

12-14 June 2007, at US Naval Academy, Annapolis, MD

**Please complete this form 712CD as your cover page to your electronic briefing submission to the MORSS CD. Do not fax to the MORS office.**

**Author Request (To be completed by applicant) - The following author(s) request authority to disclose the following presentation in the MORSS Final Report, for inclusion on the MORSS CD and/or posting on the MORS web site.**

Name of Principal Author and all other author(s): Dr. Patrick D. Allen

Principal Author's Organization and address:  
General Dynamics United Kingdom, Ltd.  
Castleham Road  
St. Leonards-on-Sea  
East Sussex TN38 9NJ  
England

Phone: 011-44-1424-798390 from US

Fax: 011-44-1424-798417 from US

Email: patrick.allen@generaldynamics.uk.com

Original title on 712 A/B: An Information and Media Model

Revised title: \_\_\_\_\_

Presented in (input and Bold one): (**WG08\_WG16**\_, CG\_\_\_, Special Session \_\_\_, Poster, Demo, or Tutorial):

This presentation is believed to be:  
**UNCLASSIFIED AND APPROVED FOR PUBLIC RELEASE**

# Report Documentation Page

*Form Approved  
OMB No. 0704-0188*

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE <b>01 JUN 2007</b>	2. REPORT TYPE <b>N/A</b>	3. DATES COVERED <b>-</b>			
4. TITLE AND SUBTITLE <b>An Information and Media Model</b>		5a. CONTRACT NUMBER			
		5b. GRANT NUMBER			
		5c. PROGRAM ELEMENT NUMBER			
6. AUTHOR(S)		5d. PROJECT NUMBER			
		5e. TASK NUMBER			
		5f. WORK UNIT NUMBER			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>General Dynamics United Kingdom, Ltd. Castleham Road St. Leonards-on-Sea East Sussex TN38 9NJ England</b>		8. PERFORMING ORGANIZATION REPORT NUMBER			
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S)			
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)			
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release, distribution unlimited</b>					
13. SUPPLEMENTARY NOTES <b>See also ADM202526. Military Operations Research Society Symposium (75th) Held in Annapolis, Maryland on June 12-14, 2007, The original document contains color images.</b>					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>UU</b>	18. NUMBER OF PAGES <b>25</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			



# **An Information and Media Model**

**Dr. Patrick D. Allen**

# Purposes

- To describe a Media Model to support influence operations, public affairs, and strategic communications planning

# Context: Media Model in the Information Domain

Two major Information model capabilities:

## 1. Inter-Communication Between Actors

- **Focus:** ACCESS between actors
- **Actions:** Enhance-degrade communication access and quality of service
- **Effects:** Impacts effectiveness of influence between actors

## 1. Inter-Communication

Effects of actor-actor communication access

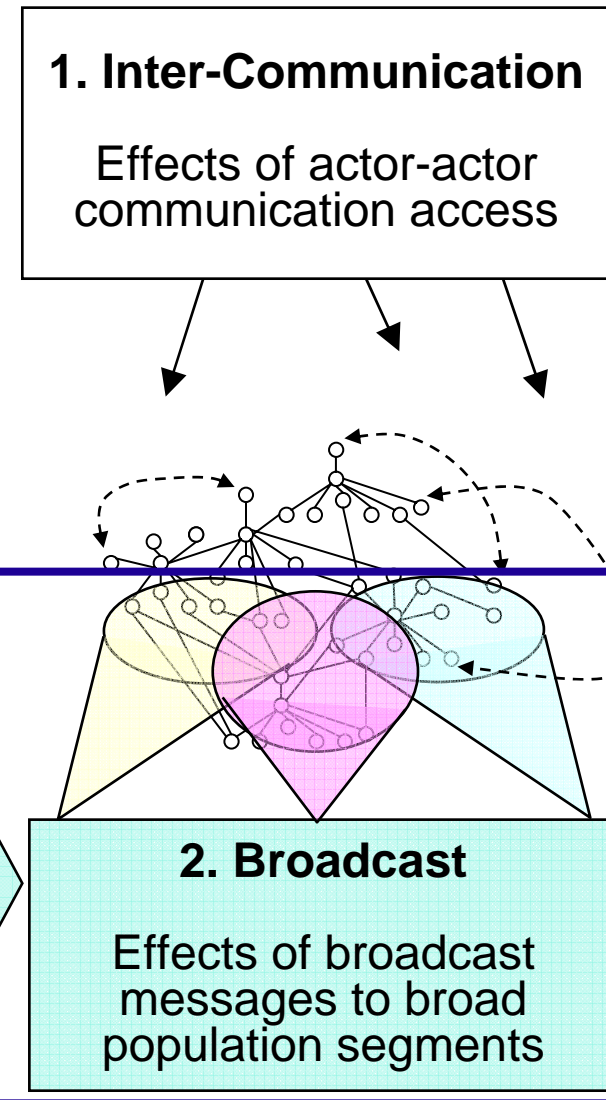
## 2. Broadcast: Media Model

- **Focus:** CONTENT of messages to target audiences
- **Actions:** Issue-deney messages by influencing sources and/or channels
- **Effects:** Impacts target audience perception of the situation

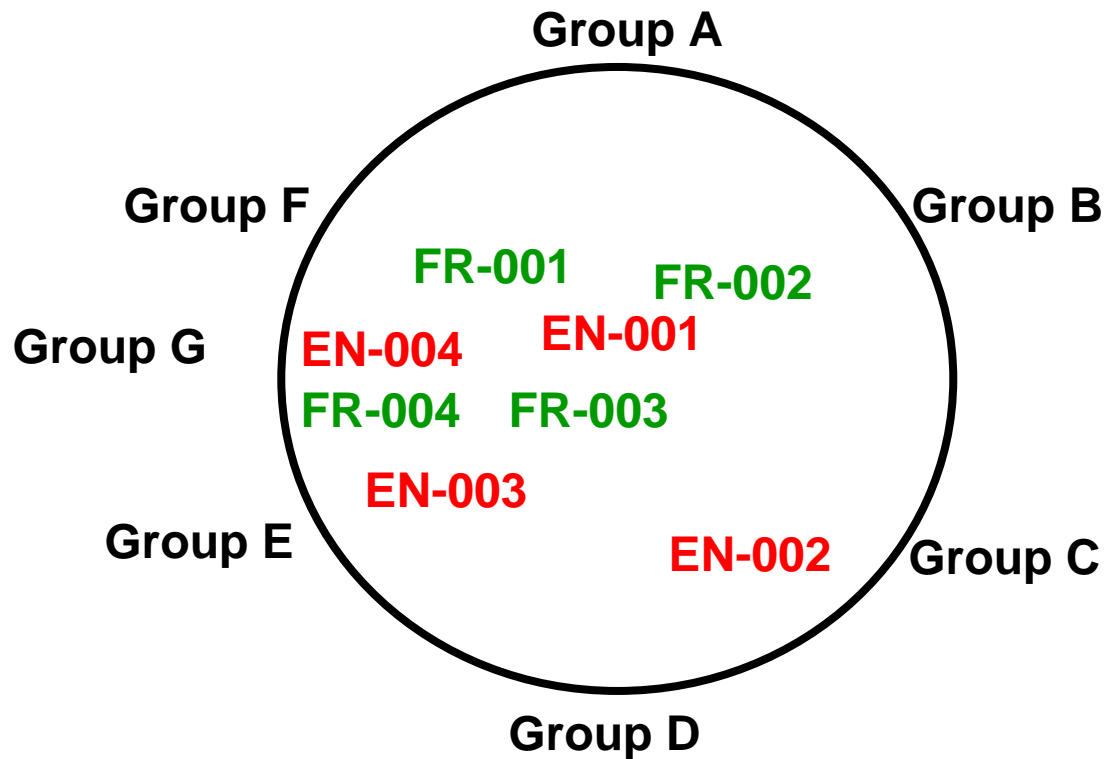
All forms of Media:  
Newsprint,  
Radio, TV,  
leaflets,  
internet,  
Mosques,  
etc.

