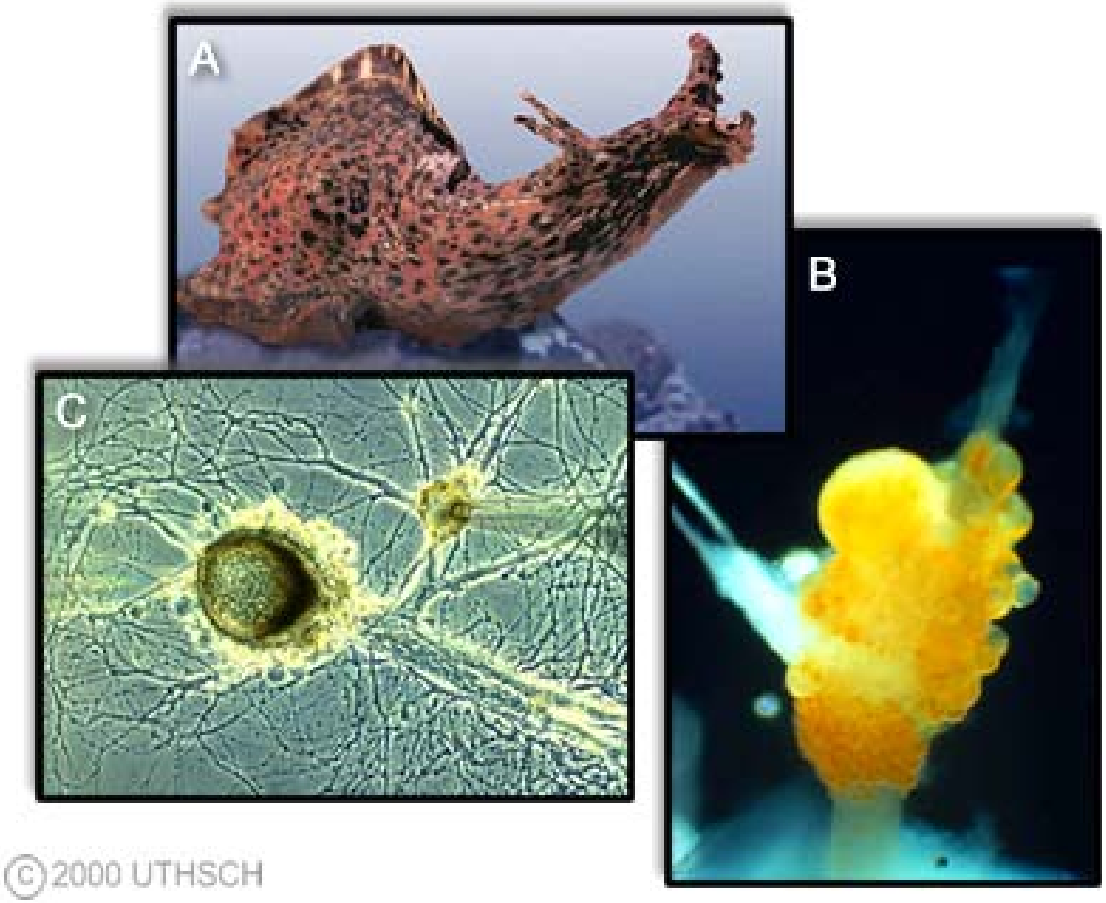
记忆



Eric Kandel, 2000

记忆的模型

- 多个, Atkinson and Shiffrin (1968)

- 单个,Cowan, 1995

多重记忆

- 分类
  - 观念
  - 生物

- 容量
  - 不同的类型
  - 为什么人不能过目不忘?
    - 优势
    - 训练
    - 转移

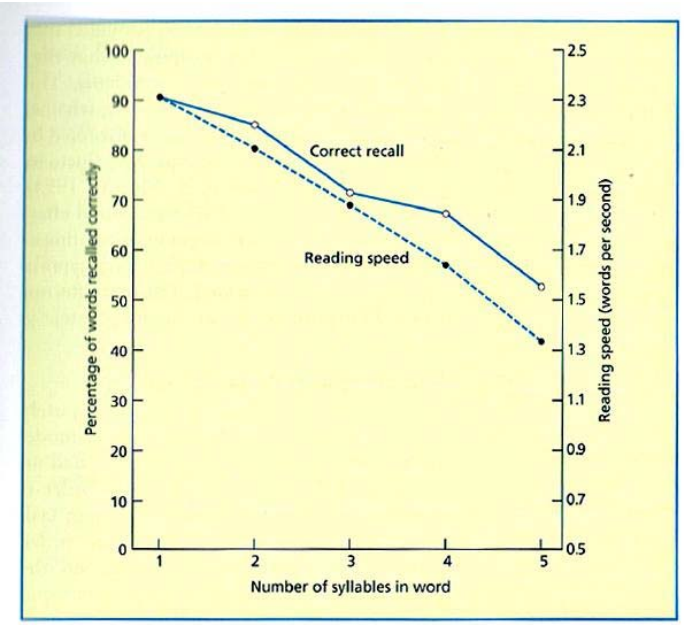


Figure 2.5 The relationship between word length, reading rate, and recall. Long words take longer to rehearse and also produce lower memory spans. From Baddeley, Thomson, and Buchanan (1975).

第三种?

- 工作记忆

记忆的主要两个内容

- 产生
- 遗忘

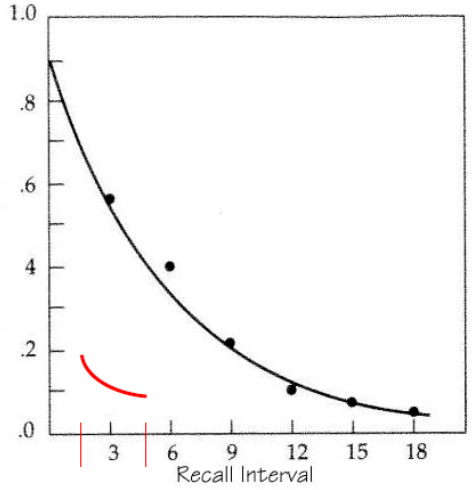
Brown & Peterson-Peterson 任务

“记住下列组合”

倒叙 3s

397
394
391
298
295
…

“回忆.”



