{`eckullectic'})$$
$$\exists e. \; \exists Q. \; E_e(\text{Bush}, \text{TV} \;\;, Q, \text{`misunderestimate'})$$
$$\neg \exists e. \; \exists Q. \; E_e(\text{Bush}, \text{TV} \;\;, Q, \text{`eckullectic'})$$
$$\neg \exists e. \; \exists Q. \; E_e(\text{Bush}, \text{N/N}, Q, \text{`misunderestimate'})$$

Quoted ungrammaticality is presupposition failure.

Composing mixed quotes

Assumption: the quoted language is compositional (enough).
Payoff: *semantic interjection*.

Bush says 'I have an [eclectic] reading list'.

Composing mixed quotes

Assumption: the quoted language is compositional (enough).

Payoff: *semantic interjection*.

Bush says 'I have an [eclectic] reading list'.

Add a syntactic category A' to the quoting language
for each syntactic category A of the quoted language.

$A ::= \text{'}A'\text{'}$

$A' ::= \ldots$

$A' ::= (A/B)'\ B'$

$A' ::= B'\ (B\backslash A)'$

$\quad \vdots$

$A' ::= [A]$

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Add a syntactic category A' to the quoting language
for each syntactic category A of the quoted language.

$A ::= \text{`}A'\text{'}$ $\quad\quad\quad [\![A]\!] = [\![A']\!](\underline{x}\ \underline{e}\ I_e(x))$

$\quad\quad\quad\quad\quad\quad\quad$ where $I_e(x)(A ::= q) = \underline{Q}\ \underline{E_e(x, A, Q, q)}\ Q$

$A' ::= \ldots$ $\quad\quad [\![A']\!](i) = i(A ::= \ldots)$ $\quad$ —may be undefined

$A' ::= (A/B)'\ B'$

$A' ::= B'\ (B\backslash A)'$

$\quad \vdots$

$A' ::= [A]$

Composing mixed quotes

Assumption: the quoted language is compositional (enough).
Payoff: *semantic interjection*.

Bush says 'I have an [eclectic] reading list'.

Add a syntactic category A' to the quoting language
for each syntactic category A of the quoted language.

$$A ::= {}^\prime A^{\prime \prime} \qquad\qquad [\![A]\!] = [\![A']\!](\underline{x}\ \underline{e}\ I_e(x))$$

$$\text{where } I_e(x)(A ::= q) = \underline{Q}\ \underline{E_e(x, A, Q, q)}\ Q$$

$$A' ::= \ldots \qquad [\![A']\!](i) = i(A ::= \ldots) \qquad \text{---may be undefined}$$

$$A' ::= (A/B)'\ B' \quad [\![A']\!](i) = i(A ::= A/B\ B)\,([\![(A/B)']\!](i), [\![B']\!](i))$$

$$A' ::= B'\ (B \backslash A)' \quad [\![A']\!](i) = i(A ::= B\ B \backslash A)\,([\![B']\!](i), [\![(B \backslash A)']\!](i))$$

$$\vdots \qquad\qquad\qquad \vdots$$

$$A' ::= [A]$$

Composing mixed quotes

Assumption: the quoted language is compositional (enough).
Payoff: *semantic interjection*.

Bush says 'I have an [eclectic] reading list'.

Add a syntactic category A' to the quoting language
for each syntactic category A of the quoted language.

$A ::= \, 'A''$ $\qquad\qquad [\![A]\!] = [\![A']\!](\underline{x}\ \underline{e}\ I_e(x))$

$\qquad\qquad\qquad\qquad$ where $I_e(x)(A ::= q) = \underline{Q}\ \underline{E_e(x, A, Q, q)}\ Q$

$A' ::= \ldots$ $\qquad [\![A']\!](i) = i(A ::= \ldots)$ $\qquad$ —may be undefined

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$A' ::= B'\ (B\backslash A)'$ $\quad [\![A']\!](i) = i(A ::= B\ B\backslash A)\,([\![B']\!](i), [\![(B\backslash A)']\!](i))$

$\qquad \vdots$ $\qquad\qquad\qquad \vdots$

$A' ::= [A]$ $\qquad [\![A']\!](i) = [\![A]\!]$ $\qquad$ —ignoring the interpreter i

Enshrining quoted grammaticality

Syntax: Environment classifiers (Taha & Nielsen 2003)

Replace A' by A^α, A^β, ...:

$$A ::= \, `A' \,'$$
$$A' ::= [A]$$

Enshrining quoted grammaticality

Syntax: Environment classifiers (Taha & Nielsen 2003)

Replace $A^{\prime}$ by A^{α}, A^{β}, ... :

$$A ::= \ `A^{\beta}\, \text{'}$$
$$A^{\beta} ::= [A]$$

Enshrining quoted grammaticality

Syntax: Environment classifiers (Taha & Nielsen 2003)

