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CMS.608 / CMS.864 Game Design
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Information as a measure of uncertainty (possibility space)

Information = freedom?

Information - Choice – degrees of freedom

Uncertainty - Noise + Information

Noise is not actually bad, especially for games!

Inefficiency as a source of fun.

Applications of Noise – Obfuscation, encryption,
misdirection

Obfuscation as a means of introducing noise, as well as
communication constraints. Codes and encryption.

Pictionary/charades

Misdirection - Decision making as a source of noise
(deliberate or accidental bluffing, wild-goose chases)

Redundancy opposes noise. Error correction, referees,
photo-finishes,

Information as a commodity (knowledge)

Something that can be traded?

Perfect and imperfect information (has nothing to do with
“uncertainty”)

Pearce:

Known to all

Known to one

Hidden to all

Random

Exercise: Clue

Where does probabilistic information lie? (Say, the remaining cards of a deck)

What about rules? Are they information?

What about rules you discover midway? (Fluid, Fluxx, computer games)

What about the hidden cards in Clue?

How does memory fit in this?

How about player computational power?

Games with decreasing uncertainty?

Zimmerman: Objective and perceived information – is this a useful distinction?

Is objective information just Shannon's "information", a measure of uncertainty?

If a limited resource has been played (trumps, Scrabble letters), how has uncertainty changed? How does this affect Shannon's possibility space? Your access to "perceived information"?

Tactics versus strategy

Managing information overload (Transparency versus confusion)

The transformative power of hidden information

New information as a source of changing strategies and goals

But also the source of possible confusion (conflicting models of information)

What about being able to distinguish secret, but valid information from misinformation (or noise)?

Guessing games

Sudoku vs Crosswords

Mastermind

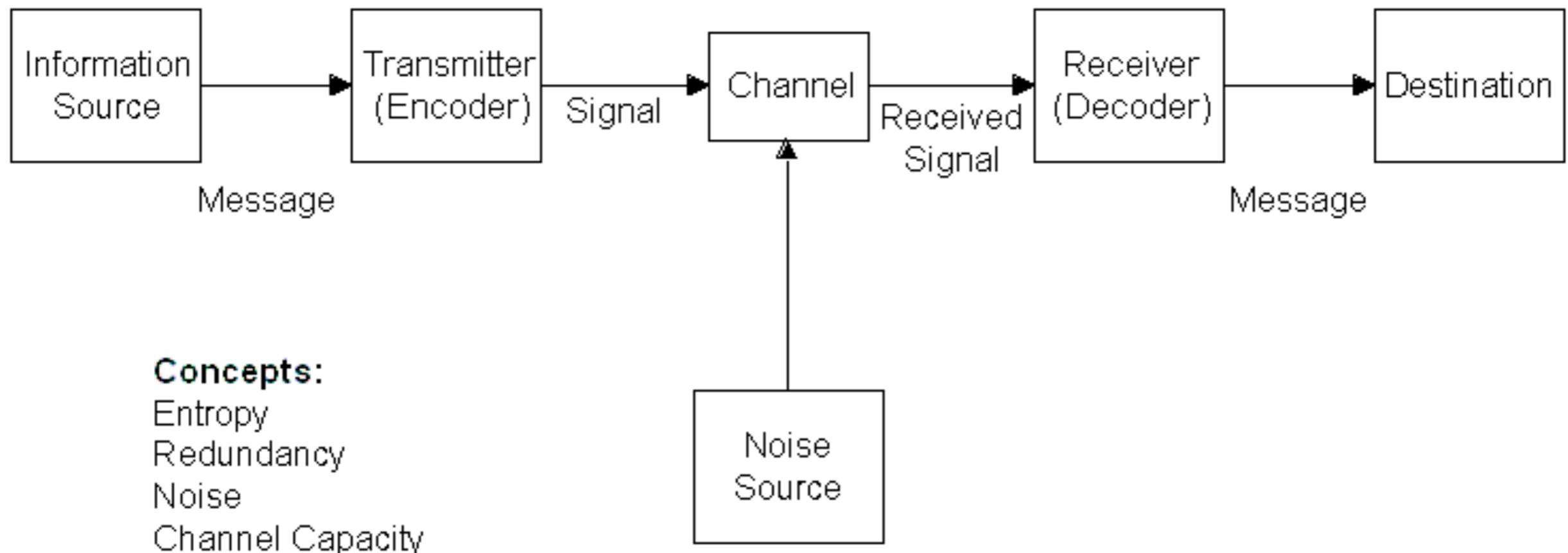
Picross

Hangman

RPS variants

Don't forget Friday Games at GAMBIT

The Shannon-Weaver Mathematical Model, 1949



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 5 | 3 | | | 7 | | | | |
| 6 | | | 1 | 9 | 5 | | | |
| | 9 | 8 | | | | | 6 | |
| 8 | | | | 6 | | | | 3 |
| 4 | | | 8 | | 3 | | | 1 |
| 7 | | | | 2 | | | | 6 |
| | 6 | | | | | 2 | 8 | |
| | | | 4 | 1 | 9 | | | 5 |
| | | | | 8 | | | 7 | 9 |

RPS variant I

- Play continual rounds of rock-paper-scissors
- Do not throw the same symbol twice in a row
- Win 3 rounds to win the game, ties don't count

RPS variant 2

- Hold one hand behind your back
- Choose rock, paper, or scissors with the hidden hand
- Play continual rounds of RPS with your other hand
- Do not throw your hidden symbol twice in a row

RPS variant 3

- Hold one hand behind your back
- Choose rock, paper, or scissors with the hidden hand
- Play continual rounds of RPS with your other hand
- Only your hidden symbol can be thrown twice in a row