心理学新进展影印丛书

美国心理学会（APS）组编

Current Directions

认知心理学新进展 in Cognitive Science

英文主编/芭芭拉·斯佩曼（Barbara A.Spellman）

丹妮尔·韦林汉姆（Daniel T.Willingham）

胡清芬 点评　申继亮 审校

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心理学新进展影印丛书

本丛书入选的文章代表了各心理学分支自2000年以来的最新研究成果，同时各册所涉及的主题也全面体现了该分支学科国际的研究动态。

在各册图书中，既包括文献综述、对已有研究的质疑，也结合了先进的实验手段、技术和其他学科的综合知识，更多地关注和探索心理现象机制层面的复杂原因。每册均有问题思考，以启发学者们深入思索今后的研究热点和可能产生实质性飞越的突破口。

此套丛书可以作为各高校教师开设心理学新进展课程或专题讲座的教学用书，同时可以作为相关领域的研究人员发表文献综述的内容依据，尤其还适合作为心理学专业英语课程的教材进行学习和讨论。

Current Directions in Cognitive Science

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出版说明

“心理学新进展影印丛书”由北京师范大学出版社从培生教育出版集团引进出版，包括《普通心理学新进展》《发展心理学新进展》《认知心理学新进展》《社会心理学新进展》《人格心理学新进展》《健康心理学新进展》《变态心理学新进展》共7册英文影印图书，全部由美国心理学会（APS）组编，撰写者均为心理科学各自研究领域的世界著名学者和专家。入选的文章代表了各心理学分支自2000年以来的最新研究成果，同时各册所涉及的主题也全面体现了该分支学科的研究动态。

作为北京师范大学出版社成立26年以来第一批英文原版影印图书，我们真诚希望“心理学新进展影印丛书”的出版，可以为中国广大心理学研究者、教师以及相关专业的研究生，带来国际心理学界近十年的综合发展趋势，从研究思路、概念界定、研究方法与设计、统计技术以及未来的研究方向等方面，国内的学者能够及时把握到国际同行的关注热点，并感受到他们对传统理论的挑战与创新。

在各册图书中，既包括文献综述、对已有研究的质疑，也结合了先进的实验手段、技术和其他学科的综合知识，研究更多地关注和探索心理现象机制层面的复杂原因。每册均有问题思考，以启发学者们深入思索今后的研究热点和可能产生实质性飞越的突破口。

为便于读者阅读，我们特别邀请了北京师范大学心理学院的申继亮教授作为丛书审校专家，各册分别由北京师范大学的青年学者加入了简要的中文进行导读，同时还评价了研究的优缺点。

此套丛书可以作为各高校教师开设心理学新进展课程或专题讲座的教学用书，同时可以作为相关领域的研究人员发表文献综述的内容依据，尤其还适合作为心理学专业英语课程的教材进行学习和讨论。

策划编辑

谢　影

2007年1月18日

Overview of the Book

Picking articles for this reader was, in many ways, a pleasure. As we looked back through the years of *Current Directions* to find articles relevant to cognitive science, we were struck by how many were interesting, wellwritten, or both. The hard part then was how to narrow down the selection to the 20-25 for the reader.

We assumed that most users of this book would be concurrently taking a course in cognitive psychology or cognitive science. Thus, we decided not to pick articles that were on issues likely to be well-covered in the textbooks for those courses. This decision also led to another decision—not to pick articles that were more than 6 years old. For one thing, such topics were likely to already be in the textbooks; for another, the reader is titled *Current* (not *Historic*) *Directions.*

Beyond that, the reader reflects our shared views as to topics that are particularly timely in cognitive psychology and topics that are applicable beyond cognitive psychology. Indeed, over the past years we have each had reason to answer the question: What are the current trends in cognitive psychology and where do you see the field going? In sum we would say that the directions are micro, macro, and down under. By "micro" we mean the current interest in neuroscience: What is the relation between mind and brain? As the tools for looking at the brain get better, we can learn more about how the mind works. But as Miller and Keller (2000) point out, don't be fooled, one is not reducible to the other. By "macro" we mean two things: first, ties to systems bigger than our individual minds (e. g. , to evolution and culture) and second, to human affairs such as law, business, and economics, whose practioners increasingly look to cognitive scientists for information about how people think and behave in the "real world" outside the laboratory. And by "down under" we mean that

interest in the unconscious and the role of emotion and affect in influencing cognition is booming. We find all of these directions very exciting and have tried to select articles that illustrate them and, we hope, bring the excitement to you.

