Formalizing Status Functions of Illocutionary Acts

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Outline

Illocutionary acts as institutional facts (1/2)

In his first book *Speech Acts* (1995), Searle wrote

> Every institutional facts is underlain by a (system of) rule(s) of the form "*X* counts as *Y* in context *C*". Our hypothesis that speaking a language is performing acts according to constitutive rules involves us in the hypothesis that the fact that a man performed a certain speech act, e.g., made a promise, is an institutional fact. (pp. 51-2)

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Illocutionary acts as institutional facts (2/2)

In one of his recent books *Making the Social World* (2010), Searle modified this claim and generalized the notion of a constitutive rule in order to deal with so-called "free standing *Y*-terms", but as far as today's discussion is concerned, we will only have to consider the cases where the fact that

a certain illocutionary acts is performed

is an institutional fact that is created according to a (system of) constitutive rule(s) of the above form:

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Institutional facts and status functions

What is important in Searle's recent theory of social reality for today's discussion is the notion of a status function that is introduced in *The Construction of Social Reality* (1995). In *Making the Social World* (2010), we see the following "rather simple set of equivalences and logical implications" (p.23).

institutional facts = status functions → deontic powers → desire-independent reason for action.

Deontic powers are things like "rights, duties, obligations, requirements, permissions, authorizations, entitlements, and so on" (2010, p. 9).

"[O]nce recognized, they provide us with reasons for acting that are independent of our inclinations and desires" (ibid).

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When a certain utterance *u* counts as an act of commanding, for example, it has the status of being a command (a *Y*-status) and certain function goes with this status, and it, in turn, implies deontic powers.

The notion of a status function is important for the theory of speech acts as it enables us to have a uniform view of illocutionary acts.

In order to see why this is worth saying, we need to note the fact that

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Diversity of illocutionary acts

Searle writes in *Expression and Meaning* (1979, p. 7):

> There are a large number of illocutionary acts that require an extra-linguistic institution, and generally, a special position by the speaker and the hearer within that institution in order for the act to be performed. Thus, in order to bless, excommunicate, christen, pronounce guilty, call the base runner out . . ., it is not sufficient for any old speaker to say to any old hearer “I bless”, “I excommunicate”, etc. One must have a position within an extra-linguistic institution.

> In order to make a statement that it is raining or promise to come to see you, I need only obey the rule of language. No extra-linguistic institutions are required (ibid).

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What the above equivalence means

In spite of this diversity, the above equivalence requires us to say that every illocutionary act has a status function, and it implies deontic powers.

The purpose of this talk is to show how such status functions of illocutionary acts can be captured in a version of dynamic deontic logic.

We will show, in particular, how the status functions of acts of commanding, promising, requesting and asserting can be captured in deontic terms.

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A cautionary remark

Our analysis gives an account of illocutionary acts that are partial in the following two respects.

We will characterize the status function of an act that has the status of a *Y* in terms of deontic powers it implies. We will not discuss what conditions have to be satisfied in order for an utterance to have the status of being a *Y*.

What we will say about each of the above four kinds of illocutionary acts may under-specify them. For example, what we will say about acts of commanding will be seen to apply also to acts of demanding, requiring, ordering, and so on.

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An overview

- The recent development of Dynamic Epistemic Logics suggests a general methodology for developing logics that can capture status functions of various speech acts.
- We have developed dynamic logics that can deal with acts of commanding (Yamada 2007a, 2007b, 2008b), promising (2007a), requesting (2011), asserting, conceding, and withdrawing (2012, 2016) according to that methodology.
- Moreover, it seems possible to capture and differentiate the status functions of acts of commanding, promising, requesting, and asserting in one of these logics, a dynamified epistemic deontic logic (Yamada 2016).

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The development of DMEDL

Yamada (2016)

$[\text{command}_{(i,j)}\varphi]\psi$, $[\text{promise}_{(i,j)}\varphi]\psi$, $[\text{request}_{(i,j)}\varphi]\psi$, $[\text{assert}_{(i,j)}\varphi]\psi$

DMEDL (Dynamified MEDL)

adding dynamic modalities ↑

↓ rewriting along recursion axioms

MEDL (Multi-agent Epistemic Deontic Logic)

$K_i\varphi$, $O_{(i,j,k)}\varphi$

The Languages

Take a countably infinite set Aprop of proposition letters and a finite set I of agents, with p ranging over Aprop and i, j, k over I. The languages $\mathcal{L}_{\mathrm{MEDL}}$ of MEDL and $\mathcal{L}_{\mathrm{DMEDL}}$ of DMEDL are given respectively by:

$$\varphi ::= \top \mid p \mid \neg\varphi \mid (\varphi \wedge \psi) \mid O_{(i,j,k)}\varphi \mid K_i\varphi$$

and

$$\begin{aligned} \varphi &::= \top \mid p \mid \neg\varphi \mid (\varphi \wedge \psi) \mid O_{(i,j,k)}\varphi \mid K_i\varphi \mid [\pi]\varphi \\ \pi &::= \mathrm{command}_{(i,j)}\varphi \mid \mathrm{promise}_{(i,j)}\varphi \mid \mathrm{request}_{(i,j)}\varphi \mid \mathrm{assert}_{(i,j)}\varphi \end{aligned}$$

