

MarkM



Chip



Jed



MarkM



The Problem

Chip wants to introduce MarkM to Jed.
Privilege: MarkM will be able to send messages to Jed; Jed will accept messages from Mark.

Accountability: If MarkM misbehaves, Jed can blame Chip for introducing MarkM.

Philosophy: Maybe MarkM is just a figment of Chip's imagination.

Chip



Jed



MarkM



The Setup

Chip possesses a Deliverator($\text{Chip} \Rightarrow \text{Jed}$).

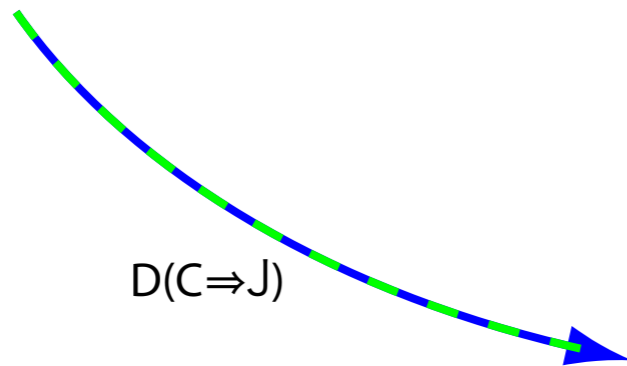
Chip



Jed



$D(\text{C} \Rightarrow \text{J})$



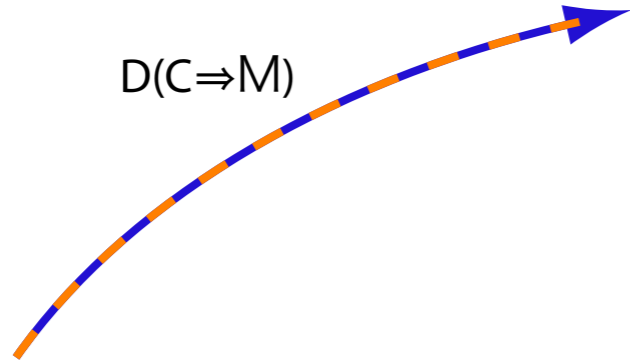
MarkM



The Setup

Chip possesses a Deliverator($\text{Chip} \Rightarrow \text{Jed}$).
Chip possesses a Deliverator($\text{Chip} \Rightarrow \text{MarkM}$).

