


# Communication

exchange of information between individuals or what else?


*Information transmission*

## Signals



A signal is a behavior or character evolved to transmit information

## Cues



Cues inadvertently transmit information, but primarily have another function

*Information transmission*


## What information is transmitted?

- About the environment
- About own attributes (strength, age, etc.)
- About own intentions

*Information transmission*

### Information about the environment


Rare – only if cooperation or reciprocity



*Information transmission*

### Information about own attributes


Common in sexual selection and also resource contests



*Information transmission*

### Information about own intentions

Mostly in social groups, in contests or bonding



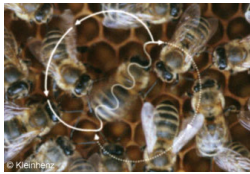
*Communication*

## Different categories of communication


- Communication between individuals that have common interests
- Communication between individuals with different interests

*Communication*

### Common interests




### Different interests



*Communication*

In most cases, individuals have different interests:



## Mind-reading & Manipulation



manipulative  
exaggerated  
loud

*Communication (different interests)*

### exaggerated






- so the receiver will be manipulated into doing something

*Evolution of communication*



**Signaller is exploiting a sensory bias on part of the receiver!**


(i.e. receiver was already sensitive to cues given by signaller)

*Communication (same interests)*



### sensitive




- so information is transmitted at minimal cost


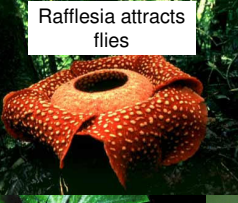



*Communication*

<p><b>Common interests</b></p>  <p>efficient no noise sensitive</p>	<p><b>Different interests</b></p>  <p>manipulative exaggerated loud</p>
--	--

*Communication between species*



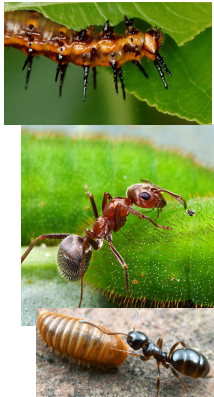
*Communication between species*

<p>Orchid attracts male bees</p> 	<p>Rafflesia attracts flies</p> 	<p>Plants produce allomones</p> 
<p>Monarch displays chemical defenses</p> 	<p>Springbok – stotting to escape cheetahs</p> 	

*Communication between species*

**Chemical signals**

- Hormones – between cells in one organism
- Pheromones – between individuals of the same species
- Allomones – between individuals of different species: benefit producer
- Kairomones – between individuals of different species: benefit receiver



*Summary*

**Communication**

- Information can be passed on by inadvertent cues or specific signals
- If communication is between individuals with different interests, these often try to manipulate each other
- It is not always obvious why signals are honest