短期记忆的维持

- 重复
  - 长度效应
  - 听觉效应
- 编码
  - 意义效应
  - 组块

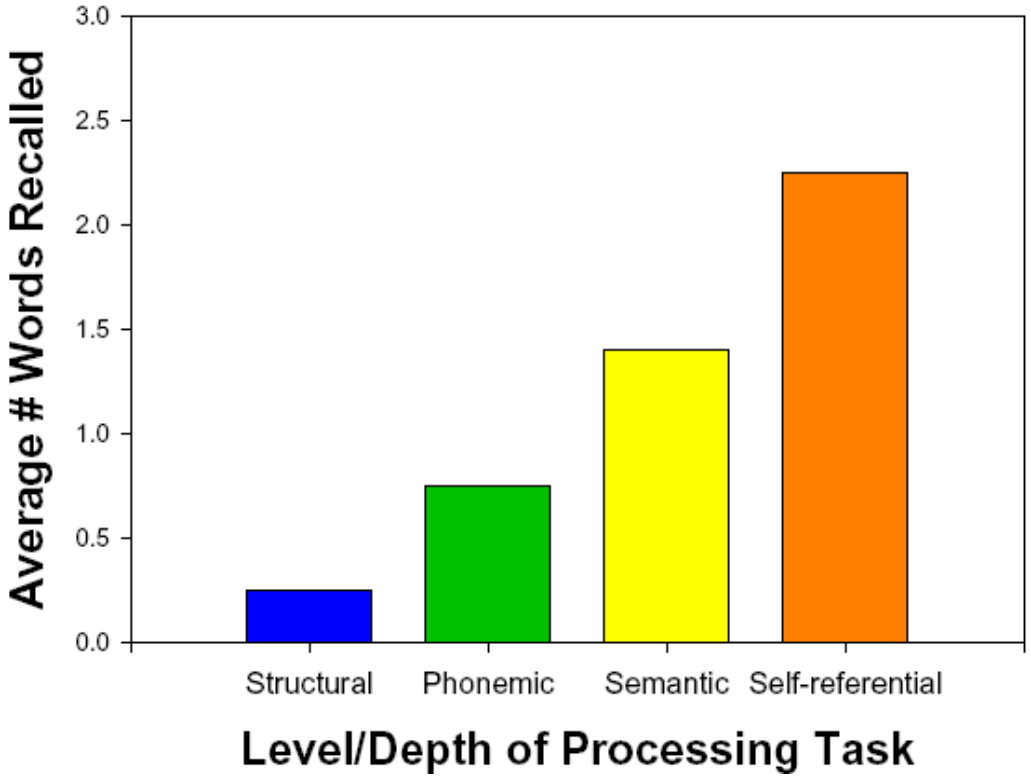
MEMORY TEST

Response Letter \ Stimulus Letter	B	C	P	T	V	F	M	N	S	X
B	•	18	62	5	83	12	9	3	2	0
C	13	•	27	18	55	15	3	12	35	7
P	102	18	•	24	40	15	8	8	7	7
T	30	46	79	•	38	18	14	14	8	10
V	56	32	30	14	•	21	15	11	11	5
F	6	8	14	5	31	•	12	13	131	16
M	12	6	8	5	20	16	•	146	15	5
N	11	7	5	1	19	28	167	•	24	5
S	7	21	11	2	9	37	4	12	•	16
X	3	7	2	2	11	30	10	11	59	•

LISTENING TEST

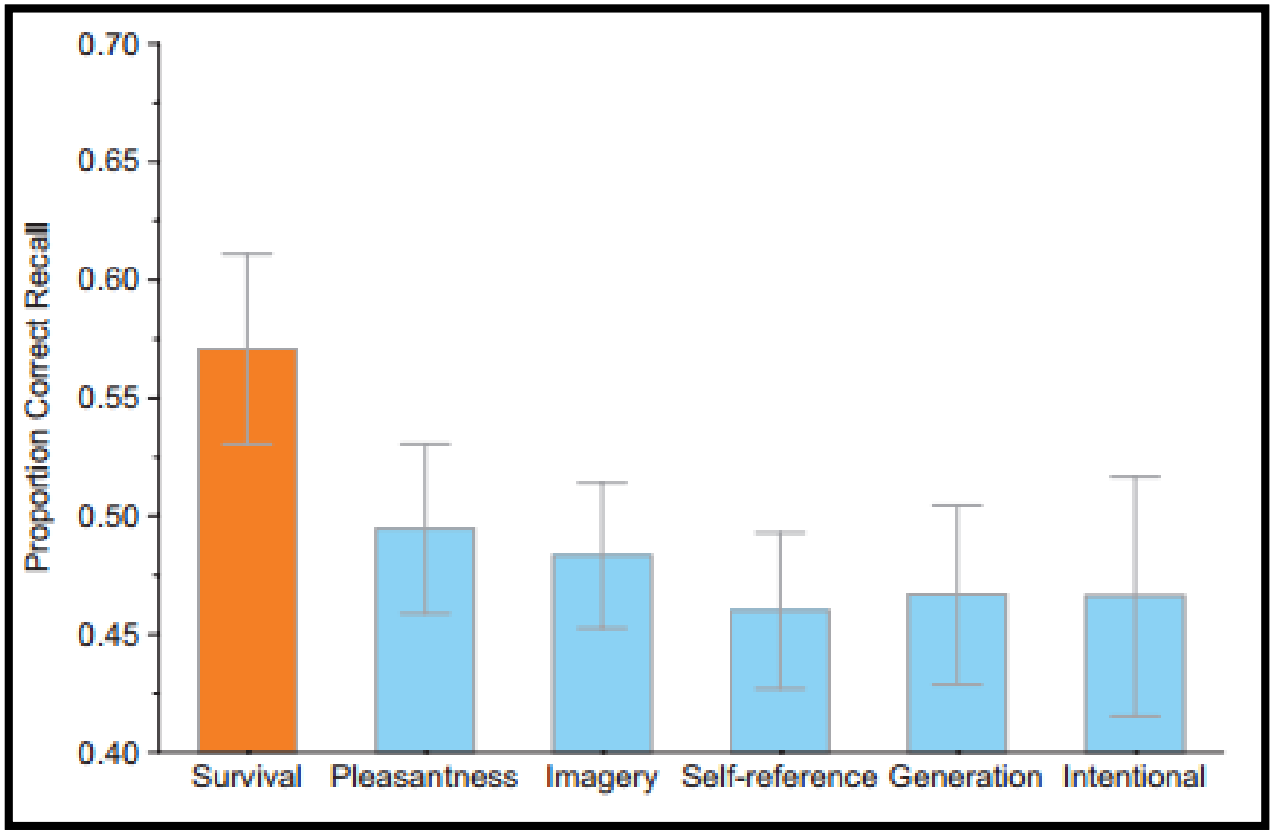
Response Letter \ Stimulus Letter	B	C	P	T	V	F	M	N	S	X
B	•	171	75	84	168	2	11	10	2	2
C	32	•	35	42	20	4	4	5	2	5
P	162	350	•	505	91	11	31	23	5	5
T	143	232	281	•	50	14	12	11	8	5
V	122	61	34	22	•	1	8	11	1	0
F	6	4	2	4	3	•	13	8	336	238
M	10	14	2	3	4	22	•	334	21	9
N	13	21	6	9	20	32	512	•	38	14
S	2	18	2	7	3	488	23	11	•	391
X	1	6	2	2	1	245	2	1	184	•

