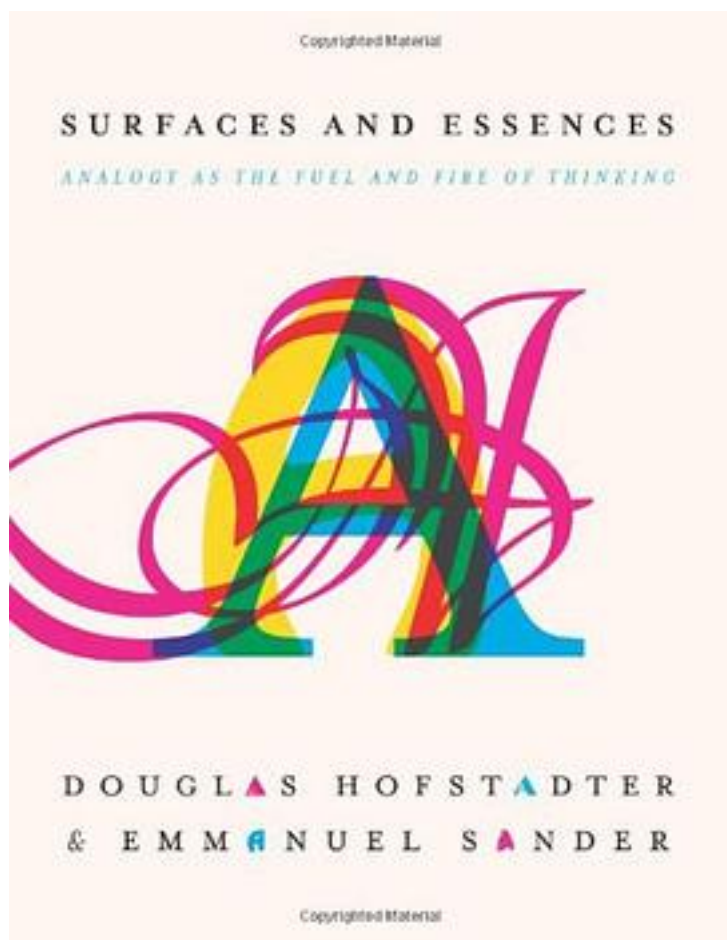


Surfaces and Essences



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著者:Douglas Hofstadter

出版者:Basic Books

出版时间:2013-4-23

装帧:Hardcover

isbn:9780465018475

Is there one central mechanism upon which all human thinking rests? Cognitive scientists Douglas Hofstadter and Emmanuel Sander argue that there is. At this core is our incessant proclivity to take what we perceive, to abstract it, and to find

resemblances to prior experiences—in other words, our ability to make analogies. In *The Essence of Thought*, Hofstadter and Sander show how analogy-making pervades our thought at all levels—indeed, that we make analogies not once a day or once an hour, but many times per second. Thus, analogy is the mechanism that, silently and hidden, chooses our words and phrases for us when we speak, frames how we understand the most banal everyday situation, guides us in unfamiliar situations, and gives rise to great acts of imagination. We categorize because of analogies that range from simple to subtle, and thus our categories, throughout our lives, expand and grow ever more fluid. Through examples galore and lively prose peppered, needless to say, with analogies large and small, Hofstadter and Sander offer us a new way of thinking about thinking.

作者介绍:

Douglas Richard Hofstadter is an American academic whose research focuses on consciousness, thinking and creativity. He is best known for his book *Gödel, Escher, Bach: an Eternal Golden Braid*, first published in 1979, for which he was awarded the 1980 Pulitzer Prize for general non-fiction.

Hofstadter is the son of Nobel Prize-winning physicist Robert Hofstadter. Douglas grew up on the campus of Stanford University, where his father was a professor. Douglas attended the International School of Geneva for a year. He graduated with Distinction in Mathematics from Stanford in 1965. He spent a few years in Sweden in the mid 1960s. He continued his education and received his Ph.D. in Physics from the University of Oregon in 1975.

Hofstadter is College of Arts and Sciences Distinguished Professor of Cognitive Science at Indiana University in Bloomington, where he directs the Center for Research on Concepts and Cognition which consists of himself and his graduate students, forming the "Fluid Analogies Research Group" (FARG). He was initially appointed to the Indiana University's Computer Science Department faculty in 1977, and at that time he launched his research program in computer modeling of mental processes (which at that time he called "artificial intelligence research", a label that he has since dropped in favor of "cognitive science research"). In 1984, he moved to the University of Michigan in Ann Arbor, where he was hired as a professor of psychology and was also appointed to the Walgreen Chair for the Study of Human Understanding. In 1988 he returned to Bloomington as "College of Arts and Sciences Professor" in both Cognitive Science and Computer Science, and also was appointed Adjunct Professor of History and Philosophy of Science, Philosophy, Comparative Literature, and Psychology, but he states that his involvement with most of these departments is nominal.

In April, 2009, Hofstadter was elected a Fellow of the American Academy of Arts and Sciences and a Member of the American Philosophical Society.

Hofstadter's many interests include music, visual art, the mind, creativity, consciousness, self-reference, translation and mathematics. He has numerous recursive sequences and geometric constructions named after him.