## 2. Broadcast

Effects of broadcast messages to broad population segments

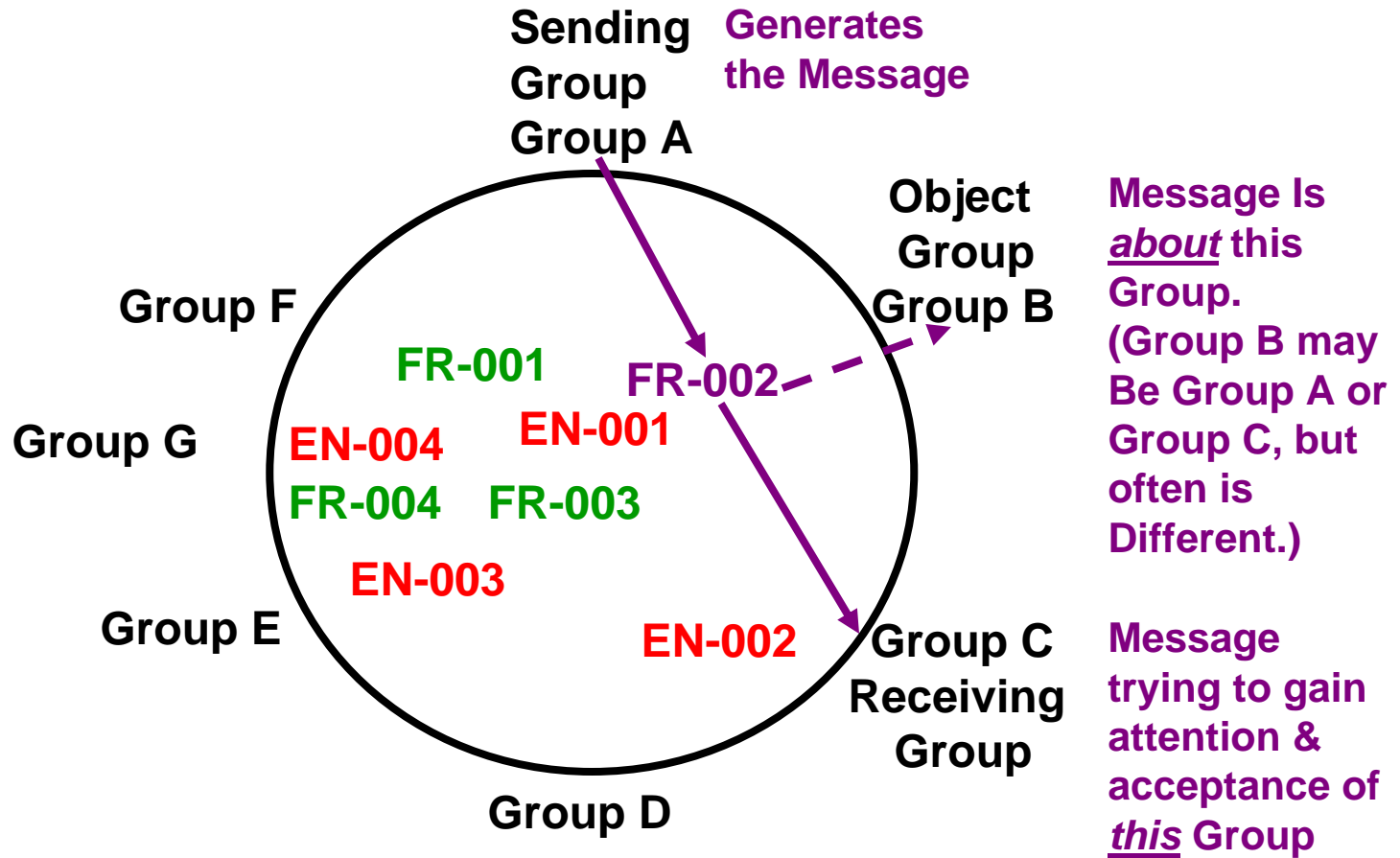


# Overarching Model: The Idea Battlespace



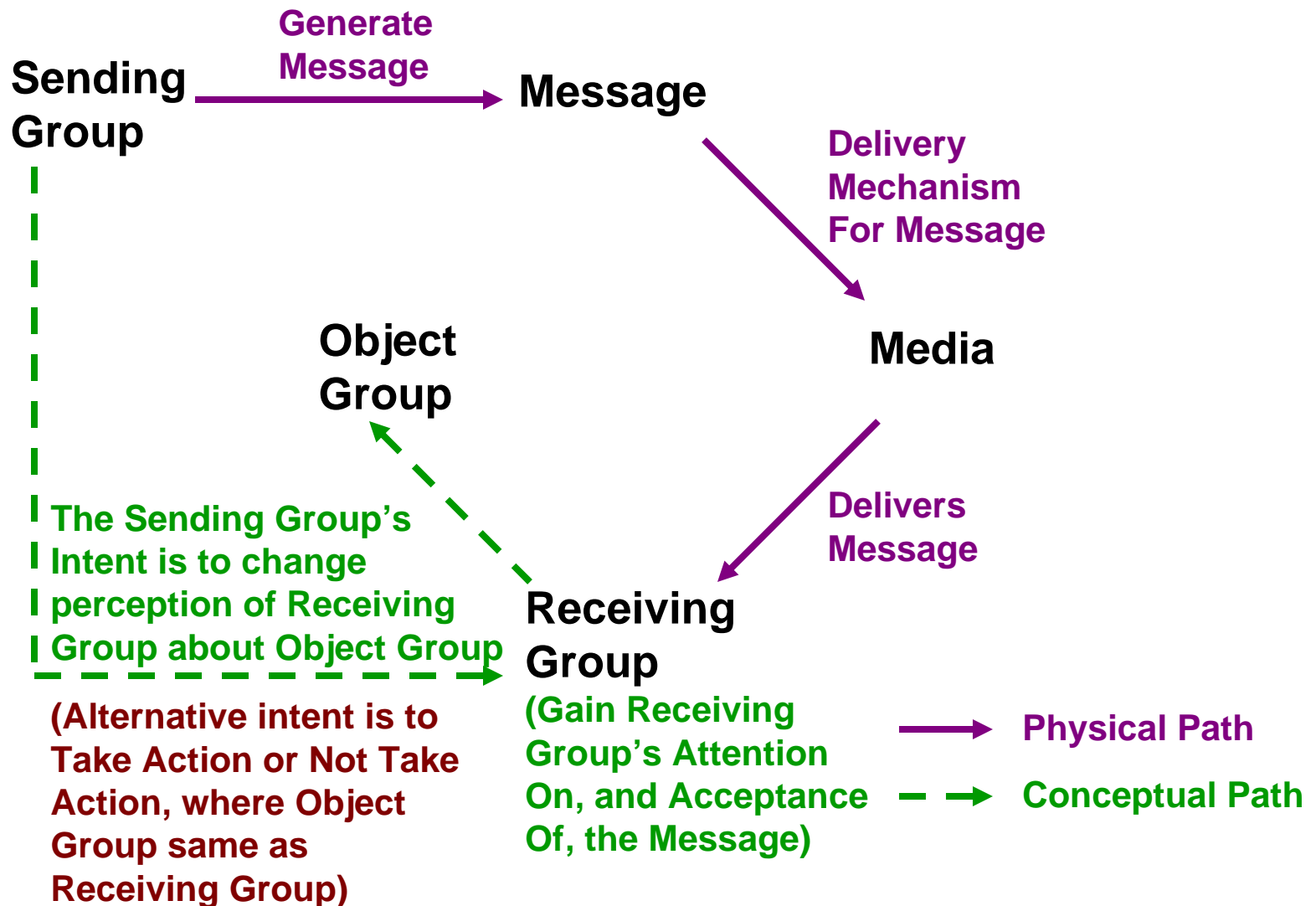
**Messages Compete for Dominance for Attention and Acceptance from Groups that make up the “arena” of the Idea Battlespace**

