

Remote Collaboration



(c) 2020 Gates Matthew Stoner

Remote work

is the future of work

Alexis Ohanian, Reddit

Agenda

- Mediated Communication
- Meetings
- Collaborative Writing
- Decision Making



Technology
create new
affordances
but doesn't
radically
change group
dynamics



“A medium of communication has an important influence on the dissemination of knowledge over **space** and over **time** and it becomes necessary to study its **characteristics** in order to appraise its influence in its cultural setting.”

Harold Innis (1951)
The bias of communication

What is technology?

- Technology is **not** everything electronic
- Language is a tool of communication
- Technologies can be thought of as **tools**
- Tools impact society





Tools are neither good or bad, it depends how they are used.



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On tools



“The stories of man and his machines are inseparably woven together.... But even more crucially, the machines of man have strongly determined his very understanding of his world and hence himself.”

Joseph Weizenbaum

On tools

**“To a man with a
hammer, everything
looks like a nail”**

Mark Twain



On tools

Individuals with communication
and relationship problems in real
life find the same issues in their
online experience



Mediated Communication

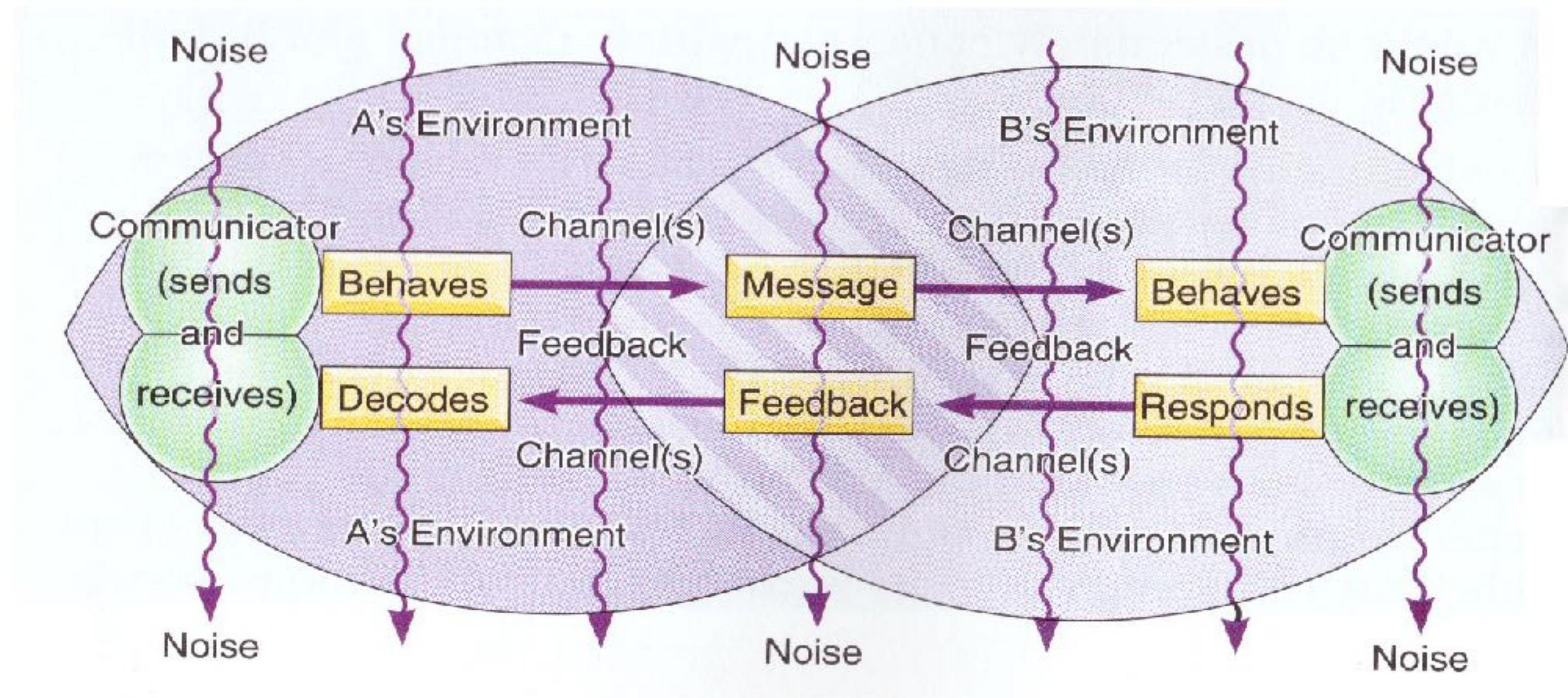


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Mediated Communication

- **Mediated communication** is “communication that involves a process by which a message, or communication, is transmitted via some form or medium” (Pavlik and McIntosh, 2004, pg. 70)
- **Unmediated** is defined as being “without the interposition of other agencies or conditions”