处理深度

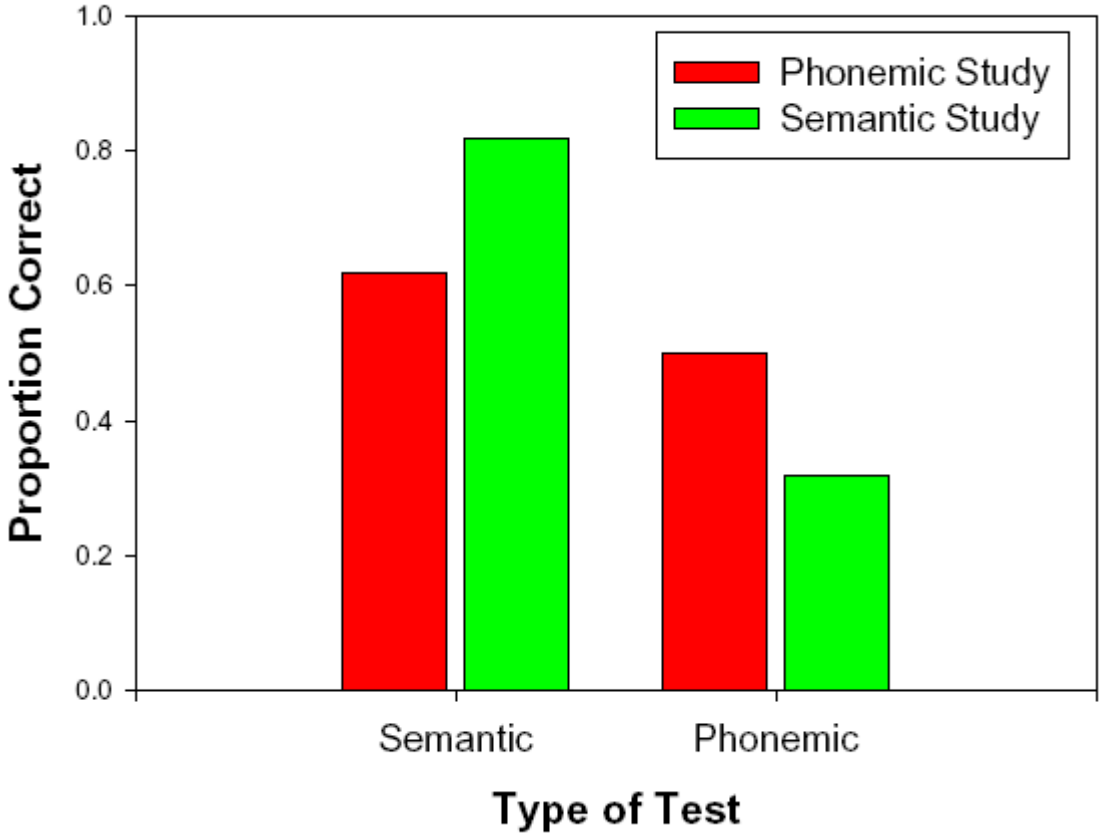


Rogers, Kuiper, & Kirker (1977)

不同的类别 (Nairne & Pandeirada, 2008)