# Modeling Effect of One Message

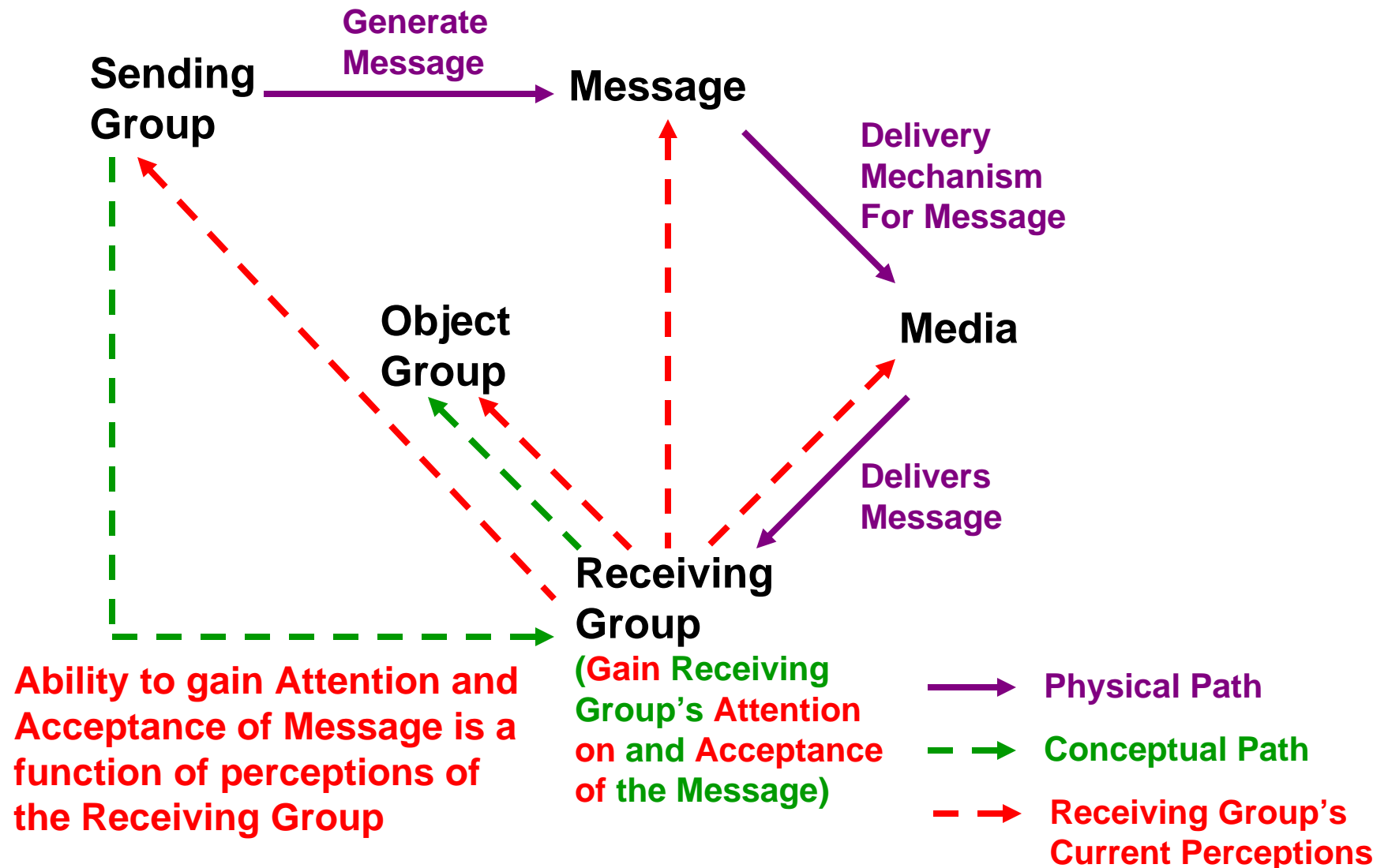


The Media model will assess the effects of each message one message at a time. The sequence and timing of messages does matter in the model.