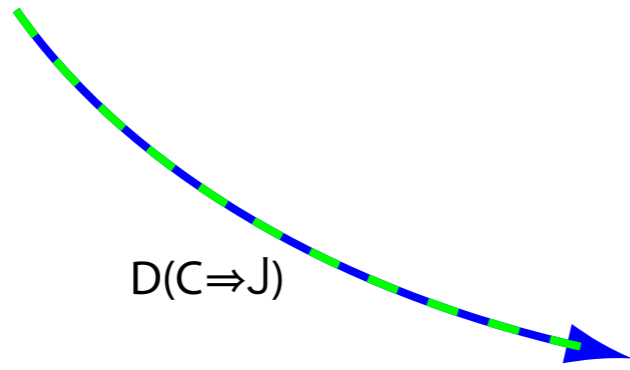
$D(\text{C} \Rightarrow \text{M})$



Chip

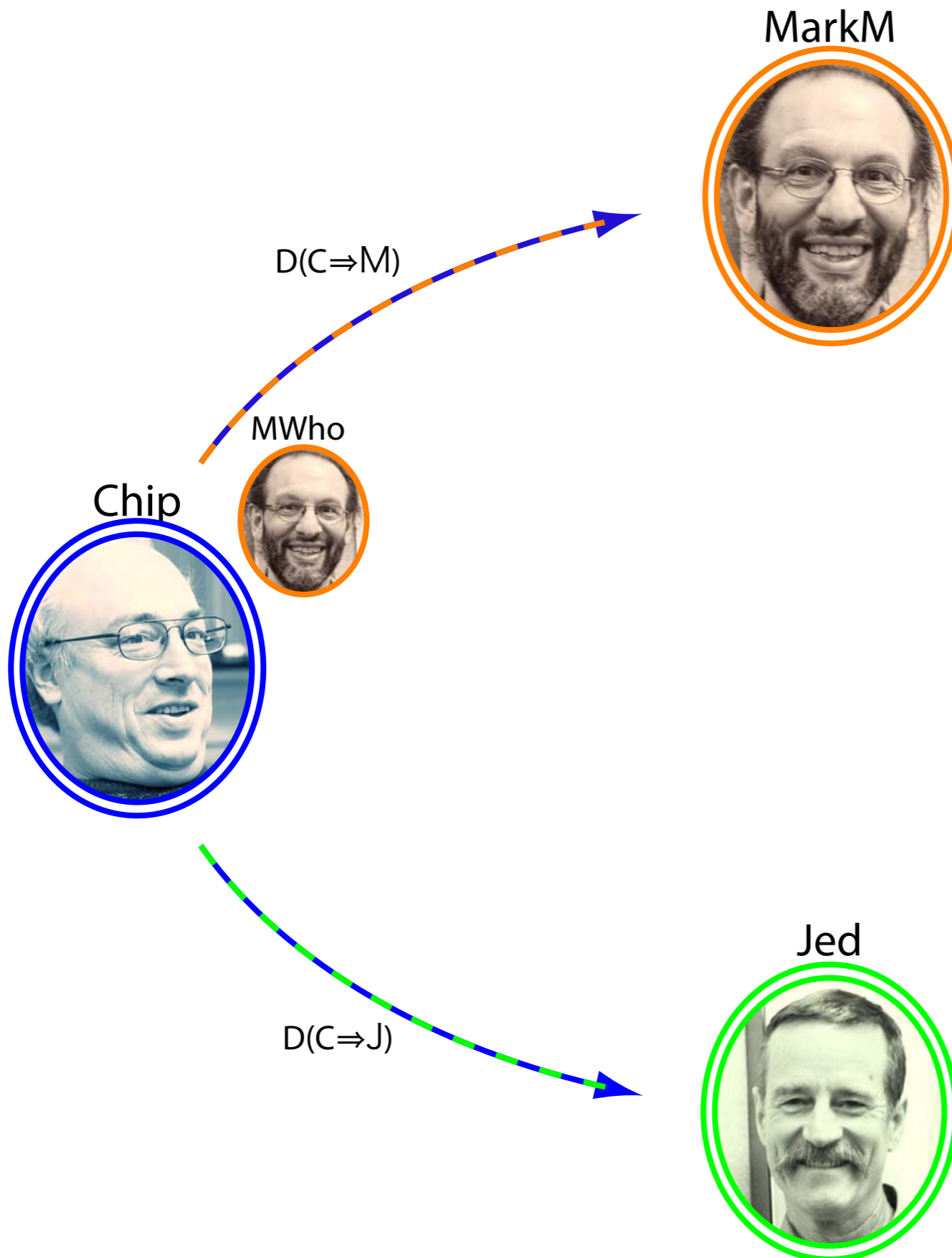


$D(\text{C} \Rightarrow \text{J})$



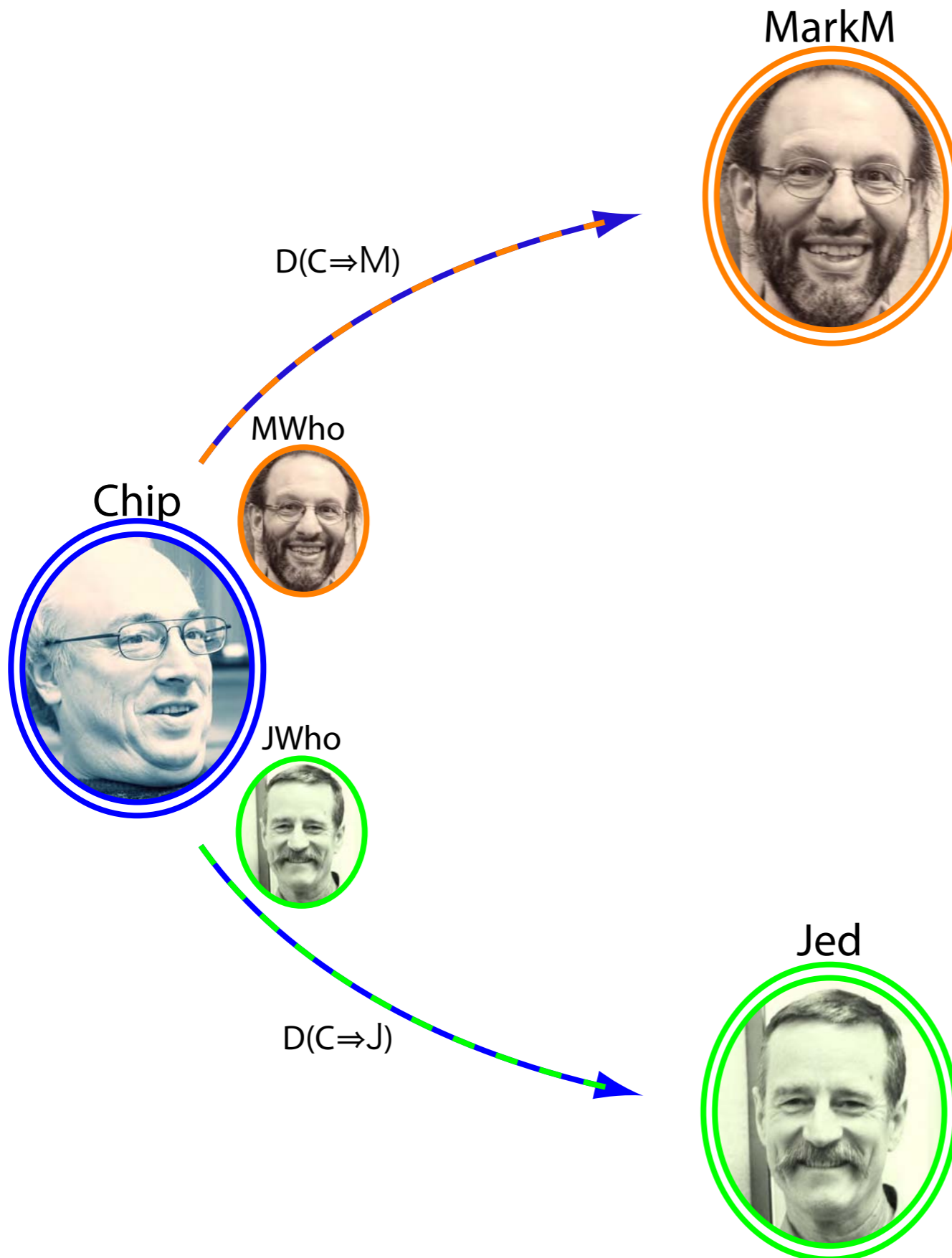