Textbooks are good for explaining the theories in a field and for detailing a few central research findings. These articles give you a chance to read recent reviews by experts that will show you something beyond the basics, by taking you to the cutting edge of the field. We hope that these readings will expand your understanding of what cognitive science is and can do. Enjoy.

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[导读]

第一编　视知觉

在学习认知心理学时，可能很多学生都有同样的感受，觉得这门学科包含的内容很多，也很碎。打开每一本《认知心理学》课本，你所看到的都是分别介绍知觉、注意、记忆、表象、问题解决等有关章节。这很可能会给你一种感觉，觉得每一个研究者所研究的都只是我们心理中的一个极小的部分，而不了解其他部分的功能，也不想去了解，根本就不在乎其他的功能是否会影响到他所感兴趣的那个领域。

应该说，你的这种感觉有合理的地方，至少反映了一部分的现实。的确，认知心理学家们认为，我们应该把心理划分成一些组成部分，然后分别考察其认知过程，这是我们了解心理的必经之路。这样看来，我们的心理活动是由很多过程组合而成的，这些活动各有各的认知功能。尽管它们彼此之间并不完全独立，存在一些相通的地方，但在功能方面，它们还是相当独立的，任何一个过程的活动都不会因为其他过程的活动而产生太大的改变。

一般来说，绝大多数初级认知心理学课本都不会涉及这些过程之间的相互作用问题。因为这是一个比较高级的问题，想要讨论这种相互作用，你必须先要掌握足够的基础知识。但即使如此，相信你还是对各种认知活动之间的相互关系很感兴趣。所以，在本书的这一部分中，为你介绍了三篇与此相关的文章，它们分别探讨了注意、表象及其他知觉系统与视知觉的相互作用。

直觉告诉我们，注意有助于视觉信息的加工，但是在缺少注意帮助的时候，我们还是可以在一定范围内处理视觉信息。比如，假设你在美术馆里看展览，刚刚从一幅画前走过，身边的朋友突然告诉你那是他最喜欢的画。这时，你走了回去，仔细地去看那幅画。你很可能会说，当你第一次走过的时候，你就已经“看见”了那幅画，但没有注意到很多细节，直到后来把注意力放到它上面的时候，你才注意到了很多原来没有注意到的东西。这说明，注意可以使我们进行更深入、更复杂的视觉加工，但还是有一些知觉过程是不需要注意参与的。正是这种不太需要注意参与的视觉活动使你知道那里挂的是一幅画，而不是一面镜子。

在“无意知盲：看却没有看见”一文中，作者 Mack 告诉我们，我们的直觉并不完全

正确，视知觉过程对于注意的依赖程度远比我们想象的要严重得多。在很多时候，我们因为没有注意而忽视了很多东西。有意思的是，注意的缺乏只会影响到意识层面上的知觉。我们没有注意到的那些视觉刺激会影响到我们的行为，但我们很可能意识不到这种影响。

注意以这种形式影响着视觉活动，而视觉表象与视知觉之间的相互关系却又是另一种模式。还是先用你的直觉来想一想，视觉表象和视知觉之间存在着什么样的关系呢？你一定会说，它们之间有着很多相同的地方。如果让你回答“你们学校的名字写在校门的左侧还是右侧？”这个问题，相信大多数人都是先产生一个学校校门的视觉表象，然后再“看一看”校名到底在哪一侧，对吗？你在头脑中产生的这个画面与相应的视觉经验很相似，不是吗？的确，视觉表象与视知觉有很多类似的地方，但也有着一些很重要的不同之处。

现在，闭上眼睛，想象你的眼前有一只老虎。怎么样？想象出来了吗？好，现在，请你数一数老虎身上有多少道条纹。很难，是吗？事实上，对于绝大多数人来说，这个任务是不可能的。但是，如果我们真的看到了一只老虎，却可以很容易地数清它身上的条纹。这就是表象与真实的视知觉之间的不同之处。表象中缺少细节，远没有我们从视觉中获得的信息那么详尽具体。那么，视觉表象是一种比较模糊的视觉？或者，是视知觉打了折扣的结果？不是这样的。但是，在产生表象和视知觉的两个系统之间确实有着一些重合的成分。在“重叠与差异：视觉表象与视知觉”一文中，Behrmann 详细介绍了有关这个问题的近期研究成果，深入探讨了这两种认知过程的相同与差异之处。