At the University of Michigan and Indiana University, he co-authored, with Melanie Mitchell, a computational model of "high-level perception" — Copycat — and several other models of analogy-making and cognition. The Copycat project was subsequently extended under the name "Metacat" by Hofstadter's doctoral student James Marshall. The Letter Spirit project, implemented by Gary McGraw and John Rehling, aims to

model the act of artistic creativity by designing stylistically uniform "gridfonts" (typefaces limited to a grid). Other more recent models are Phaeaco (implemented by Harry Foundalis) and SeqSee (Abhijit Mahabal), which model high-level perception and analogy-making in the microdomains of Bongard problems and number sequences, respectively.

Hofstadter collects and studies cognitive errors (largely, but not solely, speech errors), "bon mots" (spontaneous humorous quips), and analogies of all sorts, and his long-time observation of these diverse products of cognition, and his theories about the mechanisms that underlie them, have exerted a powerful influence on the architectures of the computational models developed by himself and FARG members.

All FARG computational models share certain key principles, among which are: that human thinking is carried out by thousands of independent small actions in parallel, biased by the concepts that are currently activated; that activation spreads from activated concepts to less activated "neighbor concepts"; that there is a "mental temperature" that regulates the degree of randomness in the parallel activity; that promising avenues tend to be explored more rapidly than unpromising ones. FARG models also have an overarching philosophy that

Emmanuel Sander is professor of Cognitive and Developmental Psychology, University of Paris (Saint-Denis)

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标签

认知科学

哲学

思维

科普

Douglas_Hofstadter

认知

侯世达

计算机

评论

举了非常非常非常多的例子，简直有凑字数篇稿费之感……榨干之后可能只有二十页。简单来说就讲了一件事：思维的本质是类比。

又名侯世达短篇故事集

Like others have flagged, this is a thick book from Hofstadter, the kind you can utilize for self-defense, but, the fatness of all becomes a necessary evil when he leads and links obscure disciplines that you probably never dare to cross. Enjoy the semantic salad and fuzzy searches.

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书评

鸿篇巨制，近700页，71万字，定价199元。英文版是2013年的，还不算旧。

作者是认知科学家，书中主要思想是：

- 1：类比和归类是人类思考过程中非常重要的工具，但是一般是下意识进行的；
- 2：人对世界万物和各种思想想法的归类是模糊的，经常可以有一些偏移滑动；
- 3：天才如爱因斯...

读侯世达著《表象与本质——作为思维燃料的类比》
宴会上，其他人都在高谈阔论。唯独自己语塞词穷，一位法国哲学家尴尬遁走，刚下楼梯，却想起绝妙的应对方法，可惜为时已晚。美国心理教授 Amy Cuddy
在自己的心理学著作《Presence（正念）》中引用了这个故事，书里说紧张是一...

GEB全本翻译成中文版，侯世达教授是派他的朋友莫大伟来中国参与，也成就了一段美谈。

而这本《表象与本质》，延续了这个风格，如他自己在中译本序言里所说，三位译者，要么是他的好朋友，要么是他的中国学生，可以保持近距离密切的沟通，这样的翻译本身就是创造。这样的过程，...

是菜鸟，我读了……看这本书，就像一个成绩不太好的小学生学习乘法。老师问我：“你学会了吗？”，我没太犹豫地说：“老师，我学会了！”。结果，作业一发下来，好多题目不会做，懵逼了……

有些书是一定要回顾总结的，不然真心不知道这几十万甚至几百万方块字，到底在说些什么...

类比是人类了解世界的方便之举，正如书中所说，如果将所有事物都单独来看，那么认识世界的难度将无法估计的大，对每个事物的了解都要经过由浅入深，由表及里的剖析。

类比可以看做是经验的发挥效果，由于某个范畴里东西具有相似的特性，当第一次看见某个范畴里的A时，花费时间...

依据词性不同，抽象主要有两种意思：

1：作为一个动词（严格说应该是抽象化）：抽取出某个实体或者非实体概念的某个或者某些属性。

2：作为一个形容词：与具体是反义词，概念分为实体概念和非实体概念，实体概念在物理世界中有对应的实体，非实体概念则没有。只有非实体概念才...

看了一半了，写得非常好。给了我很多思考。

小时候大人说的发散思维，我似乎知道什么意思了。发散思维，能抽象出其本质，什么是主要属性，什么是次要属性。原来都是类比和范畴化的功劳。数学学得那么呆板。B站上的那个讲线性代数本质的外国小哥，按照侯世达的理解，数学的范畴...

<https://athenacool.wordpress.com/2019/02/01/%e8%a1%a8%e8%b1%a1%e4%b8%8e%e6%9c%ac%e8%b4%a8/> 表象与本质：类比，思考之源和思维之火 [美] 侯世达 / [法] 桑德尔 / 刘健、胡海、陈祺 / 湛庐文化 | 浙江人民出版社 / 2018-12 子扉我
2019年早冬 季风异次元空间二世 原载回响工...

聪明人或者行家的特点就是善用类比。他们建立了一套丰富的概念库，通过类比可以灵活地学习和解释陌生的概念，并以此持续搭建自己的概念库。书中提到因为机器还不会使用类比，人工智能的翻译质量远远比不上人工翻译。其实现在人工智能在解决的一个问题就是构建知识库（目前还只...

书评： 心智海洋SEA 冲上浪潮之巅： Surface表象 ⇕ Essence本质 ⇕ Analogy类比
文字游戏式地震书 将之前9本地震书 一以贯之珍珠项链 病毒式分子团弥散
语言认知文化意识 寄生复制奇点爆裂： 1 《心流》 EntropyFlow & Essence
2 《刻意练习》 Practice&Presentation 3 《...

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