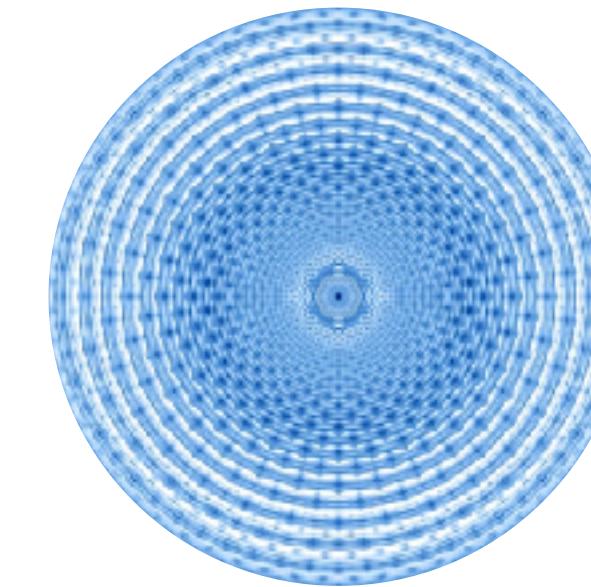
Communication Channel



Channel Structural Affordances



Richness



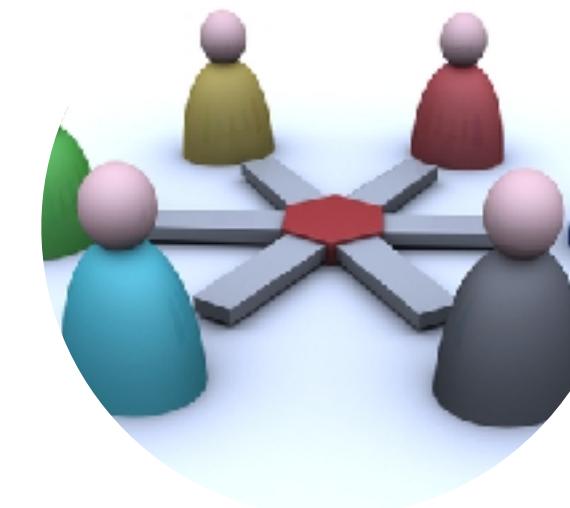
Synchronous



Immediacy



Proximity



Mutuality



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Channel Structural Affordances

- Communication channel ability to reproduce the information transmitted
- FtF being the most rich and text-based communication the leanest