我们很容易理解表象与视觉之间的共同之处，但我们却很难想象其他的感觉，比如听觉，与视觉之间也有着某些重叠。在文学作品中，我们常常会看到作家使用“通感”。但我们一直认为，这只是一种修辞手法，是一种比喻，并不是真实的。但是，在“联觉：强的与弱的”一文中，Martino 和 Marks 告诉我们，对于一些人来说，这并不是比喻。确实有少部分人能够体验到这样的感受，对于他们来说，本该作用于某一感觉通道的刺激能够引起另一感觉通道的强烈感觉。尽管这种情况并不常见，但却为我们探讨感觉编码的机制提供了一些启示。

这一部分的文章告诉我们，在不同的认知过程之间存在着极其复杂的关系。尽管我们在谈论“注意”“知觉”等概念时好像是把它们看做独立的过程，但其实这只是一种简便的说法，认知心理学家们时时刻刻都不会忘记，在这些认知过程之间存在着复杂的相关和相互作用。

Visual Perception

Cognitive psychology can be frustrating because it seems so splintered. Beginning students study perception, then attention, then working memory, and so on. They have the sense that each researcher has fenced off a small domain of the mind for study, and scarcely cares or even acknowledges that the mind performs other functions, let alone that these functions might have some influence on the researcher's cherished domain.

There is a grain of truth in this perception. Cognitive psychologists do believe that progress can be made by examining cognitive processes in isolation, because they believe that it is useful to consider the mind as *modular*. That means that the mind is composed of processes, each of which performs a particular cognitive function (e. g., calculating the motion of objects, or maintaining auditory information in working memory). The modules are not entirely independent of one another—they communicate—but they have a certain independence in that their function does not radically change based on what other modules are doing. In addition, most introductory cognitive psychology books don't discuss interaction because it is a more advanced topic—you need to know the basics before discussing how the basics interact. This section includes three articles that consider the interaction of visual perception with other cognitive processes: attention, imagery, and other perceptual systems.

Our intuition tells us that attention increases the processing of visual information, but vision still proceeds to some extent without the benefit of attention. For example, suppose you had walked past a painting in a museum but your friend told you that it was her favorite, so you went back and inspected it more closely. You would likely say that you had *seen* the painting when you first passed it, but had not noticed many of the details until you had directed attention to it. This observation indicates that at-

tention enables deeper or more complex visual perception, but that some perceptual processes operate independently of attention. These processes allow you to know that it's a painting on a wall, and not a mirror or a window. Research reviewed by Mack in "Inattentional Blindness: Looking Without Seeing" suggests that our intuition is not quite right, and that visual perception is more dependent on attention than we would guess. It appears that we do not see objects to which we don't attend. But the interesting twist is that this generalization holds true only for conscious perception. Visible objects can and do affect behavior, although we may not be aware of how they influence us.

Attention relates to perception by making certain types of perception possible. Perception has an altogether different relationship to visual imagery. Again using our intuition as a guide, we might guess that the two have something in common. When asked "does the Statue of Liberty hold her torch in her right hand or her left hand?" most people report that they answer this question by generating a mental picture of the Statue and then inspecting it. This mental picture seems to have something in common with perception—it entails a visual experience—but further reflection reveals important differences between perception and visual imagery. Pause from your reading for a moment and image a tiger. Once you have done so, try to count the number of stripes on the tiger's torso. Most people find this task impossible, although you could of course complete the task if you were perceiving a tiger. Images are less detailed than percepts. Is imagery a watered-down version of perception? No, but it is now known that there is considerable overlap in the two systems. In "The Mind's Eye Mapped onto the Brain's Matter", Behrmann describes in detail the current knowledge of what these systems have in common, and how they differ.

It is easy for us to appreciate how vision and mental imagery overlap; it is more difficult to imagine significant overlap of vision and other sensory systems, such as audition. One might describe the tone of Stan Getz's saxophone as "warm" or even refer to it as "golden" but we mean that as a metaphor, not literally. "Synesthesia: Strong and Weak" by Martino and Marks reports on the small number of people for whom such descriptions are not metaphoric. Synesthetes experience cross talk among the senses such that stimulation of one sensory modality (e. g., a sound) leads to a strong sensation in another modality (e. g., a visual image). Although true synesthesia is

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