**Background**

Mood and Force

Universal Clause Types (König & Siemund 2007)

1. Maya is singing. (Declarative)
2. Is Maya singing? (Interrogative)
3. Maya, sing! (Imperative)

Sentential Force/Mood (Semantic)

Characteristic function of a clause type.
- Determined by competence fluent speakers share

Utterance Force (Pragmatic) [After Austin 1962]

Actual function of a particular use of a signal.
- Determined by particulars of exchange between agents

**Social Convention**

Behaving in accord w/an arbitrary solution to a coordination problem.
- E.g. driving on one side of the road

**Social Norm**

Behaving in accord w/expectations that transform games of conflict into coordination games
- E.g. kicking ball out in soccer when opponent is seriously injured
Coordination Problems

And Conventions

- Two or more agents must choose one of several actions
- Outcomes depend on actions chosen by other agents

<table>
<thead>
<tr>
<th></th>
<th>Sarah goes to Macro Mama’s</th>
<th>Sarah goes to Diner</th>
</tr>
</thead>
<tbody>
<tr>
<td>I go to Macro Mama’s</td>
<td>3, 1</td>
<td>0, 0</td>
</tr>
<tr>
<td>I go to Diner</td>
<td>0, 0</td>
<td>1, 3</td>
</tr>
</tbody>
</table>

- Social convention: going to Diner.
- In this context, consider: *Let’s have lunch!*

Social Norms

- Two or more agents must choose one of several actions
- Outcomes depend on actions chosen by other agents

<table>
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<th>Sarah goes to Diner</th>
</tr>
</thead>
<tbody>
<tr>
<td>I go to Macro Mama’s</td>
<td>2, 2</td>
<td>4, 0</td>
</tr>
<tr>
<td>I go to Diner</td>
<td>0, 3</td>
<td>1, 1</td>
</tr>
</tbody>
</table>

- Consider: *Let’s have lunch!*

Hippy Eating Norm

Both prefer to ‘eat healthy and together’ if they believe others eat healthy together and others expect them to eat healthy together or will sanction unhealthful/solo eating.

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<th>Sarah goes to Diner</th>
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</thead>
<tbody>
<tr>
<td>I go to Macro Mama’s</td>
<td>2, 2</td>
<td>0, -3</td>
</tr>
<tr>
<td>I go to Diner</td>
<td>-3, 0</td>
<td>1, 1</td>
</tr>
</tbody>
</table>
The View
Three Parts

Sentential Force
The semantics of sentential mood determines a particular way of updating mutual assumptions.

Utterance Force
Utterance force is the coordinating function of utterance
• How it would change private commitments if it achieved coordination

Social Norms
Mechanism for mediating between mutual assumptions and private commitments

Utterance Force
The Traditional Views

Traditional Explanatory Aims
Systematize intuitive categorizations of utterances into, e.g. warnings, assertions, promises, etc.

Issue
Grounding the theory in systematic cross-linguistic native speaker judgements is difficult, if not impossible.

ClassicalSpeech Act Theory
Austin (1962)

Speech Act

Locutionary Act (Semantic) Illocutionary Act (Social Convention) Perlocutionary Act (Pragmatic/Causal)

Phatic Act

Phonic Act

Phatic Act

Phonic Act

Phonic Act

Figure: Austin (1962) Analysis of Speech Acts

Austin (1962) Theory of Force
1 Mechanism: social conventions
2 Utterance Force: individual commitments brought about by utterances and social conventions
Austin (1962)

Context

Utterance

Social Convention

Utterance Force

Individual Commitments

Individual Commitments

William Starr (joint work w/Sarah Murray) | Force and Conversational States | Berkeley Meaning Sciences Club

Austin (1962)

Context

Utterance

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Background Previous Accounts Force in Communication Social Norms for Conversational States References

Speech Act Theory
Searle (1969)

<table>
<thead>
<tr>
<th>Speech Act</th>
<th>Illocution</th>
<th>Illocutionary Intent</th>
<th>Perlocutionary Act</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>(Semantic, Constitutive Rules)</td>
<td>(Pragmatic)</td>
<td>(Pragmatic/Causal)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phonetic Act</th>
<th>Phatic Act</th>
<th>Propositional Act</th>
<th>Illocutionary Point</th>
<th>Speaker Meaning</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound</td>
<td>Sentence</td>
<td>Content</td>
<td>Force</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure: Searle (1969) Analysis of Speech Acts