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Intended readings (1/2)

$O_{(i,j,k)}\varphi$: it is obligatory upon agent i with respect to j in the name of k to see to it that φ.

where

i is the agent who owes the obligation (sometimes called an obligor),

j is the agent to whom the obligation is owed (sometimes called an obligee),

k is the creator of the obligation.

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Intended readings (2/2)

$[\text{command}_{(i,j)}\varphi]\psi$: whenever an agent i (the commander) commands an agent j (the commandee) to see to it that φ, ψ holds after that (that is, in the resulting situation).

$[\text{promise}_{(i,j)}\varphi]\psi$: whenever an agent i (the promiser) promises an agent j (the promisee) that i will see to it that φ, ψ holds after that.

$[\text{request}_{(i,j)}\varphi]\psi$: whenever an agent i (the requester) requests an agent j (the requestee) to see to it that φ, ψ holds after that.

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$\mathcal{L}_{\mathrm{MEDL}}$-models

Definition

By an $\mathcal{L}_{\mathrm{MEDL}}$-model, we mean a tuple $M = \langle W^M, \{D^M_{(i,j,k)} \mid i,j,k \in I\}, \{\sim^M_i \mid i \in I\}, V^M \rangle$ where:

(i) W^M is a non-empty set (heuristically, of 'possible worlds'),

(ii) $D^M_{(i,j,k)} \subseteq W^M \times W^M$ for each $i,j,k \in I$,

(iii) $\sim^M_i$ is an equivalence relation such that $\sim^M_i \subseteq W^M \times W^M$ for each $i \in I$,

(iv) V^M is a function that assigns a subset $V^M(p)$ of W^M to each proposition letter $p \in \mathit{Aprop}$.

Truth definition and axiomatization

The truth definition for $\mathcal{L}_{\mathrm{MEDL}}$ is given in a completely standard way with reference to $\mathcal{L}_{\mathrm{MEDL}}$-models.

The truth definition for $\mathcal{L}_{\mathrm{DMEDL}}$ is given by extending that of $\mathcal{L}_{\mathrm{MEDL}}$ by adding clauses for dynamic modalities, again, with reference to $\mathcal{L}_{\mathrm{MEDL}}$-models.

Theorem

There are sound and complete axiomatizations of MEDL and DMEDL.

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Acts of commanding

$$M, w \models_{\mathsf{DMEDL}} [\mathrm{command}_{(i,j)}\varphi]\psi \text{ iff } M_{\mathrm{command}_{(i,j)}\varphi}, w \models_{\mathsf{DMEDL}} \psi \quad ,$$

where $M_{\mathrm{command}_{(i,j)}\varphi}$ is the $\mathcal{L}_{\mathsf{MEDL}}$-model obtained from M by replacing $D^M_{(j,i,i)}$ with its subset

$$\{\langle x, y\rangle \in D^M_{(j,i,i)} \mid M, y \models_{\mathsf{DMEDL}} O_{(j,i,i)}\varphi\}.$$

CUGO Principle

For each agent $i, j \in I$, if φ is a formula of the base logic MEDL and the modal operator of the form $O_{(j,i,i)}$ does not occur in φ, the following principle is valid:

$$[\mathrm{command}_{(i,j)}\varphi]O_{(j,i,i)}\varphi \ .$$

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Conflicting obligations in DMEDL

$[\mathrm{command}_{(a,b)}p][\mathrm{command}_{(c,b)}q](O_{(b,a,a)}p \wedge O_{(b,c,c)}q)$.

p You will attend the conference in São Paulo on 11 June 2017.

q You will join the demonstration in Sapporo on 11 June 2017.

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Cf. $O_{(b,a,a)}(p \wedge \neg p) \rightarrow O_{(b,a,a)}\varphi$.

$$[\mathrm{promise}_{(b,a)}p][\mathrm{command}_{(c,b)}q](O_{(b,a,b)}p \wedge O_{(b,c,c)}q) \ .$$

Acts of requesting (1/3)

When you are requested to see to it that φ, the request does not by itself make it obligatory for you to see to it that φ.

But you should not simply ignore the request.

You should at least decide whether you will see to it that φ or not, and let the requester know your decision.

If you answer positively, you commit yourself to doing the thing requested.