Jed





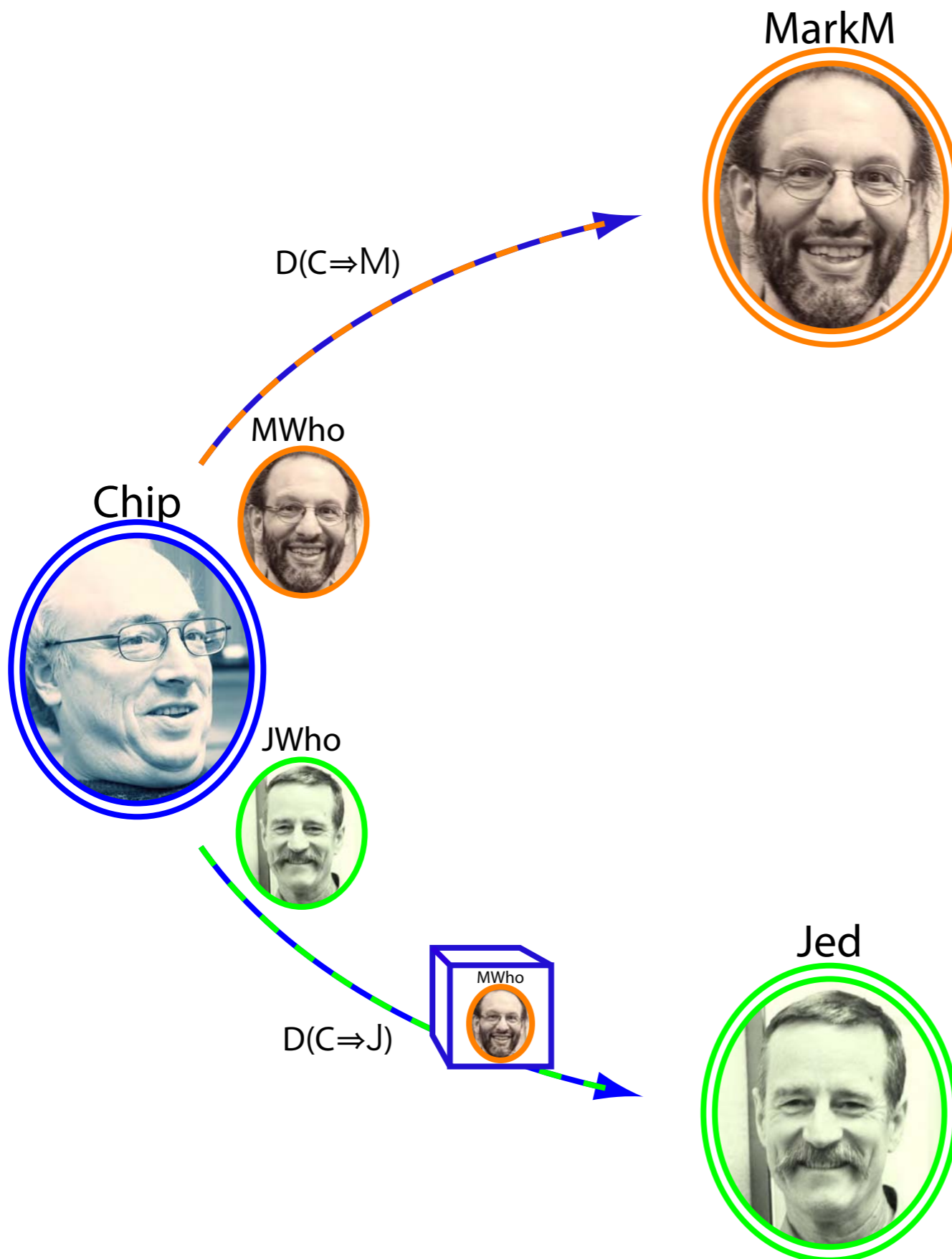
The Setup

Chip possesses a Deliverator($Chip \Rightarrow Jed$).
Chip possesses a Deliverator($Chip \Rightarrow MarkM$).
Chip possesses Mark's Who.