Searle (1969) Theory of Force

1. **Mechanism**: constitutive rules
2. **Utterance Force**: understand intended commitments brought about by utterance and constitutive rule

- Force conveyed by rules associating certain morphology with certain kinds of acts
- Problems:
  1. Variation in force w/o variation in form
     - *Run!* can command, suggest, rally, etc.
  2. Linguistic clash in speech act / sentence types
  3. Details...
Neo-Gricean Analysis

Bach & Harnish (1979), Cohen & Perrault (1979)

Speech Act

Locutionary Act (Semantic) 
Illocutionary Act (Pragmatic) 
Perlocutionary Act (Pragmatic)

- Phonetic Act
- Phatic Act
- Propositional Act
- Intention
- Social Convention
- Force Potential
- Communicated Force and Content
- Intended Consequences

Figure: Neo-Gricean Analysis

Neo-Gricean Theory of Force

1. Mechanisms: communicative intentions, inference; social conventions
2. Utterance Force: understanding of intended commitments brought about by utterance and intention recognition

Neo-Gricean Account

Issues

Stipulation Issue

Stipulation of ‘L-compatibilty’ is natural if semantic
- But it’s not here

Single-Mood Issue

Inference detailed by Bach & Harnish (1979) requires each sentence to have a single mood
- They don’t justify this but what do you think? It’s naive, isn’t it?

Intended Effects Only

- Knowing what you intended me to believe doesn’t coordinate our actions. And: unintended effects?

Neo-Gricean Assertion

Simplified from Bach & Harnish (1979: 42)

- Speaker S’s utterance of Janis was a singer to H counts as an assertion roughly when:
  1. S intends H to recognize that:
     a. S believes that Janis was a singer and
     b. S intends H to form this same belief
  2. Communication involves making (1) mutual through pragmatic inference
  3. Inference relies on stipulated relation between the sentence mood and attitude expressed belief
     - Declarative mood and belief are ‘Locutionarily-compatible’

Discourse Dynamics

Mark 1

Context Set (c)

As communication and inquiry unfold, a body of information accumulates. Think of this information as what the agents are mutually taking for granted for the purposes of the conversation. I call the set of worlds embodying this information c, short for the context set. (Stalnaker 1978; Lewis 1979)
Declaratives
Eliminate Worlds

Declarative Effect ($\triangleright A$)

1. Eliminate non-$A$-worlds

\[ \begin{array}{cc}
A & B \\
\text{a} & \text{b}
\end{array} \quad \rightarrow \quad \begin{array}{cc}
A & B \\
\text{a} & \text{b}
\end{array} \]

Figure: $R$ updated with $\triangleright A$

Interrogatives
Introduce Alternatives

Interrogative Effect (?$A$)

1. Distinguish positive/negative alternatives

\[ \begin{array}{cc}
A & B \\
\text{a} & \text{b}
\end{array} \quad \rightarrow \quad \begin{array}{cc}
A & B \\
\text{a} & \text{b}
\end{array} \]

Figure: $R$ updated with ?$A$

Imperatives
Order Alternatives

Imperative Semantics ($!A$)

1. Add preference for all $A$-worlds over non-$A$-worlds

\[ \begin{array}{cc}
A & B \\
\text{a} & \text{b}
\end{array} \quad \rightarrow \quad \begin{array}{cc}
A & B \\
\text{a} & \text{b}
\end{array} \]

Figure: $R$ updated with !$A$

Are these Effects Semantic?
Argument from Murray & Starr (2012)

(4) Donate donuts because cops need to eat too! Donate lots of donuts unless you are unable to afford it. Do it regardless of whether you fear the police. Offer kindness to all fellow humans but you should be careful not to be taken advantage of. That drifter may be handsome but is he really only taking your car for a short drive? Someone or other should do something kind every day. You do something kind today or I’ll do something kind today, I don’t care. But, there will be kindness!
Update Effects are Semantic
Clause-types are recursively combined, and discourse effects need to match. Dynamic meanings capture this without requiring recursive pragmatic update rules.

Utterance Force?
Stalnaker, Portner and others are clear that there are more to speech acts than these effects, but what more?
- Just add on Neo-Gricean analysis?