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Acts of requesting (2/3)

$$M, w \models_{\mathrm{DMEDL}} [\mathrm{request}_{(i,j)}\varphi]\psi \text{ iff } M_{\mathrm{request}_{(i,j)}\varphi}, w \models_{\mathrm{DMEDL}} \psi \quad ,$$

where $M_{\mathrm{request}_{(i,j)}\varphi}$ is the $\mathcal{L}_{\mathrm{MEDL}}$-model obtained from M by replacing $D_{(j,i,i)}$ with its subset

$$\{\langle x, y\rangle \in D_{(j,i,i)} \mid M, y \models_{\mathrm{DMEDL}} (K_i O_{(j,i,j)}\varphi \vee K_i \neg O_{(j,i,j)}\varphi)\}.$$

RUGO Principle

For each agent $i, j \in I$, if φ is a formula of the base logic MEDL and the modal operator of the form $O_{(j,i,i)}$ does not occur in φ, the following principle is valid:

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Commands and Requests

For each act of requesting, there is an act of commanding which updates models in exactly the same way as it does.

Proof By the definitions of updated models, we have:

$$M_{\mathrm{request}_{(i,j)}\varphi} = M_{\mathrm{command}_{(i,j)}(K_i O_{(j,i,j)}\varphi \vee K_i \neg O_{(j,i,j)}\varphi)} \ .$$

Fact

A command of the form $\mathrm{command}_{(i,j)}(K_i O_{(j,i,j)}\varphi \vee K_i \neg O_{(j,i,j)}\varphi)$ and a request of the form $\mathrm{request}_{(i,j)}\varphi$ change the situation in different ways, nonetheless. Seeing to it that $K_i \neg O_{(j,i,j)}\varphi$ is a way of obeying the command of this form, but it is a way of refusing the request of the form $\mathrm{request}_{(i,j)}\varphi$.

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Underspecification (1/2)

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There are differences between acts of requesting and acts of commanding that are not addressed in DMEDL.

For example, an agent who issues a command invokes a position of authority, whereas an agent who makes a request does not (Searle and Vanderveken, 1985, p. 201).

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What we have said about acts of commanding also applies to acts of demanding, requiring, and ordering. They belong to a class of illocutionary acts that do not allow for the option of refusal.

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Acts of asserting (1/7)

A person who asserts that φ may be asked "How do you know?". The answer can take various forms as Austin pointed out in "Other minds" (1946), but unless she gives adequate grounds for knowing that φ, she may be required to withdraw her assertion.

Thus she seems to undertake a commitment similar to the commitment a person who promises to give, if challenged, adequate grounds for knowing that φ undertakes.

If she gives adequate grounds for knowing that φ, the challenger can learn that φ. Thus her giving adequate ground for knowing that φ seems to amont to her seeing to it that the challenger can learn that φ.

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A first approximation

$$M, w \models_{\mathrm{DMEDL}} [\mathrm{assert}_{(i,j)}\varphi]\psi \text{ iff } M_{\mathrm{assert}_{(i,j)}\varphi}, w \models_{\mathrm{DMEDL}} \psi \quad ,$$

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For each agent $i, j \in I$, if φ is a formula of the base logic MEDL and the modal operator of the form $O_{(i,j,i)}$ does not occur in φ, the following principle is valid:

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Timothy Williamson has pointed out that even if the asserter gives adequate grounds for learning that φ, the challenger might be irrational enough to refuse to learn that φ (in Q&A Session after my talk, *International Conference on Williamson, Logic and Philosophy*, Beijing, 2015).

If the asserter has given adequate grounds for knowing that φ, she has already done what she has to do in response to the challenge.

Is there a way to say what the asserter has committed herself to doing without implying that she has committed herself to getting the challenger to learn that φ?

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Acts of asserting (5/7)

Note that an act of getting the challenger to learn that φ is a perlocutionary act.

We are now analyzing an illocutioary act of asserting, not the perlocutionary act of getting the challenger to learn.

If the asserter has given adequate grounds for knowing that φ in response to a challenge, the asserter not only has seen to it that the challenger can learn that φ.

She has also invoked her authority with respect to the issue under discussion (Williamson, 2000, pp. 246-247, 257, 262).

So, it is as if the challenger is commanded to learn that φ.

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Acts of asserting (6/7)

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For each agent $i, j \in I$, if φ is a formula of the base logic MEDL and the modal operator of the form $O_{(i,j,i)}$ does not occur in φ, the following principle is valid:

$$[\mathrm{assert}_{(i,j)}\varphi]O_{(i,j,i)}O_{(j,i,i)}K_j\varphi \ .$$

For each agent $i, j \in I, \ldots$, the following principle is valid:

$$[\mathrm{command}_{(i,j)}\varphi]O_{(j,i,i)}\varphi \ .$$

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Acts of asserting (7/7)

What about “if challenged”?

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