Richness

Channel Structural Affordances

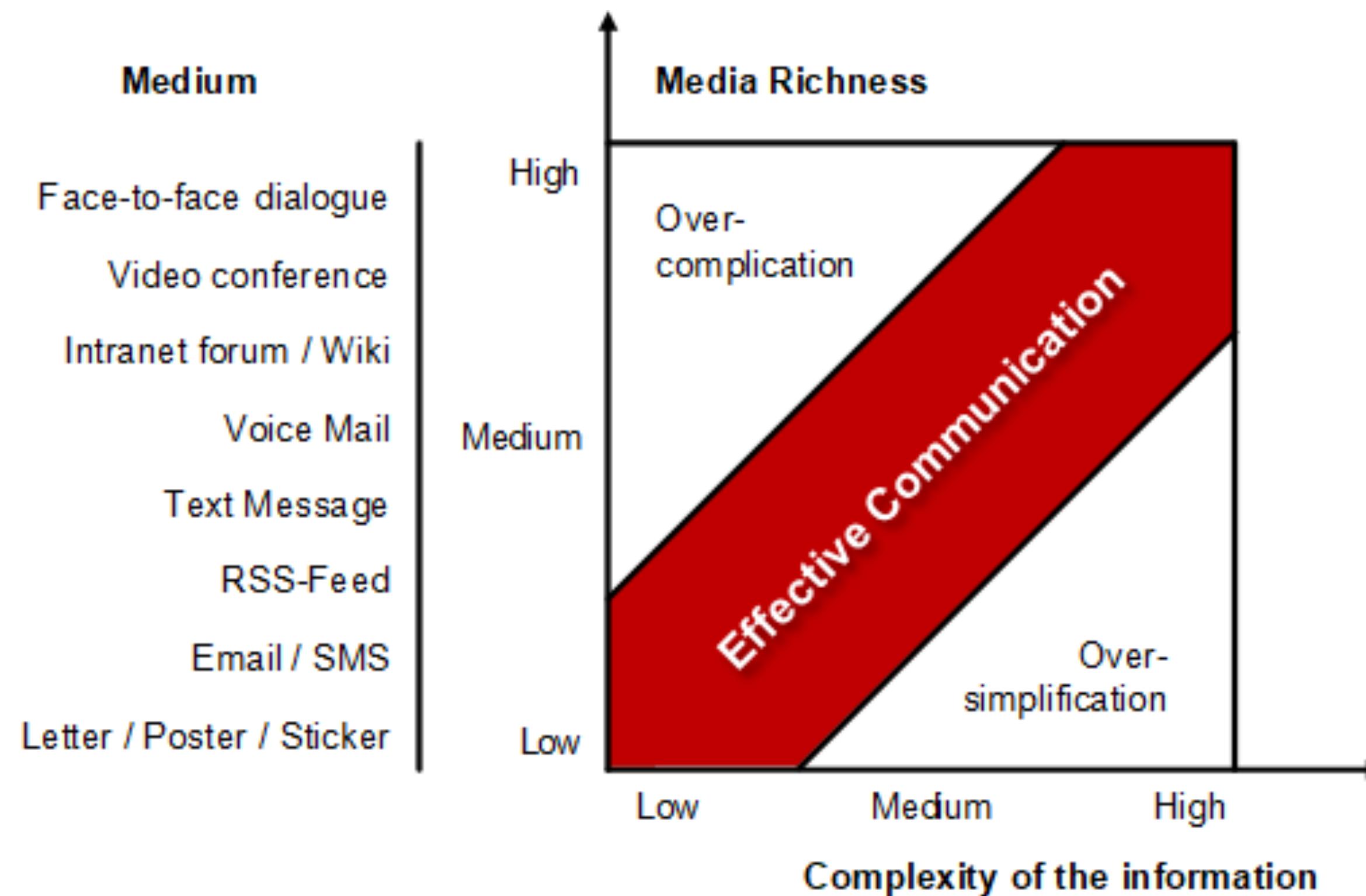
According to Media Richness Theory (Daft & Lengel):

- Ability to handle multiple information cues simultaneously
- Ability to facilitate rapid feedback
- Ability to establish a personal focus
- Ability to utilize natural language



Richness

Channel Structural Affordances



Media richness theory



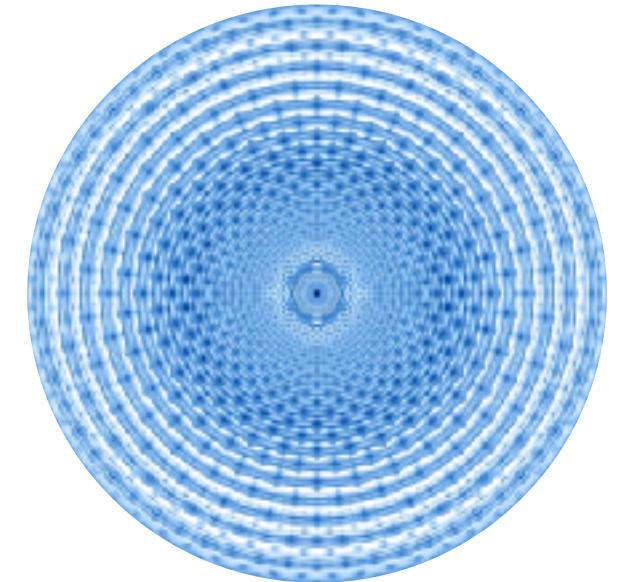
Richness



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Channel Structural Affordances

- **Synchronous channels** transmit communication in real time (FtF, Phone, Video)
- **Asynchronous channels** there is a delay (Email, Voicemail, Letters)
- Chat/SMS can be either. Depends on the interaction



Synchronous

Channel Structural Affordances

- ADD HERE



Immediacy

Channel Structural Affordances

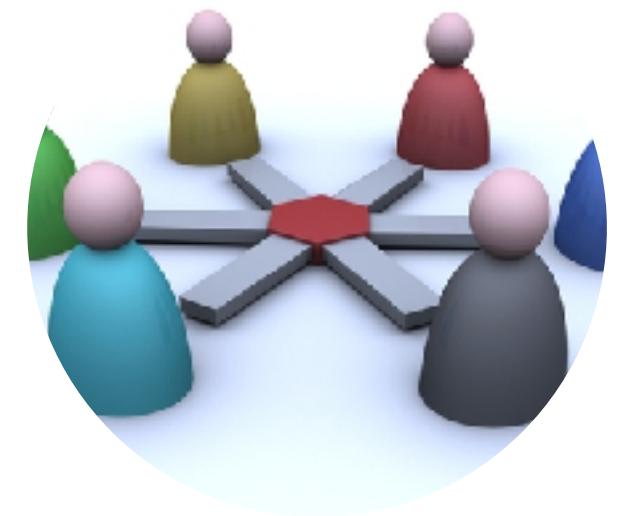
- Communicators can be colocated in the same space or separated by distance
- Psychological proximity (social presence)
- The nature of an interaction could dictate the use of a communication channel for its proximity affordances
- ***Have you ever texted someone next to you because you didn't want to be overheard?***