The Setup

- Chip possesses a Deliverator($Chip \Rightarrow Jed$).
- Chip possesses a Deliverator($Chip \Rightarrow MarkM$).
- Chip possesses Mark's Who.
- Chip possesses Jed's Who.

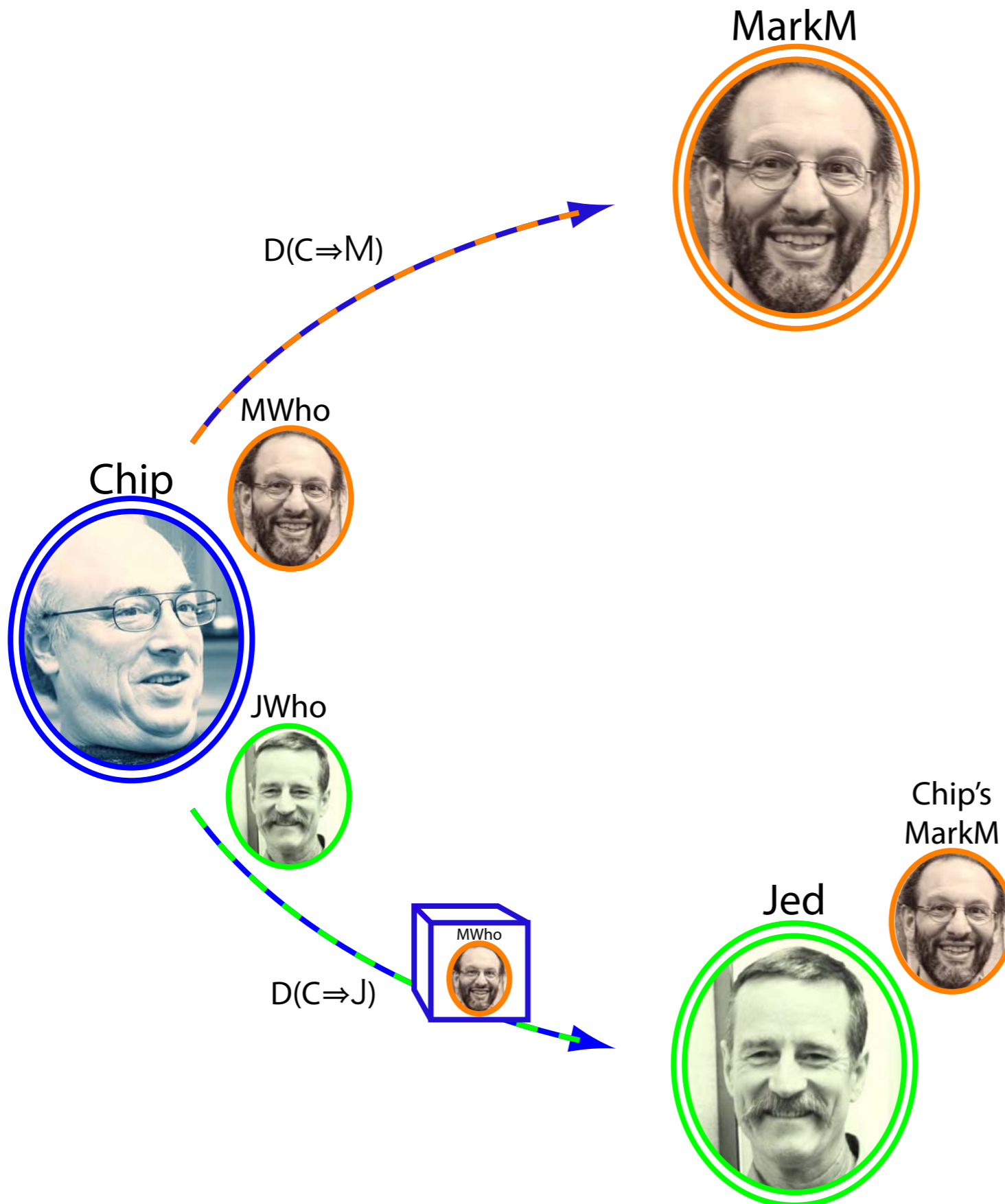


The Setup

Chip possesses a Deliverator($C \Rightarrow J$).
 Chip possesses a Deliverator($C \Rightarrow M$).
 Chip possesses Mark's Who.
 Chip possesses Jed's Who.

