

COMMON SALIENCE

Bart Geurts



What is the name of this flower?

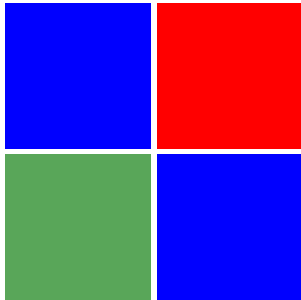
- 1 Reference and salience
- 2 Definite descriptions
- 3 Coordination games
- 4 Definite descriptions

- (1) [Noise overhead.] It's the heating coming on.
- (2) Vladimir doesn't like spinach. He ...

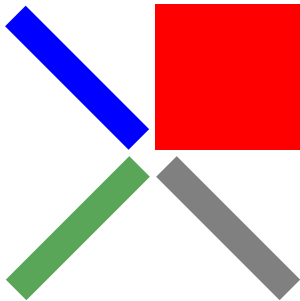
Compare:

- (3) Vladimir doesn't like spinach. I ...

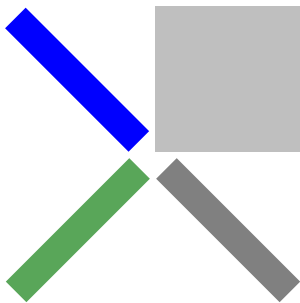
- (1) A car's coming up to the junction and he starts to turn right.
- (2) John bled so much it soaked through his bandage and stained his shirt.
- (3) Maxine was kidnapped but they didn't hurt her.



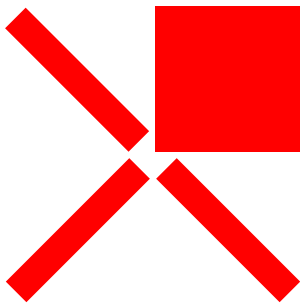
“Click on... the red square.”



“Click on... the red square.”



“Click on... the square.”



“Click on... the red square.”

(1) The book is on the table.

RUSSELLIAN ANALYSIS:

(2) “There is one and only one book, and it is on the table.”



(3) Look at the square with the dot:



“The proper treatment of descriptions must be more like this: ‘the F’ denotes x if and only if x is the most salient F in the domain of discourse, according to some contextually determined salience ranking.” (Lewis 1979)

- The hearer first has to identify the Fs in the context, and then pick the most salient one from that set.

So: The intended referent need not be particularly salient.



In the park. A park keeper has just checked the pond and has been watched by the grandmother. The child is getting ready to go home with its grandmother. (Bosch et al. 2011)

By definition, x is more salient than y iff x attracts more attention, or is more likely to draw attention, than y .

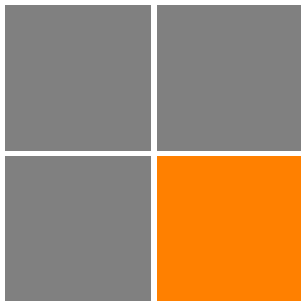
But *whose* attention are we talking about?

- Subjective salience: “This is salient for *me*.”
- Common salience: “This is salient for *us*.”
- * Common salience is the relevant notion for understanding communication.
- * What is common salience, and how does it relate to subjective salience?

- Players have to coordinate their actions without communicating with one another, and sometimes without even knowing each other.
- No alternative is intrinsically better than any other.
- Interests are aligned.
- People are remarkably good at finding salient solutions (“focal points”) in this type of task.

“You are to meet somebody in New York City. You have not been instructed where to meet; you have no prior understanding with the person on where to meet; and you cannot communicate with each other. You are simply told that you will have to guess where to meet **and that he is being told the same thing** and that you will just have to try to make your guesses coincide.” (Schelling 1960)

Modal guess ($> 50\%$): Grand Central Station.



“Pick the same square as the other player.”

Example: “Name any flower.”

- **SUBJECTIVE CONDITION:** You may respond to these questions in any way you wish.
- **COMMON CONDITION:** You have been paired with one other person in this room. These pairings have been made at random, and you will never know who you have been paired with. [...] Your objective is to give the same answer as the person with whom you have been paired.