Proximity

Channel Structural Affordances

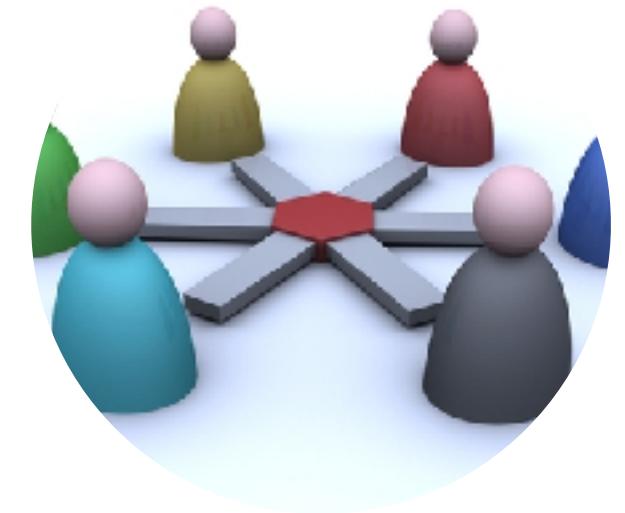
- **Definition:** the sharing of a feeling, action, or relationship between two or more parties
- Communication channels can enhance or diminish a sense of mutuality
- Vitriolic online communication is an example of ***low mutuality***



Mutuality

Channel Structural Affordances

- Some communication channels might be chosen for affording a greater sense of connectedness, such as video-mediated and FtF

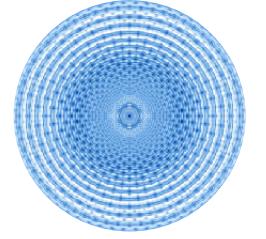


Mutuality

Channel Structural Affordances



Richness



Synchronous



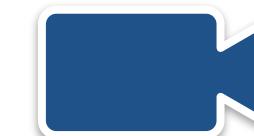
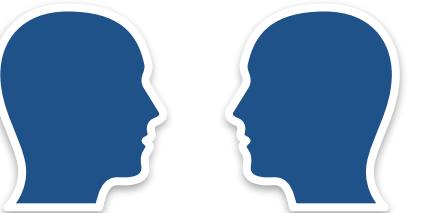
Immediacy