The Introduction

Chip sends a message to Jed. The message contains Mark's Who.



The Setup

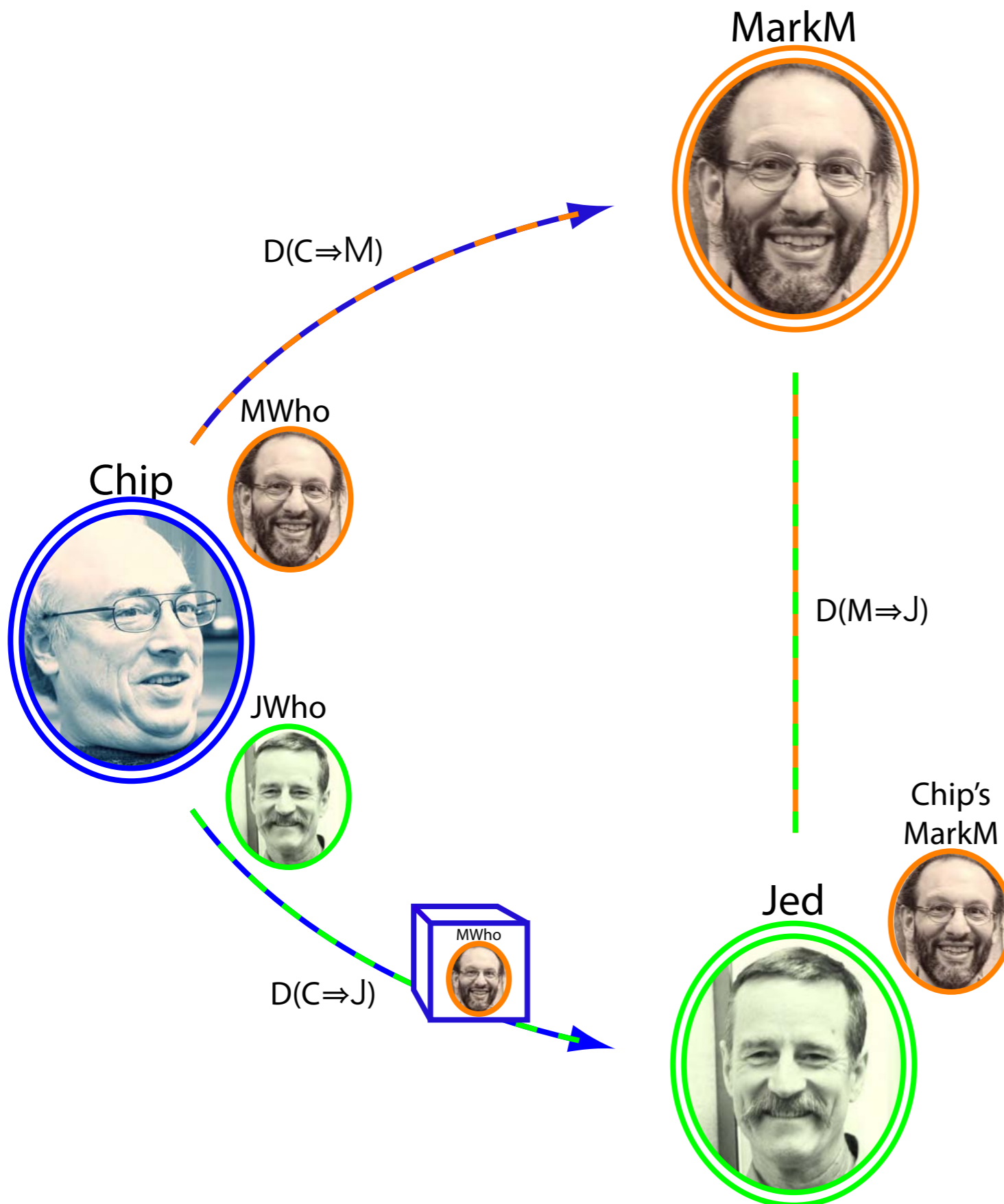
Chip possesses a Deliverator($Chip \Rightarrow Jed$).
 Chip possesses a Deliverator($Chip \Rightarrow MarkM$).
 Chip possesses Mark's Who.
 Chip possesses Jed's Who.

The Introduction

Chip sends a message to Jed. The message contains Mark's Who.

The Acceptance

Audit: Jed records Mark's Who, and records that Chip originated it.