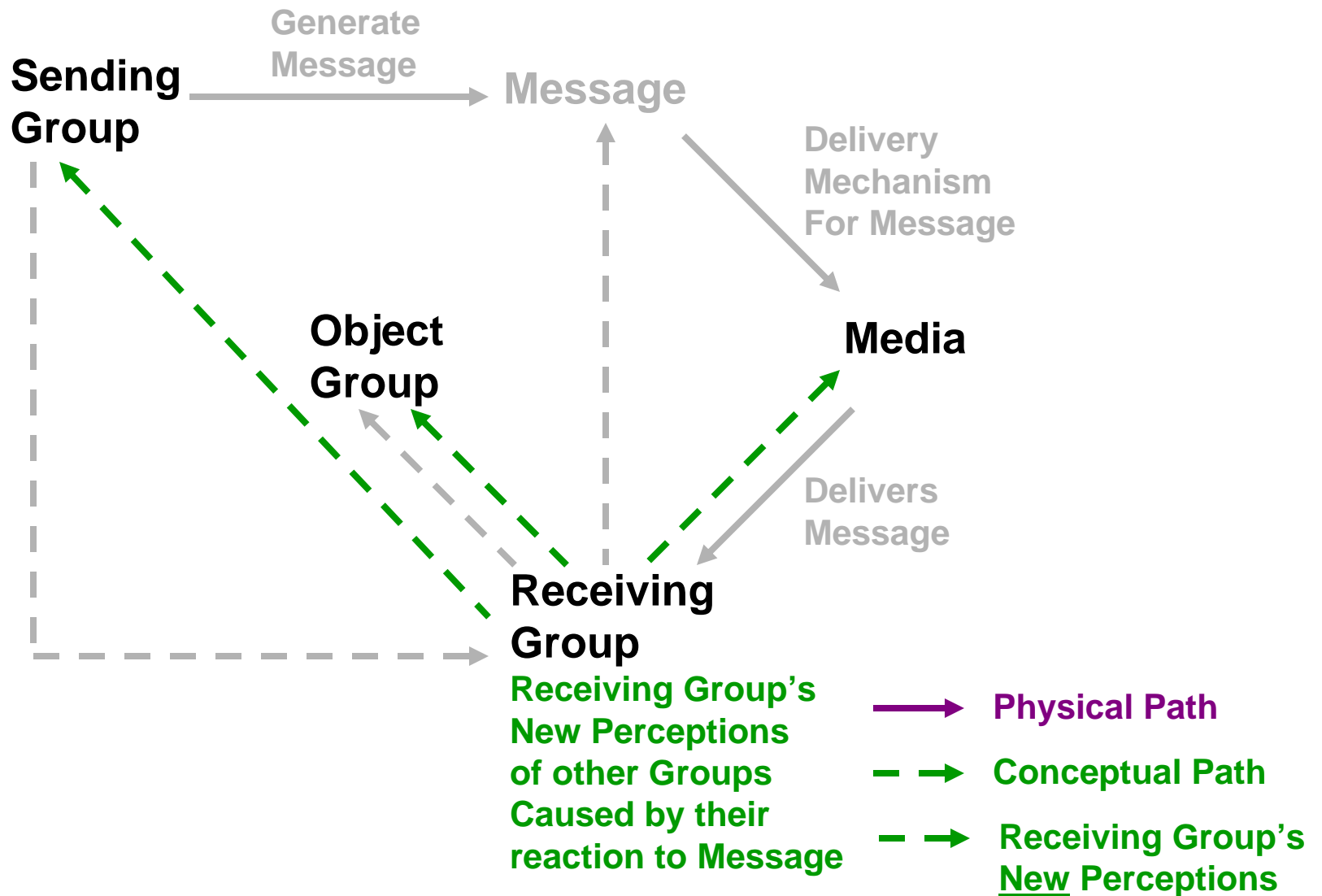
# Modeling the Effect Sequence I



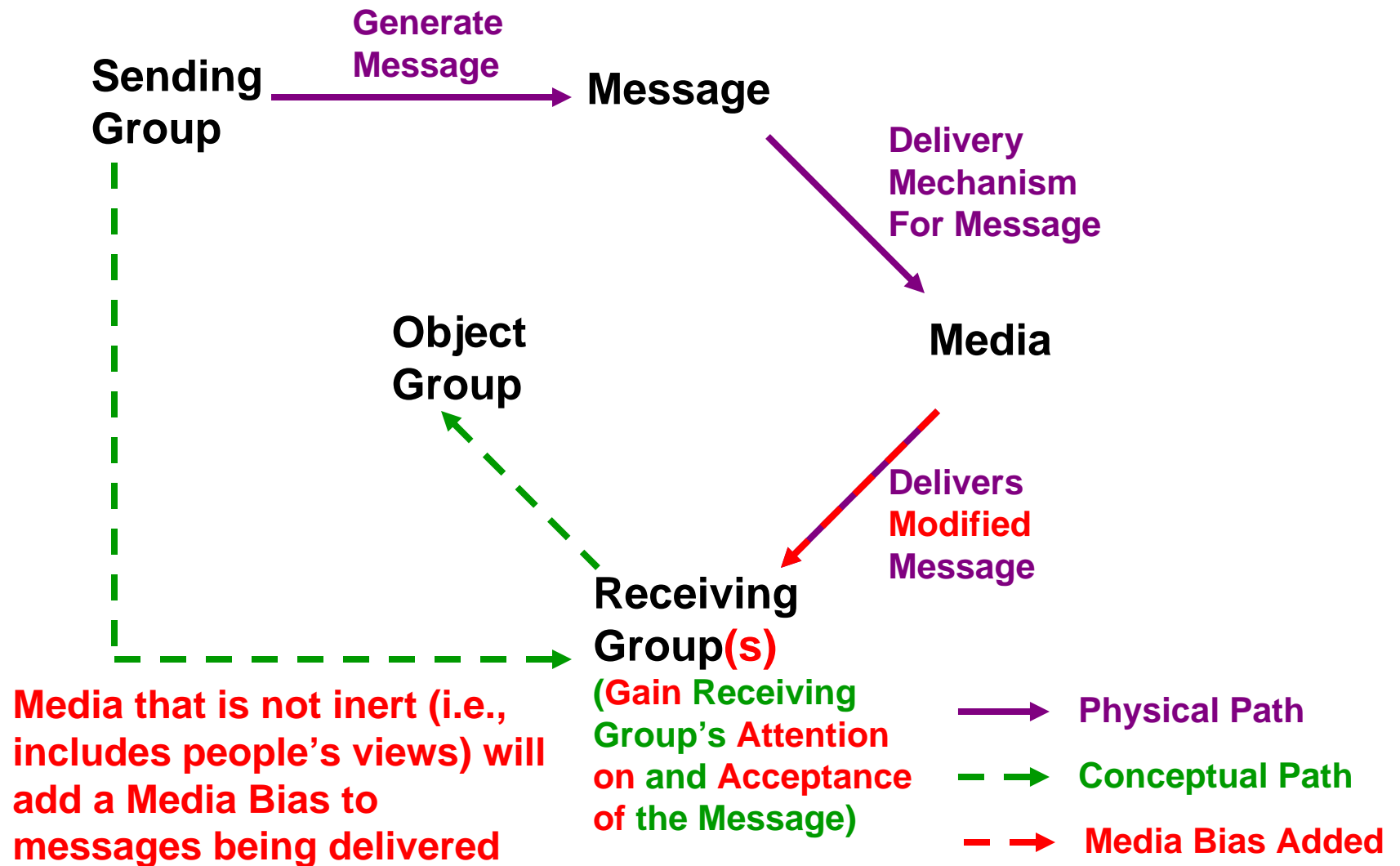
# Modeling the Effect Sequence II



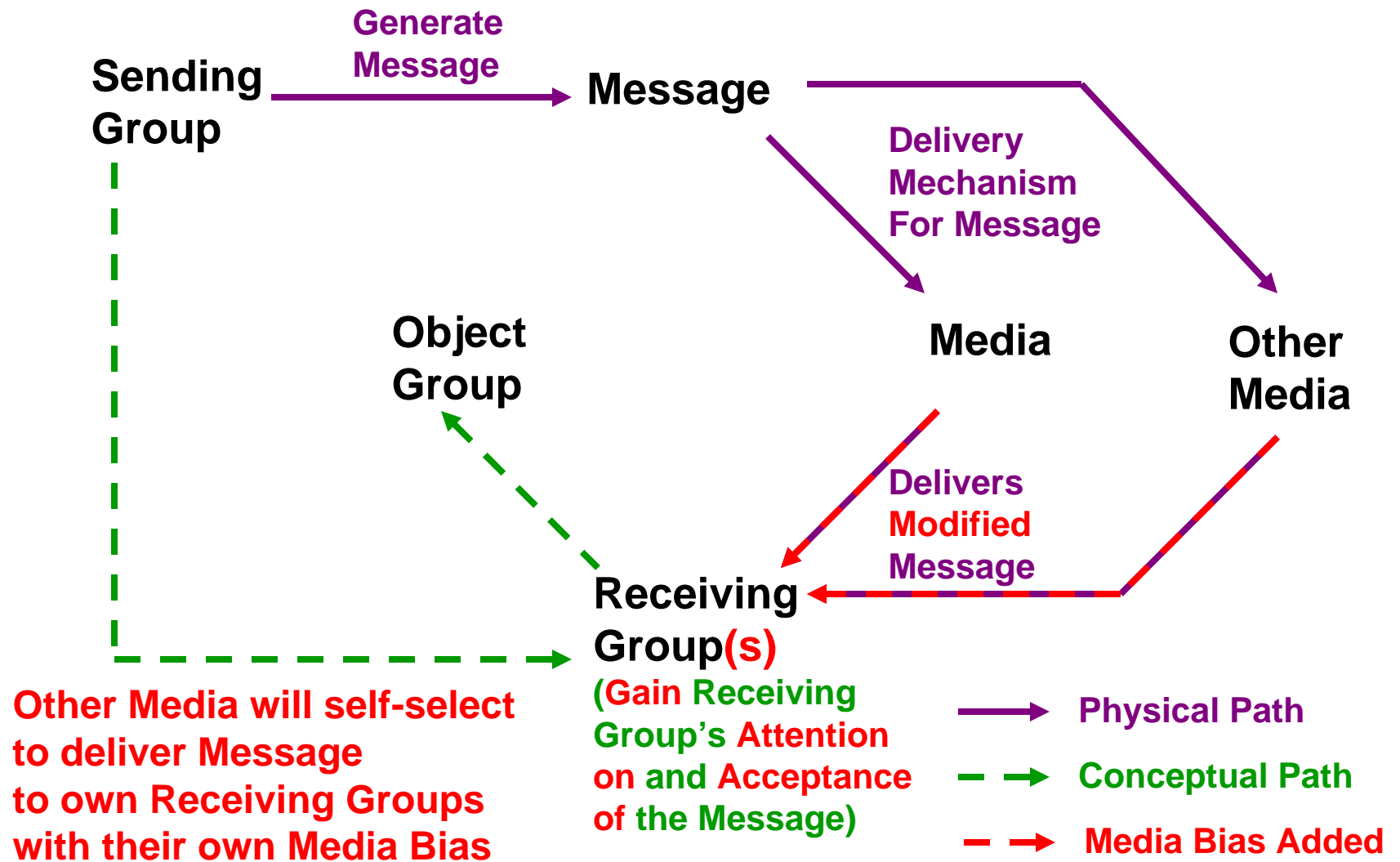
# Modeling the Effect Sequence III



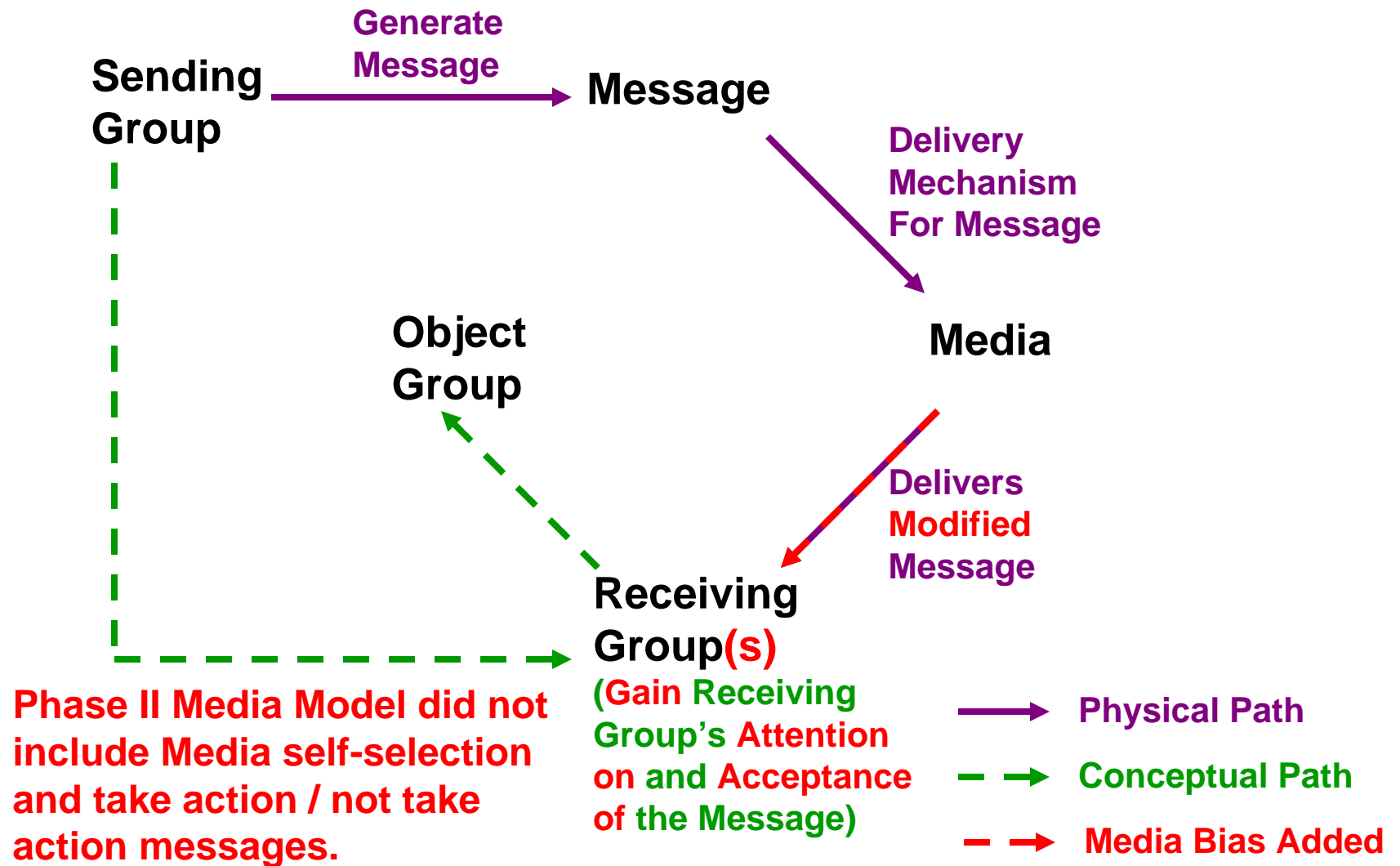
# Adding Media Spin to Model



# Adding Media Self-Selection to Model



# Focus of Phase II Media Model



# Three Dimensions of Perceptions

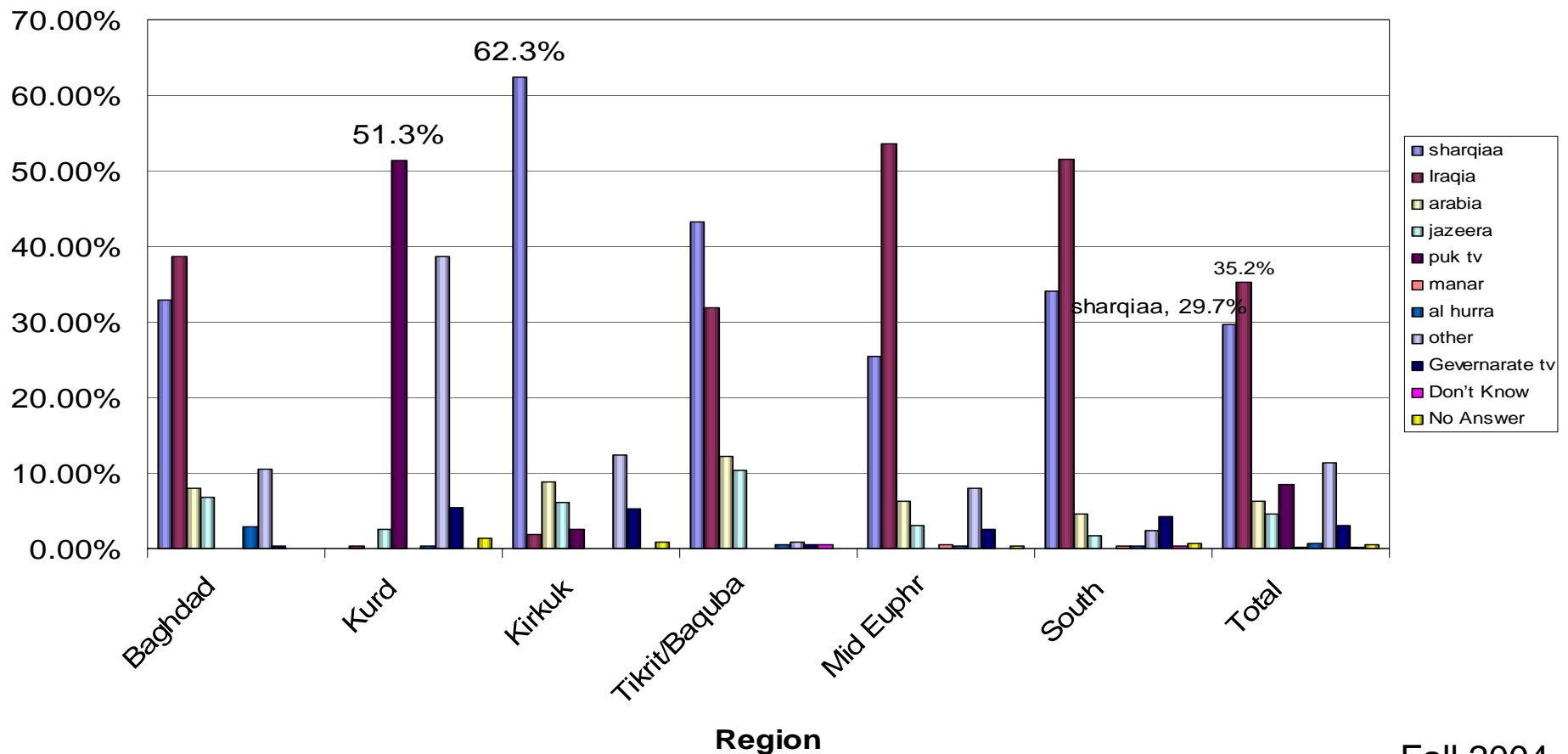
- The Media Model handles three dimensions of perceptions of each group about every other group
  - Legitimacy
  - Strength or Competence
  - Relative Friendliness
- Media Groups also have their views of every other group, and vice versa
  - Media groups are considered political groups like every other group in the model
  - Media Bias affects message Intensity, message Frequency, and Media Reach