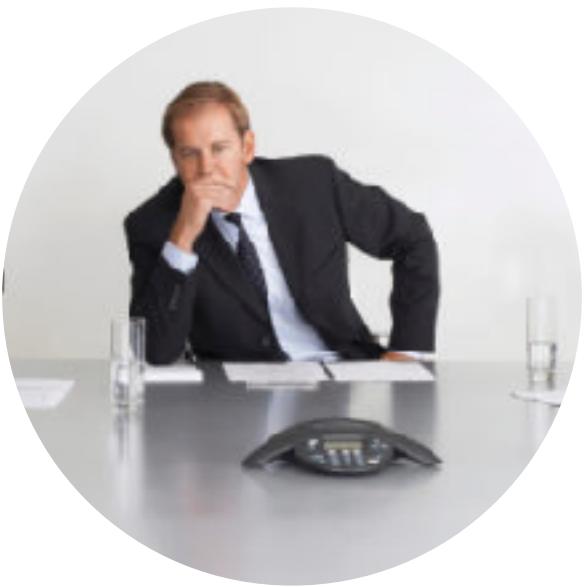
Proximity



Mutuality



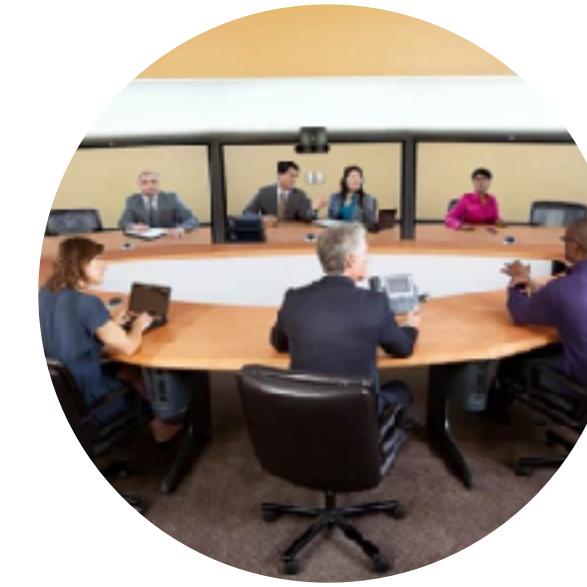
Remote Meetings



**Conference
Calls**



**Video
Conferencing**



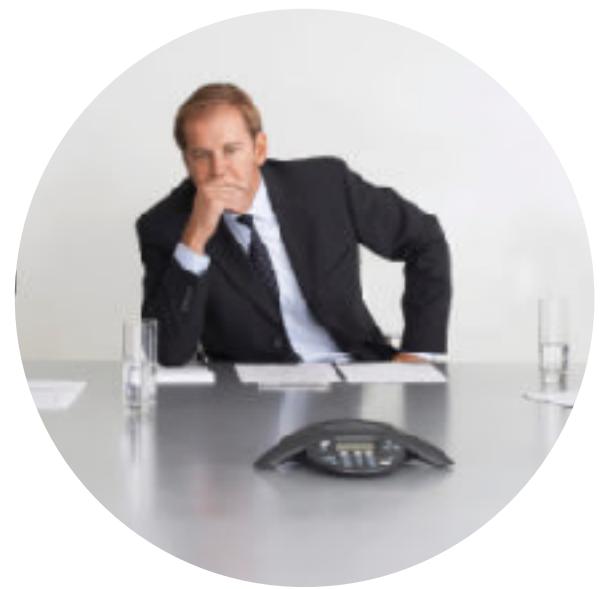
Telepresence

Remote Meetings



Remote Meetings

- Issues with turn taking
- No visual social or status cues
- Can facilitate greater task focus with reduced cognitive load from lack of visual channel
- Can improve decision making



**Conference
Calls**

Remote Meetings

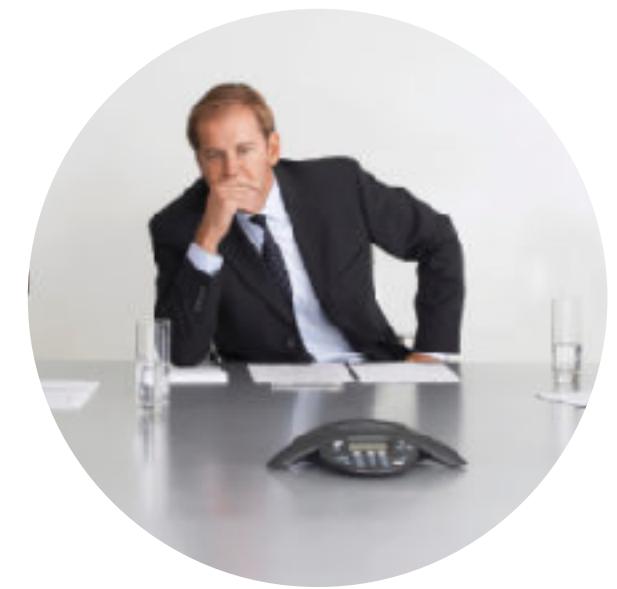
- Walther and Burgoon (1992) examined the “cues-filtered out” hypothesis of Cullnan and Markus (1987).
- They found contrary evidence that suggests an individual’s mediated communication behavior is not attributable to the lack of physical presence and ***any social cue is amplified in importance in CMC with the lack of physical presence and non-verbal communication.***



Conference
Calls

Remote Meetings

- Walther says we look to fill in the blanks with what cues are available
- Some cues that get ignored in FtF might **gain emphasis** in a mediated context



Conference
Calls

From Fiction to Reality

- Video mediated communication has long been envision, but only recently has become mainstream



Remote Meetings

- Issues with transmission fidelity and turn taking
- Similar social cues to FtF meetings but reduced proximity/mutuality
- Attention to visual channel increases cognitive load which can be a detriment to other processes, such as decision making



**Video
Conferencing**

Timeline

- Over time, image and signal fidelity have improved
- Migration from broadcast to internet transmission



NASA



- One-way
- Huge latency
- TV broadcast signal



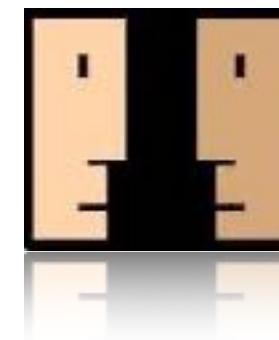
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Picture Tel