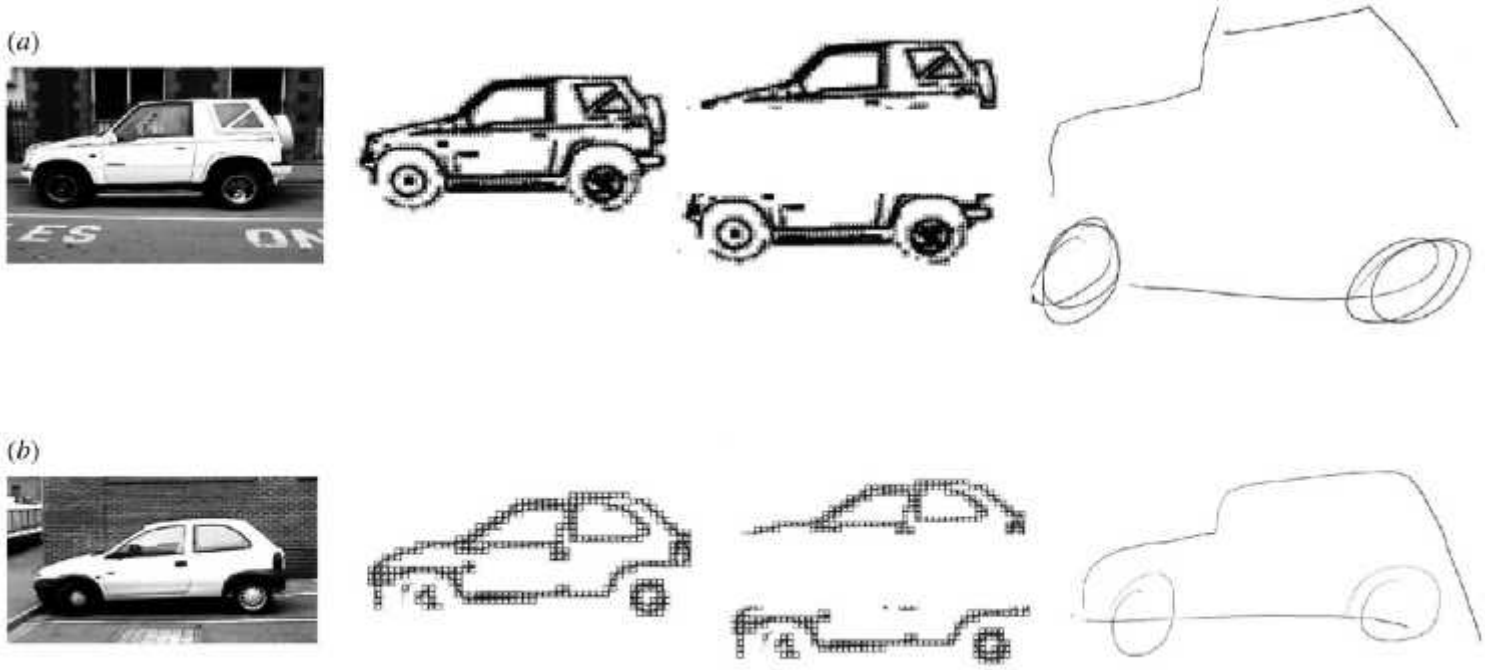
加工深度理论的问题



TEST	STUDY: Seman	STUDY: Phonem.
Sem	++	+
Phon	+	++

Morris, Bransford, & Franks (1977)

盲人



记忆的衰退 vs 失亿

- 失忆不是想象的那样:
  - W. Ritchie Russell and P. W. Nathan (1946)
  - 生活在现在还是过去？

  - 阿兹海默

记忆的衰退 vs 失亿

- 没有加工
- 时间
- 回忆线索
- 干扰

短期记忆与长期记忆结构的差别

- 平行搜索
  - 所有的内容都是平等的

- **搜索
  - 不是所有内容都是平等的

干扰

狗 – 椅子

人 – 房子

牛 – 树

干扰

狗 – 沙发

人 – 草地

牛 – 篱笆

干扰

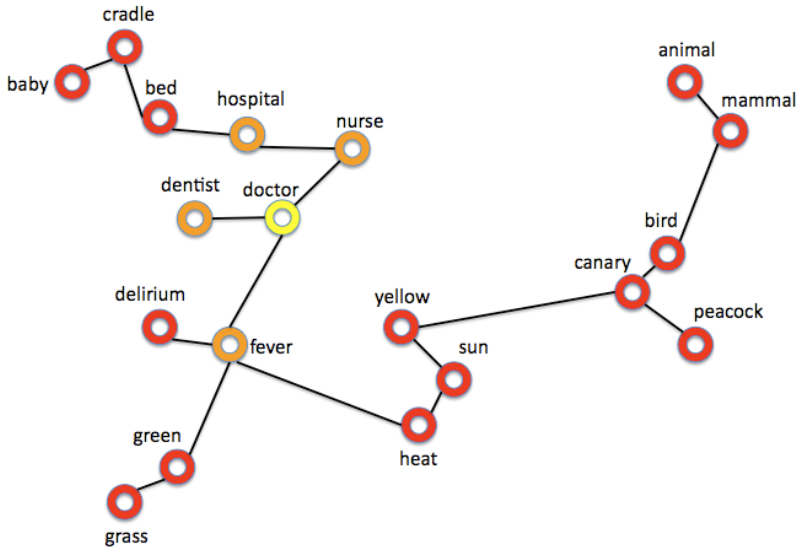
狗 – ?

人 – ?

牛 – ?

干扰 – 顺行 逆行

狗 – 椅子	狗 – 沙发	狗 – ?
人 – 房子	人 – 草地	人 – ?
牛 – 树	牛 – 篱笆	牛 – ?



长期记忆的结构

- 语义层次结构
  - 如何储存?
  - 如何提取?