# Legitimacy Sample Perceptions

Perceiver is Row Header	Perceived is Column Header																			
	IPG	IEG	ISF	Police	CFHQ	USHQ	aQ	Sun Ins	Shi Ins	Sun Clr	Shi Clr	Sun Pop	Shi Pop	Kurd Pop	UN	Syria	Iran	Jordan	Turkey	SA
Iraqi Provisional Government (IPG)	2	2	2	2	1	1	-2	-2	-2	1	1	2	2	2	2	1	1	2	2	2
Iraqi Elected Government (IEG)	2	2	2	2	1	1	-2	-2	-2	1	1	2	2	2	2	1	1	2	2	2
Iraqi Security Forces (ISF)	2	2	2	2	1	1	-2	-2	-2	1	1	2	2	2	2	1	1	2	2	2
Iraqi Police (Police)	2	2	2	2	1	1	-2	-2	-2	1	1	2	2	2	2	1	1	2	2	2
Coalition Force HQ (CFHQ)	2	2	2	2	2	2	-2	-2	-2	0	1	2	2	2	2	1	1	2	2	2
US HQs (USHQ)	2	2	2	2	2	2	-2	-2	-2	0	1	2	2	2	1	0	1	2	2	2
Al Qaeda in Iraq (aQ)	-2	-2	-2	-2	-2	-2	2	0	0	1	-1	2	2	2	-2	2	1	-2	-1	-2
Sunni Insurgency (Sun Ins)	-2	-2	-2	-2	-2	-2	1	2	1	2	0	2	-1	-1	-1	2	0	-1	0	0
Shiite Insurgency (Shi Ins)	-2	-1	-2	-2	-2	-2	1	1	2	0	2	0	2	1	0	0	2	0	0	0