- First two-way communication meeting solution
- Very expensive
- For corporate users
- Bandwidth issues

CU-See Me



- Developed at CMU
- Low grade fidelity
- First computer-mediated video system





- Computer based video mediated communication for the masses
- Improved in broadband access improved fidelity & latency
- Still considered a novelty at the time

Mobile Video

- Initial bandwidth limitations
- Privacy issues in public spaces
- Novelty factor



Zoom

- Initial beta in 2012 with 15 participant limit for meeting
- Competitor for Skype
- Adoption dramatically increased in 2020

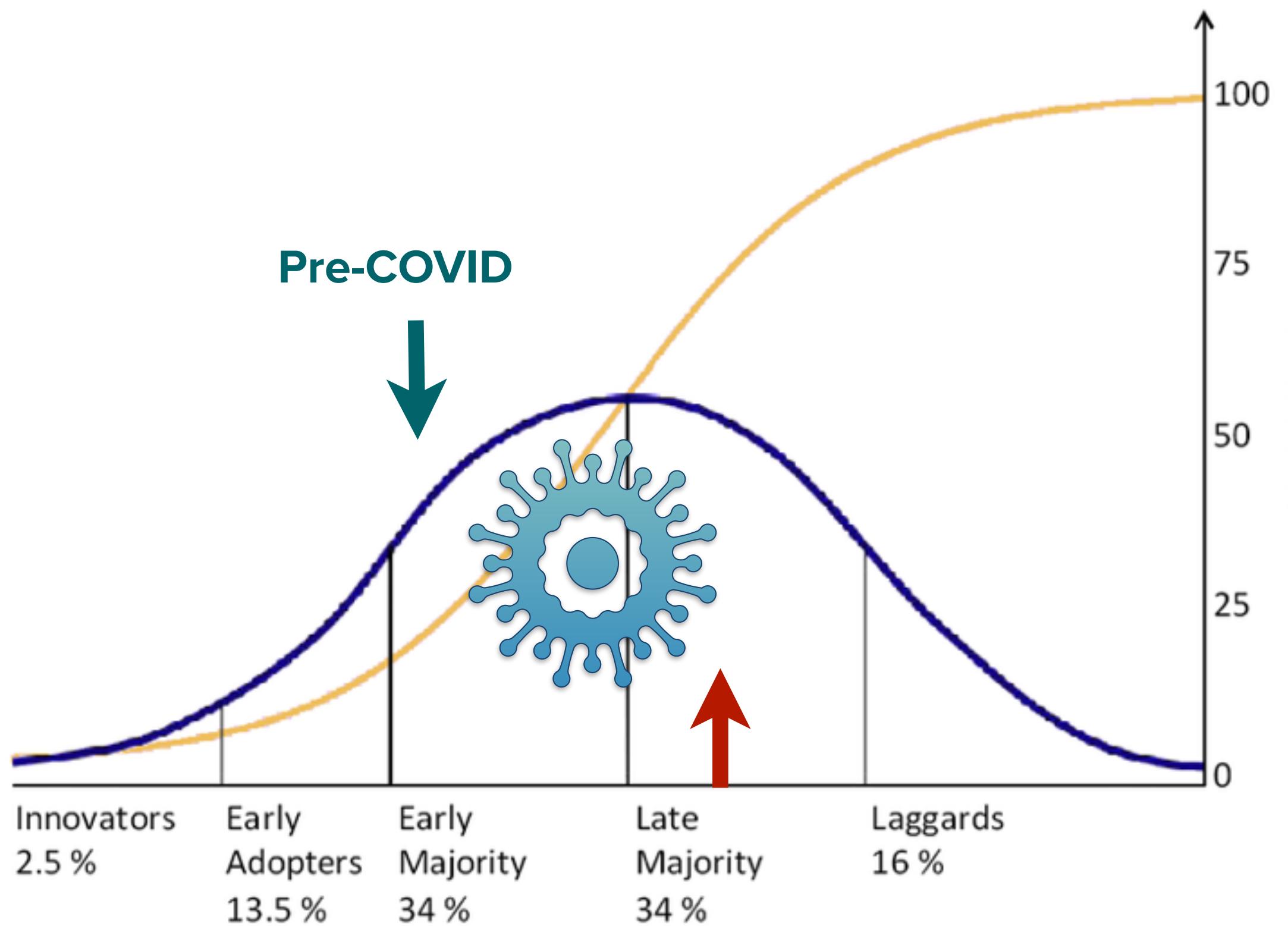


zoom



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S-Curve of Adoption



- Circumstances of the last 6 months dramatically increased the adoption of remote meetings due to necessity