Call: whine and low-pitched ‘chucks’
Females: prefer more, lower chucks
Females use general echo-location abilities to find male

(Gillam 2011; Maynard Smith & Harper 2003; Ryan 1985)

Male frog is communicating w/female; not w/bat
- Observation about different explanations of these processes, not intuition about communication
- Frog signal didn’t persist in species because of effects on bats, but because of effects on female frogs (Maynard Smith & Harper 2003)
- Info. trans. by ‘code’ ≠ animal communication

Communication requires effects on internal states that explain sustained proliferation of signaling system.
- What coordination is achieved? How is it achieved in a ‘hostile world’?
193.5 rounds of the ECG in the 43 min. At the end of each
played the game for 40 min uninterrupted. Over the two
Further, clarifying instructions, also given in writing, were
stead find a way to communicate reliably and hence coor-
through the sheer quantity of games played; they must in-
– a basketball, a football, and a squash ball – and if they
Game (principle possible for the players to score a point. Conse-
colour in this figure legend, the reader is referred to the web version of this article.)
Succeeding at the game requires finding some way to communicate the intended destination colour each round. (For interpretation of the references to
own colours but not the other participants'. Participants move around their boxes at will, and their movements are fully visible to the other participant. At
one on each row, both before (left-hand side) and after (right-hand side) both participants have pressed space to finish their turn. Participants can see their

Fig. 1. Screen-shots of the game. Participants play multiple rounds of the game on networked computers. These screen-shots show the view of both players,

Fig. 4. x

Fig. 2

Move & stop (default strategy)
Oscillations
Loop
C-shape

Fig. 2. A typical emergent system. In this communication system red is
the default colour. If participants have a red square, they move to it and
wait. If they do not have red they will signal one of the other colours by
using the movements indicated. If one participant signals a colour that
the other participant also has, that participant will move to the relevant
square and hit space to end their turn. Otherwise, the participants will
signal alternative colours until an agreement is reached. (For interpreta-
tion of the references to colour in this figure legend, the reader is referred
to the web version of this article.)

• **Setup:** player only knows colors of own squares, but sees
squares other player visits; played repeatedly, colors
distributed randomly; can move in each direction, finish.

**Basic Points**

Individual Commitments and Social Norms

**Individual Commitments**

To achieve coordination, and have a communicative
function, utterances must influence individual commitments

**Social Norms**

But we can have conflicting interests, how is this tension
resolved?

• Natural Hypothesis: social norms
Levinson (1979)

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"Gotcha! — I didn't say Simon says cut his head off!"

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Conversational States

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Conversational States

![Diagram of conversational states](image)

**Figure:** A conversational state

**Semantic Update**

And Pragmatic Consequences

**Utterance Force in the Wild**

*Advice?*

Sisters Kathy (veteran teacher), Sharon (new teacher):

(5)  

- **a. Kathy:** All you have is twelve kids?  
- **b. Sharon:** No. Seventeen  
- **c. Kathy:** Oh, okay.  
- **d. Sharon:** ...and fourth-graders.  
- **e. Kathy:** So then, what you do is, you sprinkle the fifth-graders out evenly... And you make the fourth-graders take the responsibility for teaching them.  
- **f. Sharon:** Third-graders?  
- **g. Kathy:** And you engrain in them, that it’s their responsibility to help those little kids. That’s what I did.

*(From the Santa Barbara Corpus, SBC004, 967.87 969.38–983.09 983.67.)*
Utterance Force in the Wild

‘Report Building’?

Near strangers Lynne (equine expert) and Lenore (non-expert, visitor) chat about wide-ranging topics

(6) a. Lenore: So you’re always bent over.
   b. Lynne: You’re always bent over. And like in the front? You stick the horse’s hoof between your leg, you know? Kinda like that, and you kinda, you go like this, you kinda bend down like this, and you have the horse’s hoof [right here]?
   c. Lenore: It’s hard on your back.
   d. Lynne: It’s really hard on your back.

(From the Santa Barbara Corpus, SBC001, 996.56 997.50 – 1008.06 1010.29.)

Thanks!

A Research Project
Games, Conversational Situations and Equilibria

- Many important pilot cases to analyze
  - Quiz and Rhetorical questions
  - Sarcastic assertions
  - Resolving questions with imperatives
  - Resolving questions with questions
  - Indirect speech acts
    - Assuming that intended effect has been repeatedly derived from basic effect, Lewisian convention implies that a new convention for the sentence will come to be
- Many different ways of thinking about social structure game-theoretically (Bicchieri)

References


References