Sunni Clerics (Sun Clr)	-1	-1	0	0	-2	-2	0	2	1	2	0	2	0	1	0	1	-1	0	0	0
Shiite Clerics (Shi Clr)	0	2	1	1	-1	-1	-1	-1	-1	0	2	0	2	0	1	0	1	0	0	0
Sunni Populace (Sun Pop)	-1	-1	0	0	-1	-1	1	1	1	2	1	2	-1	-1	-1	2	0	-1	0	0
Shiite Populace (Shi Pop)	1	2	1	1	0	-1	-1	-1	0	1	2	0	2	1	1	-1	1	0	0	0
Kurdish Populace (Kurd Pop)	1	2	1	1	1	1	-1	0	0	1	0	-1	1	2	2	-1	-1	0	-2	0
United Nations (UN)	1	2	1	1	0	0	-1	-1	-1	1	1	2	2	2	2	1	1	2	2	1
Syria	-2	-1	-1	-1	-2	-2	2	2	0	2	1	2	1	1	-1	2	1	1	1	1
Iran	-1	1	1	1	-1	-2	1	0	1	-1	2	0	2	-1	-1	1	2	1	1	1
Jordan	1	2	1	1	1	1	-2	-1	-1	1	1	1	1	1	2	1	1	2	1	1
Turkey	1	2	1	1	2	2	-2	-1	-1	1	1	1	1	-2	2	1	1	1	2	1
Saudi Arabia (SA)	1	2	1	1	1	0	-2	-1	-1	1	1	1	1	1	2	1	1	1	1	2

# Sample Media Reach Data from Iraq Fall 2004

Television ratings of local Iraq Stations vs. Al Jazerra  
Which is you Favorite TV Station?