SUBJECTIVE		COMMON	
Rose	35.2	Rose	66.7
Daffodil	13.6	Daisy	13.3
Daisy	10.2	Daffodil	6.7
Tulip	9.1		

“Name any flower.”

SUBJECTIVE		COMMON	
Blue	38.6	Red	58.9
Red	33.0	Blue	27.8
Green	12.5		

“Write down any colour.”

SUBJECTIVE		COMMON	
7	11.4	1	40.0
2	10.2	7	14.4
10	5.7	10	13.3
1	4.5	2	11.1

“Write down any positive number.”

SUBJECTIVE		COMMON	
1971	8.0	1990	61.1
1990	6.8	2000	11.1
2000	6.8	1969	5.6
1968	5.7		

“Write down any year.”

- There is a dissociation between subjective and common salience.
- The mean subjective salience of an alternative is always lower than its mean common salience.

TWO ISSUES:

- How do people estimate common salience?
- Is this a rational strategy for solving coordination problems?

- It is common knowledge between players that each wants to choose the same as the other, and that this is the only thing that counts.
- Best strategy for each player:

Choose on the basis of an attribute that:

- 1 separates one alternative from all others and
- 2 is the most salient for the other player (i.e., most likely to draw his attention).

 This attribute need not be very salient for either player.

- It is common knowledge between players that each wants to choose the same as the other, and that this is the only thing that counts.
- Best strategy for each player:

Choose on the basis of an attribute that **is such that it is maximally likely that the other player will judge it common knowledge that the attribute in question:**

- 1** separates one alternative from all others and
- 2** is the most salient for the other player (i.e., most likely to draw his attention).

 This attribute need not be very salient for either player.

It is common knowledge between A and B that:

- i.* There are three alternatives: k_1, k_2, k_3 .
 - ii.* The subjective salience ordering for A is: $k_1 < k_2 < k_3$.
 - iii.* The subjective salience ordering for B is: $k_3 < k_2 < k_1$.
-

- 1 If possible, A and B should pick k_3 and k_1 , respectively.
- 2 But $k_3 \neq k_1$ and therefore at least one of them must pick an alternative that is not maximally salient for the other.
- 3 Thus, they both arrive at k_2 .

- Common knowledge is a key part of the story.
- A and B have common knowledge that p if and only if:

A knows that p

B knows that p

A knows that B knows that p

B knows that A knows that p

A knows that B knows that A knows that p B knows that A knows that B knows that p

⋮

⋮

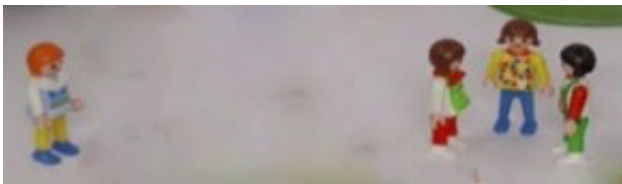
Analysing the interplay between these notions is not easy.

- If saliency (of an alternative) for A is high, then it may be common knowledge between A and B that this is so.
- If saliency for A is low, it is not so clear that this is so.
- Example: A is a number buff, B is not:
 - 1 is the first positive number.
 - 2 is the first prime number.
 - 6 is the first perfect number.
- Can it be common knowledge that saliency is high for A alone?

- Recall Lewis's analysis:
 - "The F" denotes x if and only if x is the most salient F in the domain of discourse.
- Proposal: salience = common salience.
- An utterance of a definite description initiates a coordination game, whose goal is for S and H to align on the same referent.
- But there is a twist: S has made his choice already.
- This kind of coordination is characteristic of linguistic communication.
- Communication is a joint project.



“the child”



“the children”



“the child”

An argument that it isn't (Gilbert 1989):

- Suppose that k is salient for A and B, and that this is common knowledge between them.
- The mere fact that an option is salient doesn't give one a *reason* for choosing it.
- For either player it is rational to choose k only if he has reason to believe that the other player will choose k .
- Thus A and B are drawn into an infinite regress that offers neither of them a valid basis for rational choice.

- Even if salience reasoning is not rational, it might still be correct as a psychological account.
- Gilbert's standard of rationality is too strict.
- Everyday reasoning and decision making fall short of being fully rational: our rationality is bounded.
- That being so, it is *fully* rational to take into account each other's *bounded* rationality.