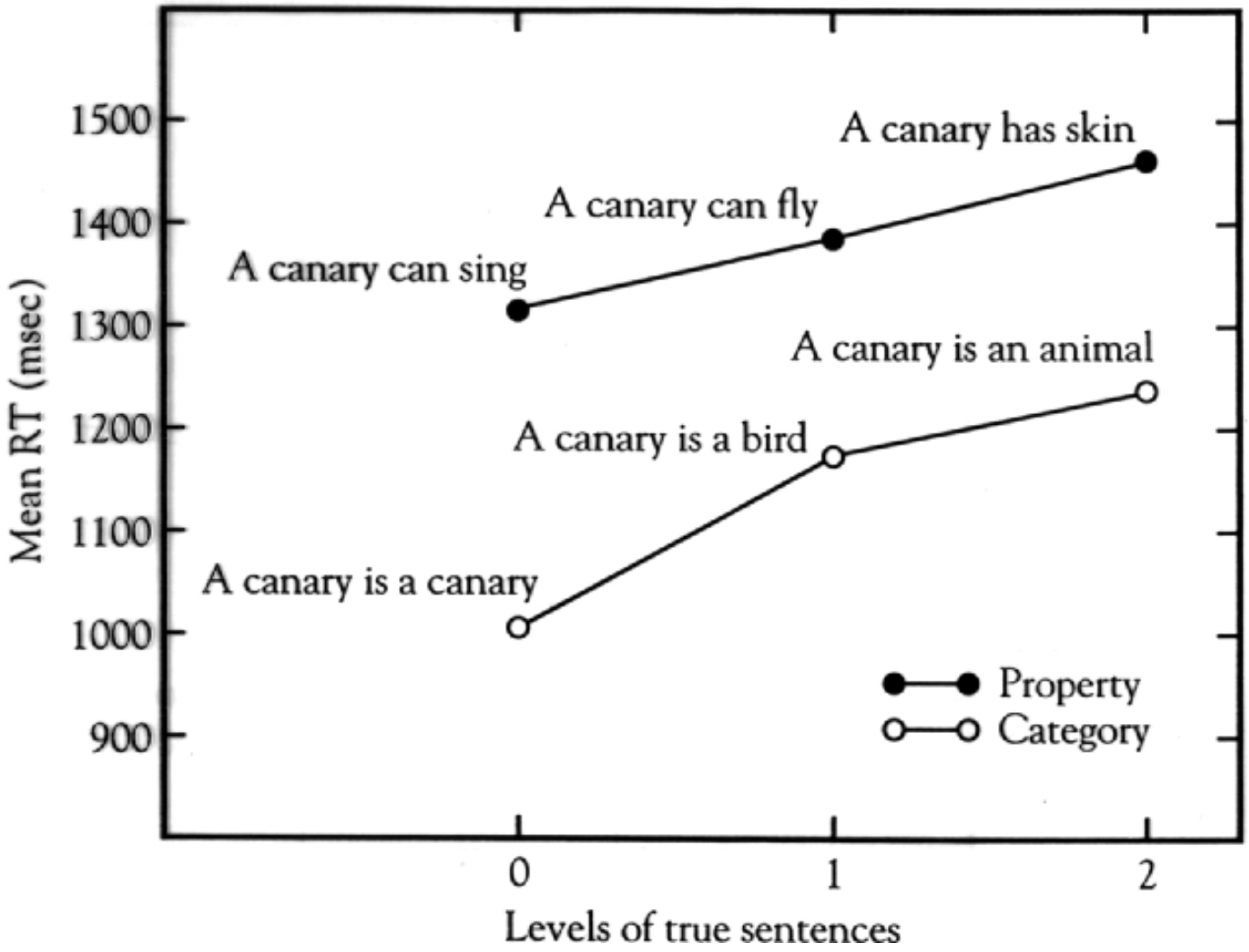


Figure 9.6 *Reaction time (RT) to verify statements about feature attributes and category membership.*