The Setup

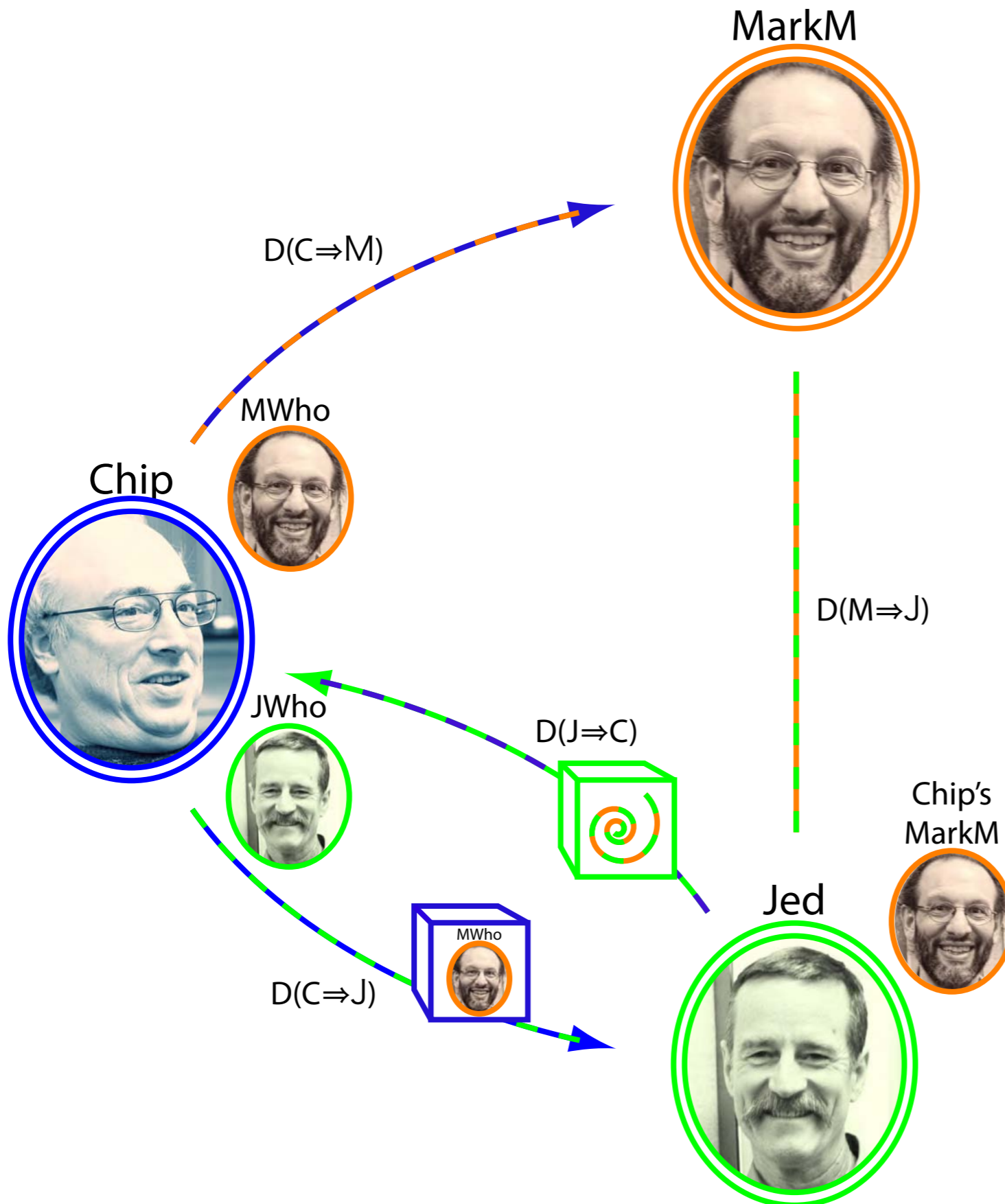
Chip possesses a Deliverator($C \Rightarrow J$).
 Chip possesses a Deliverator($C \Rightarrow M$).
 Chip possesses Mark's Who.
 Chip possesses Jed's Who.

The Introduction

Chip sends a message to Jed. The message contains Mark's Who.

The Acceptance

Audit: Jed records Mark's Who, and records that Chip originated it.
Privilege Grant: Jed creates a Deliverator($M \Rightarrow J$).



The Setup

Chip possesses a Deliverator($C \Rightarrow J$).
 Chip possesses a Deliverator($C \Rightarrow M$).
 Chip possesses Mark's Who.
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The Introduction

Chip sends a message to Jed. The message contains Mark's Who.