Remote Meetings

- Telepresence is similar to video conference but participants are shown in near fidelity to real size
- Required special rooms calls tele suites
- Adoption was limited



Telepresence

Remote Meetings

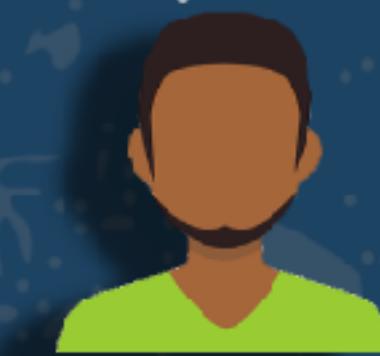
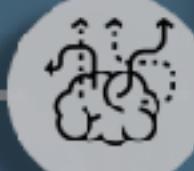
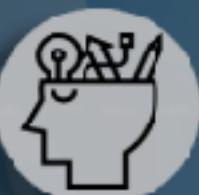
- Technology has increased in capacity to provide greater affordances of FtF interaction
- *Does seeing other individuals in life-size really matter?*
- Are social cues a plus or minus?



Telepresence



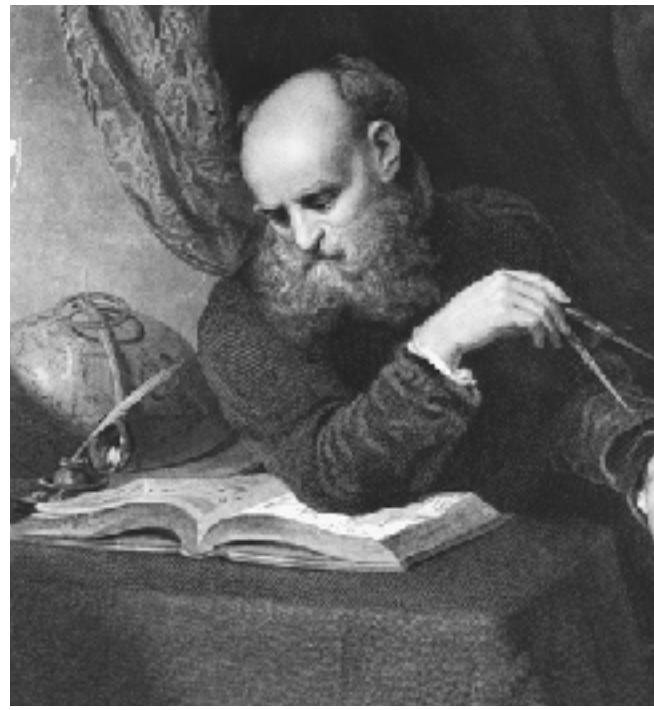
Collaborative Writing



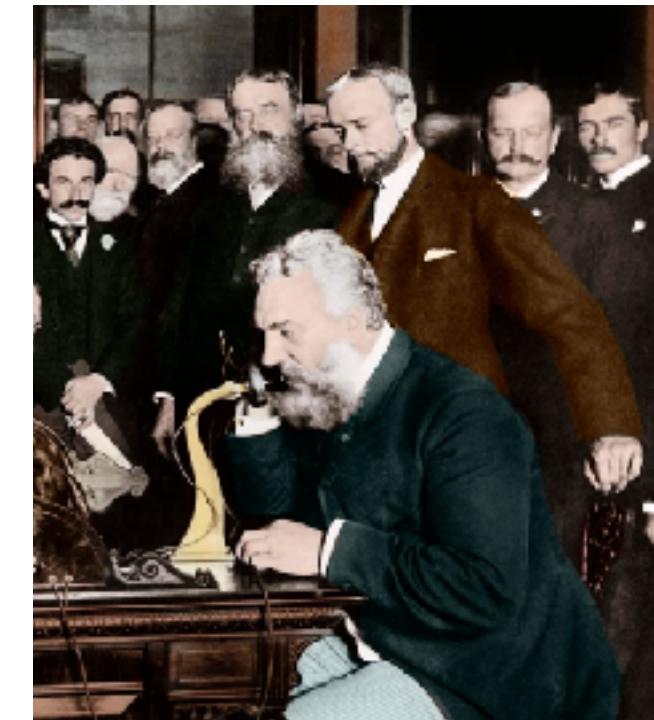
History of Collaborative Writing



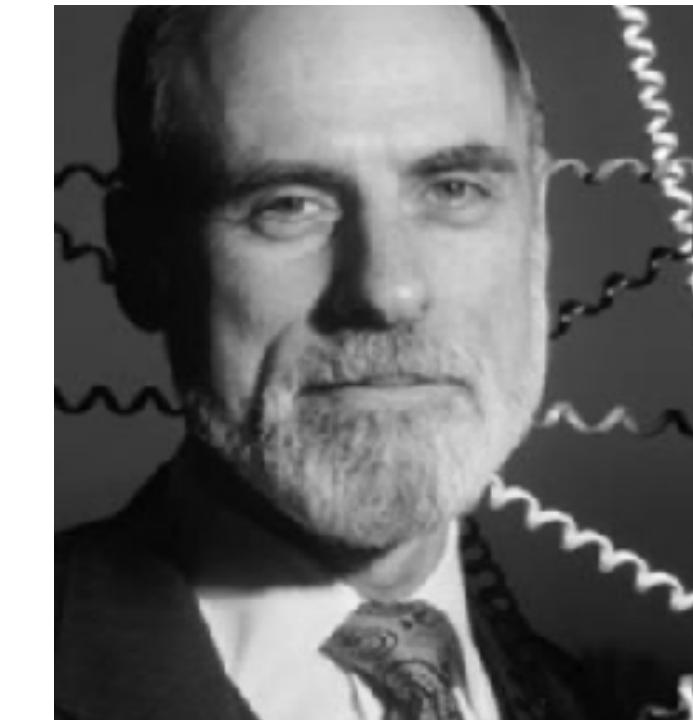
Scrolls



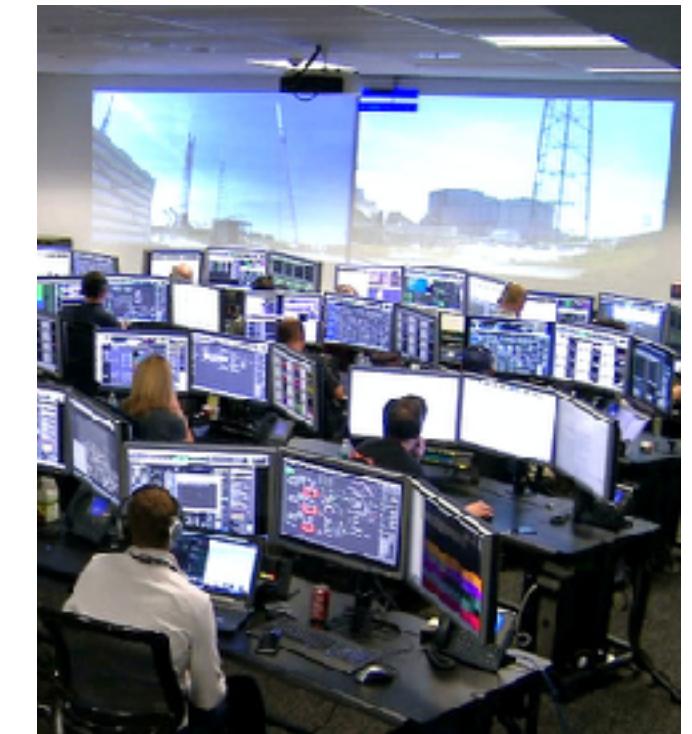
Books



Phone



Arpanet



Internet 2.0

Changes in time and space



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Shared editing tools

- Collaborative writing has evolved over time with new technologies
- Exchanging drafts on paper or electronically
- Google Docs is an example of a group writing tool
 - Can be used synchronously or asynchronously

Asynchronous		Synchronous	
Advantages	Disdvantages	Advantages	Disdvantages