Fall 2004

# Details of Media Model, Part 1

- Themes:
  - Define any number of themes, each effect calculated sequentially
  - Define the message of the theme (optional text description)
  - Select the sending group(s), receiving group(s), and object group(s)
  - Select Legitimacy, Strength/Competence, or Friendliness
    - Intensity determines direction and magnitude
- Purpose and Intensity:
  - Select number in range of +2 or – 2 (basic 5 point scale with +,-) for one, two or three dimensions (L, S/C, Fr) to change in RG's view of the OG
- Channel:
  - Select Media Group / Channel pair (one at a time)
    - "Cloning" function provided for ease of input
  - Ensure data includes "Media Reach" of media group / channel pair
- Frequency or Rate:
  - Select a number of times the message will be delivered each week (including multiple times per session)

## Details of Media Model, Part 2

- Channel Types:
  - TV/Radio, Newspaper, Internet, Mosques, Word-of-mouth, plus any number of user-defined types defined before a run
    - Need Media Reach Data
- Resource Availability and Cost:
  - Use of any channel at a specified frequency will cost money
  - In addition, some channels require the availability of certain resources, such as electric power for TV/radio and Internet
  - **Not included in Phase II model**
- Media Reach (or Channel Reach):
  - Use a look-up matrix to determine what percentage of the Receiving Group can be reached by the selected channel
  - Media model will combine intensity, frequency, and percent of population reached to provide a single + or - number per dimension to document change in RG perception of Object Group, Sending Group, and Media Group

## Details of Media Model, Part 3

- **Media Group/Channel Pair Blocking Action:**
  - User will select one media Group/channel pair to block for a specified period
    - Need to consider whether blocking this pair will block other pairs
  - User will select degree of success at blocking that pair (0-100%) over specified period
  - Media Model uses channel blocking to reduce intensity (number of times message delivered to Receiving group), possibly reducing it to zero
  - The fact of the use of channel blocking actions should consider effects on the population attitude to address popular reaction to censorship
  - Since we do not track channel blocking assets in the model, we are not addressing channel blocking resource availability except as a user input

## Planned Future Enhancements (Phase 3+)

- Adding in Media Self-Selection
- Adding in take-action / not-take-action messages
- Effects on population attitude of Cognitive Dissonance, where messages are contradicted by other actions
- Effects of announced negotiations
  - Negotiations have substantial implications for perceived legitimacy, strength, and friendliness
  - Also has major implications for groups included and not included in negotiations
- Adding information dissemination extended by non-broadcast means
- Stronger ties to other models

# Summary of Media Model

- A major portion of the Information Domain models focusing on broadcast messages and effects on population attitudes
- Includes messages to take actions or not take actions, as well a 2-party and 3<sup>rd</sup>-party belief messages
- Includes receiving group bias and media bias and tendency toward polarization and self-selection

## Contact Information

Dr. Patrick D. Allen  
General Dynamics United Kingdom, Ltd.  
Castleham Road  
St. Leonards-on-Sea  
East Sussex TN38 9NJ  
England

[patrick.allen@generaldynamics.uk.com](mailto:patrick.allen@generaldynamics.uk.com)