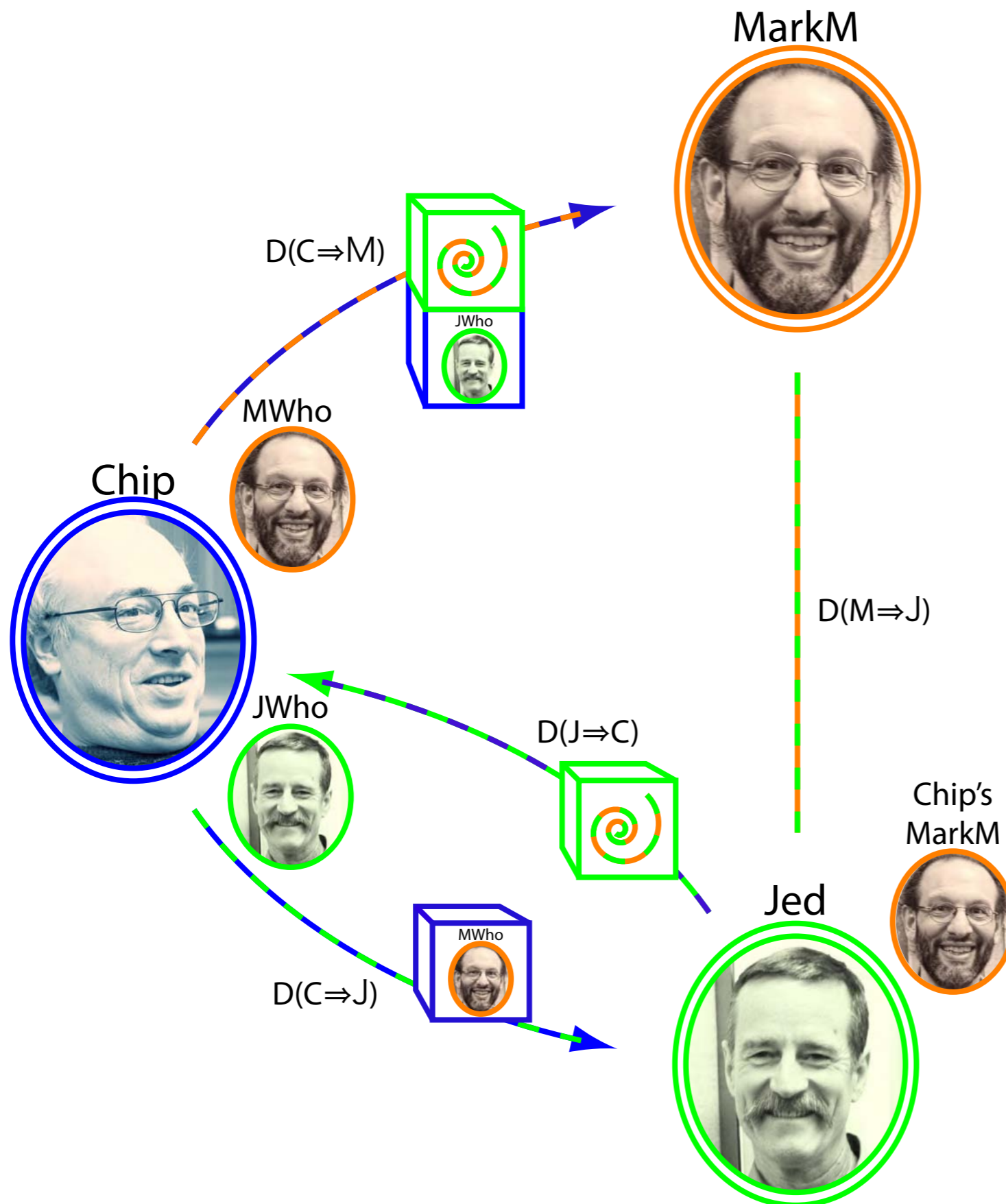
The Acceptance

Audit: Jed records Mark's Who, and records that Chip originated it.

Privilege Grant: Jed creates a Deliverator($M \Rightarrow J$).

The Acknowledgement

Privilege Transmission via Proxy: Jed uses his preexisting Deliverator($J \Rightarrow C$) to send Chip the newly created Deliverator($M \Rightarrow J$). Note that this message is sealed by Jed, and only openable by MarkM; Chip cannot open it.



The Setup

Chip possesses a Deliverator($Chip \Rightarrow Jed$).
 Chip possesses a Deliverator($Chip \Rightarrow MarkM$).
 Chip possesses Mark's Who.
 Chip possesses Jed's Who.

The Introduction

Chip sends a message to Jed. The message contains Mark's Who.