<p>Message composition</p> <p>Editing for clarity and understanding</p> <p>Potential to avoid spontaneous reactions</p>	<p>Lack of immediate feedback</p> <p>Without feedback, chance increase for misunderstanding</p> <p>Unknown when message will be received, if at all</p>	<p>Immediate feedback</p> <p>Other than IM/text, channel richness</p>	<p>Speech disfluencies</p> <p>Can't take back a message</p> <p>Noise from multiple authors</p>



Decision Making



FtF versus Mediated

- Mediated groups can perform at or exceed FtF groups
- FtF groups can perform at or less than other FtF groups
- The point is mediation is only **one** factor in group success

FtF versus Mediated

- There is no denying that mediation add some complexity to group interaction
- Mediation can also reduce “noise” which may lead to optimal outcomes (e.g. audio only)

Cognitive Load

- FtF and Video Mediated interaction require more cognitive load
 - Impression mgmt
 - Monitoring behavior
 - Attention to visual cues
- Finite cognitive resources available
- Resources allocation to visual takes away from other functions

We like to give people
the freedom to work
where they want, safe
in the knowledge that
they have the drive
and expertise to
perform excellently,
whether they are at
their desk or in their
kitchen. Yours truly
has never worked out
of an office, and never
will.

Sir Richard Branson, Virgin America



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