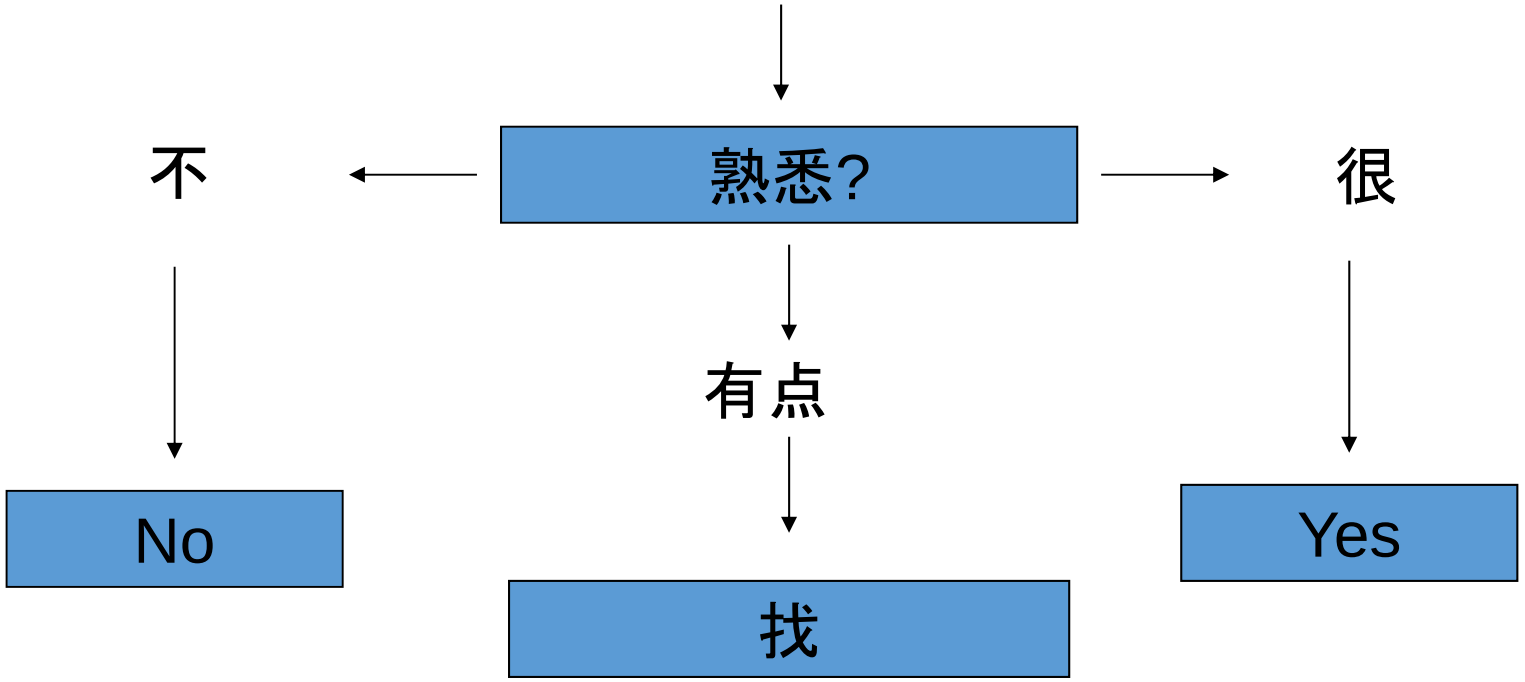
问题

- 马是动物 – 马是哺乳动物
- 鸡 – 知更鸟 ： 动物 – 鸟
- 有些 ”不” 更快
  - 鸡不是鱼; 鲸鱼不是鱼

语义模型

- 符号的运用
- 连接强度是重要的
- 兴奋扩散理论

熟悉模型

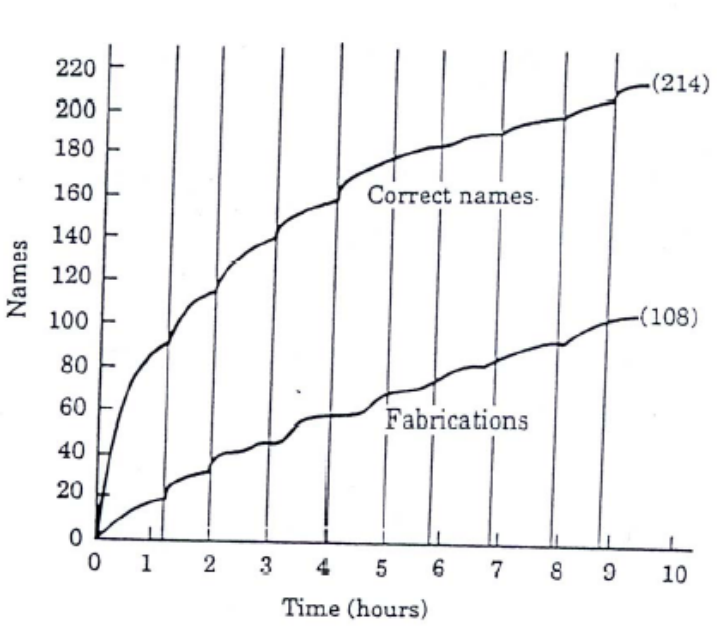


提取方式

- 回忆你的初中同学

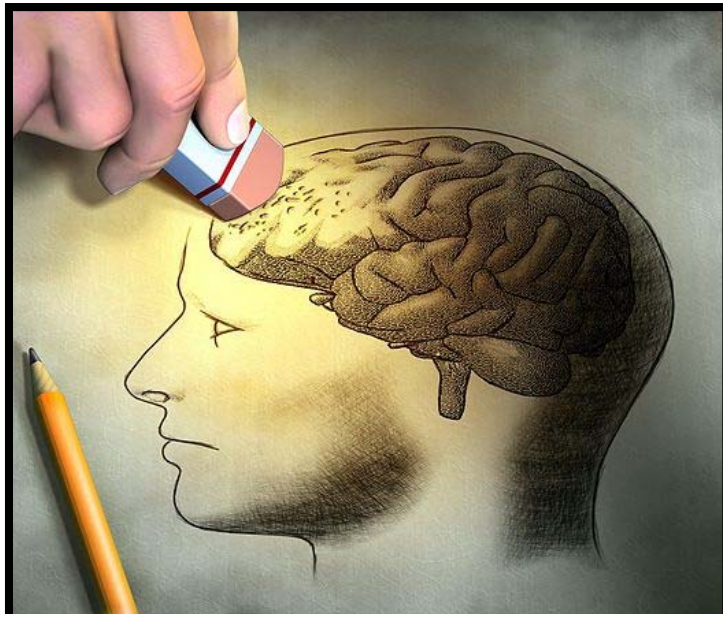
提取方式

- 回忆你的初中同学
  - 自由回忆
  - 给你照片
  - 给你名字



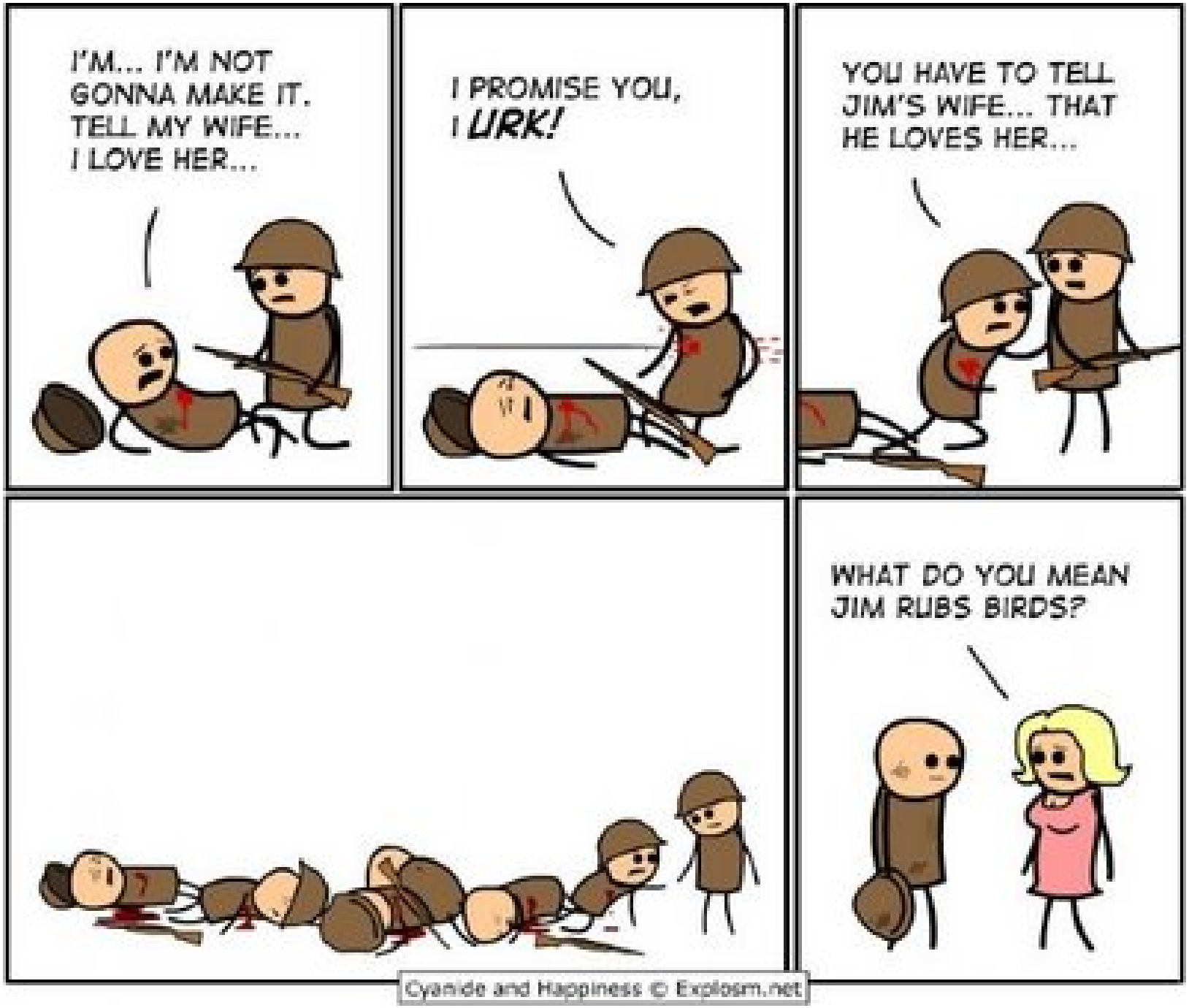
虚假记忆

- 识别 vs 回忆
  - 场景记忆
  - 语义记忆
    - 熟悉度
    - 并不一定有实际的记忆



Schema-Based Errors

(Brewer & Treyens, 1981)