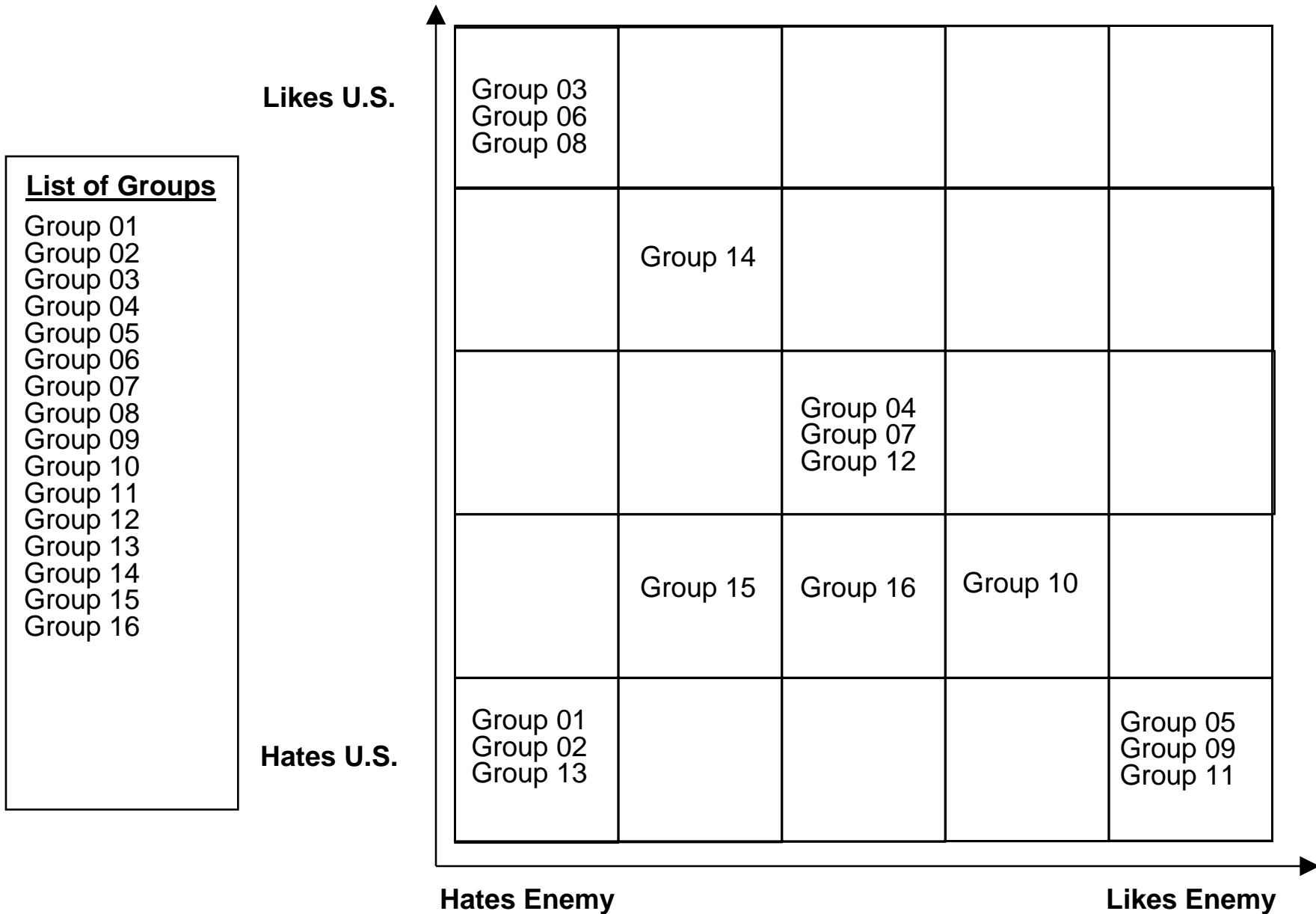
Voice: 011-44-1424-798390 from US

Fax: 011-44-1424-798417 from US

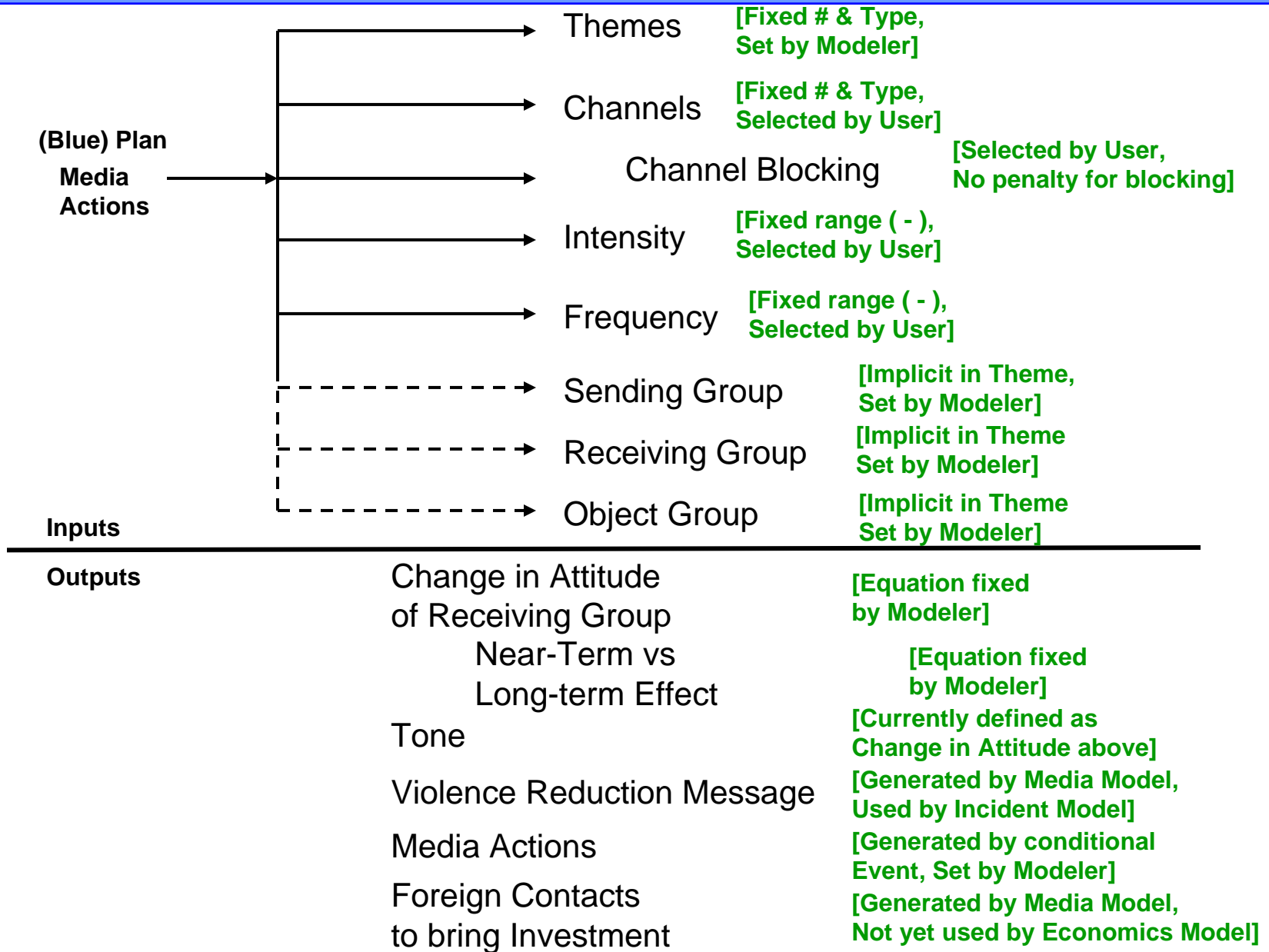
## **Back-up Slides**

# **Backup Slides**

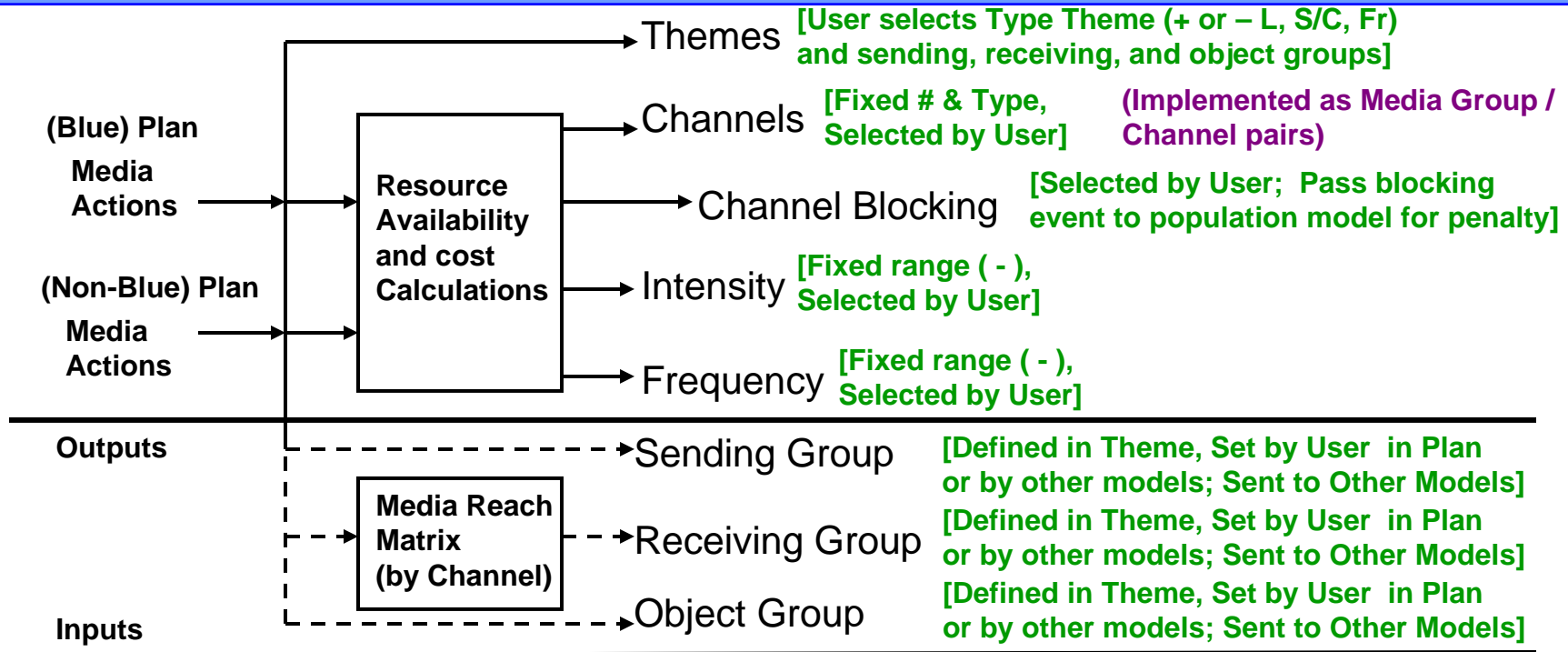
# 5 x 5 Perception Matrix Initialization Approach



# The Phase 1 Media Model



# Phase 2 Media Model



Intended Change in Attitude of Receiving Group

[Type of message theme Passed to other models]

Near-Term vs Long-term Effect

[Equation fixed by Modeler, Probably not be needed in final version]

Tone(s)

[Defined as an output value Based on media messages]

Violence Reduction Message

[Now feeds Population Attitude.]

Conditional Media Actions

[Not generated in Media Model, May be included in Non-Blue Plan]

Foreign Contacts

[Not generated in Media Model,

to bring Investment

Resolved entirely in Economics Model]