The aim of communication is to reduce uncertainty.

- Explanation
- Prediction
- Control

The more complex the process, the greater the level of uncertainty.

More people = More complexity = More uncertainty = Greater need to theorize to uncertainty

### Relationship of Group Members to Number of Interpersonal Relationships

<table>
<thead>
<tr>
<th>Number of Group Members</th>
<th>Number of Relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>25</td>
</tr>
<tr>
<td>5</td>
<td>90</td>
</tr>
<tr>
<td>6</td>
<td>301</td>
</tr>
<tr>
<td>7</td>
<td>966</td>
</tr>
</tbody>
</table>

Kephart, 1950

### Theoretical Perspectives to Describe/Predict Group Behavior

- **Social Exchange Theory** - Thibault and Kelley (1952)
- **Symbolic Convergence Theory** - Bormann (1992)
- **Structuration Theory** - Dickson, Poole & DeSanctis (1992)
- **Functional Theory** – Hirokawa & Gouran (1983)
- **Systems Theory** - Ludwig Von Bertalanffy (1950)
What is a System and what does it have to do with Small Groups?

A System is a set of interconnected parts working together to form a whole in the context of a changing environment.

Systems theory provides a framework to help us keep track of all the individual elements and components of a small group as they interact as a complex whole. Rothwell, 2017

Elements of Systems Theory

- Interdependence - parts of a system do not work in isolation but continuously affect each other, as well as the system as a whole.

- Ripple effect - one part can have a significant impact on the whole (chain reaction)

Brilhart & Gilanes, 1997

Elements of Systems Theory (continued)

- Nonsummativity (synergy) - the whole system is not just a sum of its parts
  - Positive synergy
  - Negative synergy

- Multiple causation - whatever happens is not the result of a single, simple cause, but is produced by complex relationships among multiple sources

(continued)
Elements of a System:

Variables

- Individual-level - properties of the *individual* members
- System-level - characteristics of the *group as a whole*
- Entropy
- Equifinality
- Feedback
- Environment

(continued)

Elements of a System:

Variables (continued)

- Entropy – measure of randomness or chaos in a system
- Equifinality – the system’s final state may be reached by multiple paths and from different initial states (there is more than one way to reach the goal)

(continued)

Elements of a System

(continued)

- Feedback - response to the output
- Environment - the setting in which the group exists
  - Open versus Closed Systems - how much does the group interact with its environment?
  - Boundary spanners - members who constantly monitor the group’s environment to bring in or export needed resources

continued
Openness in a System

- **Openness** - continuous interaction with the outside environment
- An open system has to "change" with input from the environment
  - Degree of change
  - Rate of change
  - Desirability of change

Boundaries

- Boundaries regulate how open the system is (exposure to the change)
- Boundary control is necessary
Methods of Boundary Control

- Physical barriers
- Psychological barriers
- Linguistic barriers (argot and jargon)
- Rules
- Roles
- Networks