I'M... I'M NOT GONNA MAKE IT. TELL MY WIFE... I LOVE HER...
I PROMISE YOU, I URK!
YOU HAVE TO TELL JIM'S WIFE... THAT HE LOVES HER...
WHAT DO YOU MEAN JIM RUBS BIRDS?
Cyanide and Happiness © Explosm.net

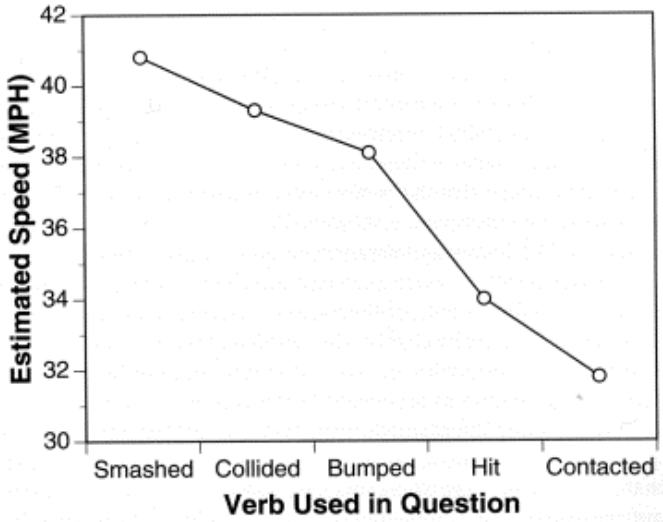


Figure 15.3 Estimated speed at the time of the crash (in miles per hour) as a function of the verb used in the question. Source: Data from Loftus & Palmer (1974).

Loftus, Miller, and Burns (1978)