Replace A' by $A^\alpha, A^\beta, \ldots$:

$$A ::= \text{`}A^\beta\text{'}$$
$$A^\beta ::= [A]$$

Replace the catch-all rule by individual rules:

$$A' ::= \ldots$$

Enshrining quoted grammaticality

Syntax: Environment classifiers (Taha & Nielsen 2003)

Replace A^I by A^α, A^β, ... :

$$A ::= \text{`} A^\beta \text{'}$$
$$A^\beta ::= [A]$$

Replace the catch-all rule by individual rules:

$$(\mathrm{N}/\mathrm{N})^\beta ::= \text{eckullectic}$$
$$\mathrm{TV}^\beta ::= \text{misunderestimate}$$

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Syntax: Environment classifiers (Taha & Nielsen 2003)

Replace A^I by A^α, A^β, ...:

$$A ::= {}^{\backprime}A^\beta{}^{\backprime}$$
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Replace the catch-all rule by individual rules:

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Semantics 1: Code switching (Recanati; Stainton?)

Bush is proud of his 'eckullectic' reading list.

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$$A ::= \text{`}A^\beta\text{'} \qquad [\![A]\!] = [\![A^\beta]\!]$$
$$A^\beta ::= [A] \qquad [\![A^\beta]\!] = [\![A]\!]$$

Replace the catch-all rule by individual rules:

$$(N/N)^\beta ::= \text{eckullectic} \qquad [\![(N/N)^\beta]\!] = \text{eclectic}$$
$$TV^\beta ::= \text{misunderestimate} \qquad [\![TV^\beta]\!] = \text{misestimate}$$

Semantics 1: Code switching (Recanati; Stainton?)

Fix a finite number of environment classifiers.
Use one classifier to quote each speech event e (and speaker x).
Then, just get rid of the interpreter.

Enshrining quoted grammaticality

Syntax: Environment classifiers (Taha & Nielsen 2003)

Replace A^I by A^α, A^β, ... :

$$A ::= \text{'} A^\beta \text{'} \qquad \llbracket A \rrbracket = \llbracket A^\beta \rrbracket$$
$$A^\beta ::= [A] \qquad \llbracket A^\beta \rrbracket = \llbracket A \rrbracket$$

Replace the catch-all rule by individual rules:

$$(\text{N}/\text{N})^\beta ::= \text{eckullectic} \qquad \llbracket (\text{N}/\text{N})^\beta \rrbracket = \text{eclectic}$$
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Semantics 2: Closures (Kameyama, Kiselyov & Shan)

Every president is proud of their 'eckullectic' reading list.

Enshrining quoted grammaticality

Syntax: Environment classifiers (Taha & Nielsen 2003)

Replace A^I by $A^\alpha, A^\beta, \ldots$:

could be undefined, but early

$$A ::= \text{`}A^\beta\text{'} \qquad [\![A]\!] = [\![A^\beta]\!] \overbrace{(\text{eclectic, misestimate})}$$

$$A^\beta ::= [A] \qquad [\![A^\beta]\!](i) = [\![A]\!]$$

Replace the catch-all rule by individual rules:

$$(\mathrm{N/N})^\beta ::= \text{eckullectic} \qquad [\![(\mathrm{N/N})^\beta]\!](e, m) = e$$

$$\mathrm{TV}^\beta ::= \text{misunderestimate} \qquad [\![\mathrm{TV}^\beta]\!](e, m) = m$$

Semantics 2: Closures (Kameyama, Kiselyov & Shan)

Fix a finite number of environment classifiers.
Some classifiers may be used to quote multiple speech events.
Then, pass a 'slim interpreter' like a world. $\quad \tau(A^\beta) = \langle \beta, \tau(A) \rangle$

Enshrining quoted grammaticality

Replace A^I by $A^\alpha, A^\beta, \ldots$:

$$A ::= {}^\backprime A^\beta {}^\prime \qquad [\![A]\!] = [\![A^\beta]\!] \overbrace{(\text{eclectic, misestimate})}^{\text{could be undefined, but early}}$$

$$A^\beta ::= [A] \qquad [\![A^\beta]\!](i) = [\![A]\!]$$

Replace the catch-all rule by individual rules:

$$(\mathrm{N/N})^\beta ::= \text{eckullectic} \qquad [\![(\mathrm{N/N})^\beta]\!](e, m) = e$$

$$\mathrm{TV}^\beta ::= \text{misunderestimate} \qquad [\![\mathrm{TV}^\beta]\!](e, m) = m$$

Semantics 3: Extensible parsing? Dependent types?

A man walks in the park.
He uses the word 'eckullectic' as an adjective.
He is proud of his 'eckullectic' reading list.

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