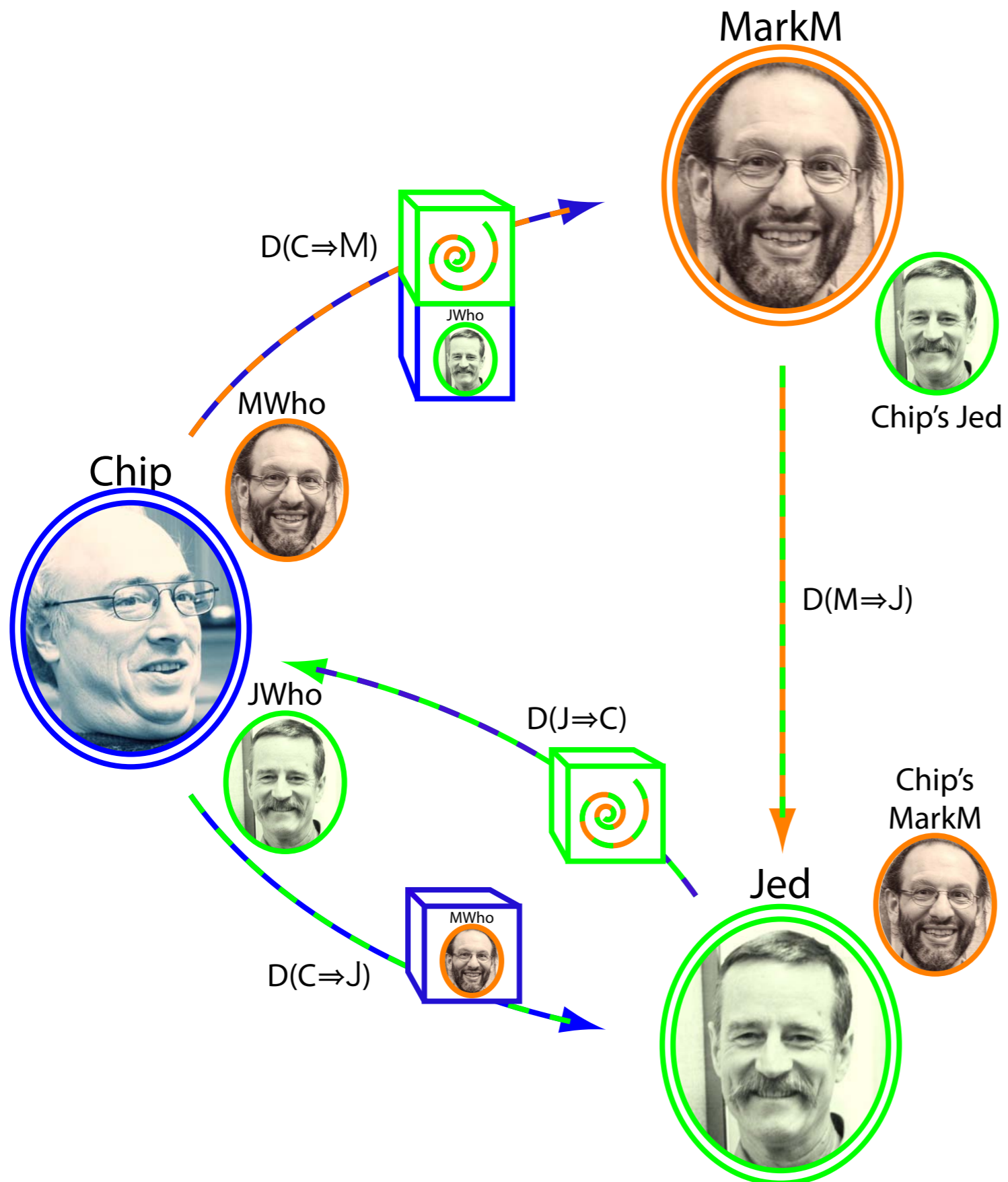
The Acceptance

Audit: Jed records Mark's Who, and records that Chip originated it.

Privilege Grant: Jed creates a Deliverator($MarkM \Rightarrow Jed$).

The Acknowledgement

Privilege Transmission via Proxy: Jed uses his preexisting Deliverator($Jed \Rightarrow Chip$) to send Chip the newly created Deliverator($MarkM \Rightarrow Jed$). Note that this message is sealed by Jed, and only openable by MarkM; Chip cannot open it. Chip passes it along to MarkM, together with Jed's Who.



The Setup

Chip possesses a Deliverator($Chip \Rightarrow Jed$).
 Chip possesses a Deliverator($Chip \Rightarrow MarkM$).
 Chip possesses Mark's Who.
 Chip possesses Jed's Who.

The Introduction

Chip sends a message to Jed. The message contains Mark's Who.

The Acceptance

Audit: Jed records Mark's Who, and records that Chip originated it.

Privilege Grant: Jed creates a Deliverator($MarkM \Rightarrow Jed$).

The Acknowledgement

Privilege Transmission via Proxy: Jed uses his preexisting Deliverator($Jed \Rightarrow Chip$) to send Chip the newly created Deliverator($MarkM \Rightarrow Jed$). Note that this message is sealed by Jed, and only openable by MarkM; Chip cannot open it. Chip passes it along to MarkM, together with Jed's Who.

The New Deliverator is Established

MarkM acquires the new Jed Deliverator, and records that Chip originated Jed.