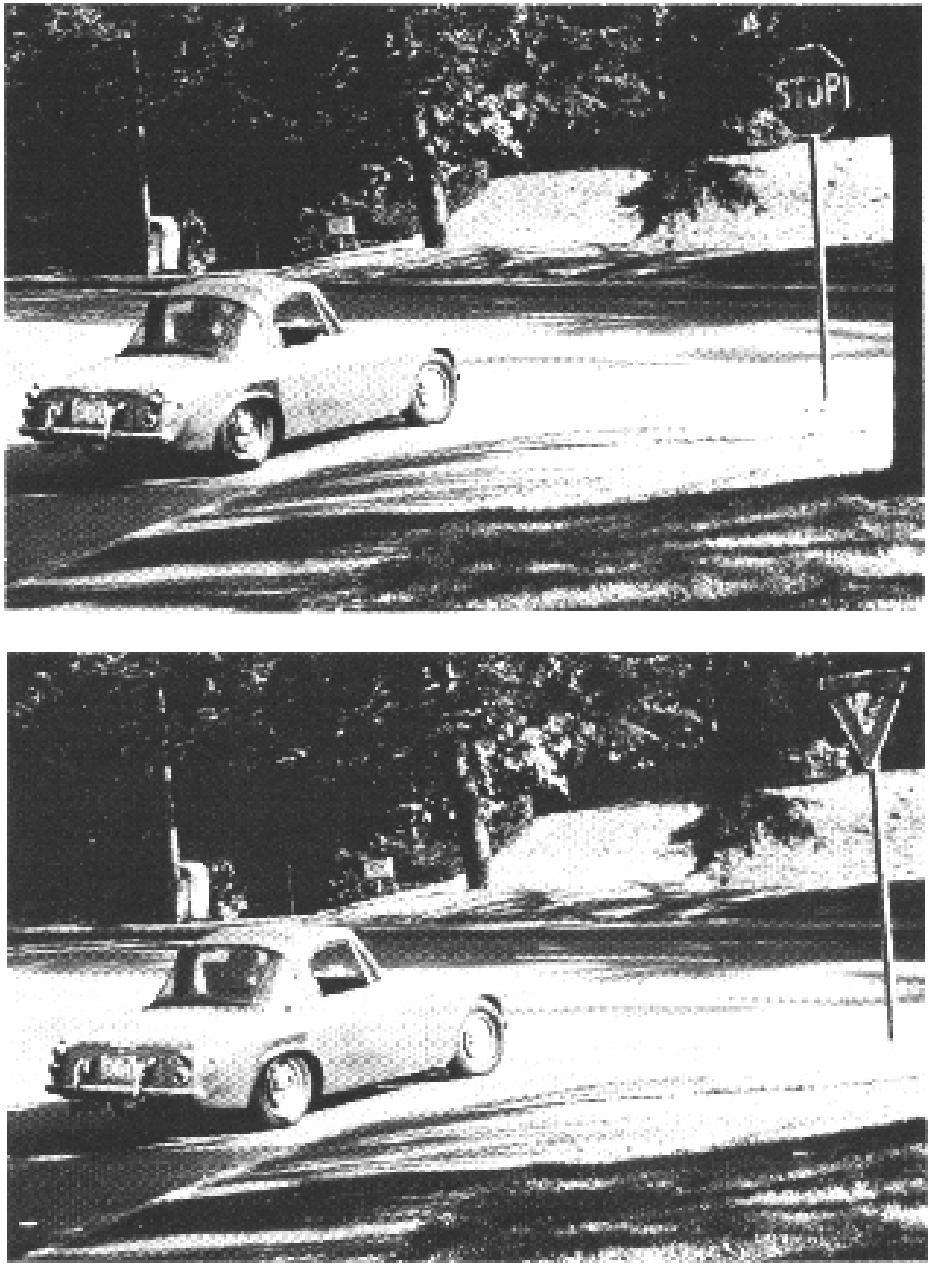


Figure 4.2. Critical slides used in an experiment which showed that eyewitnesses can "remember" seeing nonexistent objects. (From Loftus *et al.* 1978.)

The War of the Ghosts
Sir Frederick Bartlett (1932)

地图

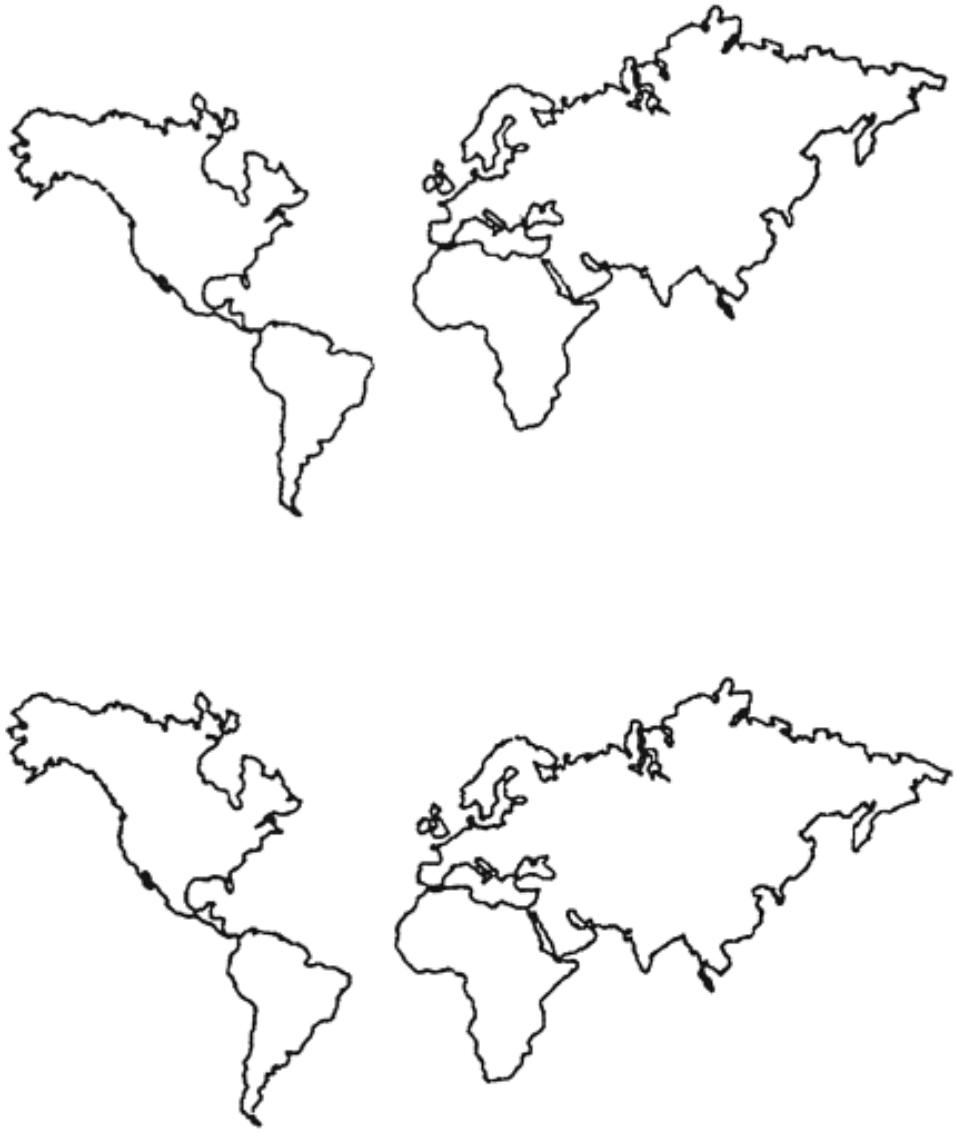


Figure 1. A significant majority of respondents incorrectly chose the lower map over the upper map. In the lower map, the Western hemisphere has been raised relative to the rest of the world so that the United States is more aligned with Europe and South America with Africa (after Tversky 1981).

作业

- 就你自己的理解
  - 阐释以下人类记忆系统的特性;
  - 假设你来创造人类, 你会如何设计记忆系统?