

专八阅读训练：Brain Process and Mental Experience PDF转换可能丢失图片或格式，建议阅读原文

https://www.100test.com/kao_ti2020/646/2021_2022__E4_B8_93_E5_85_AB_E9_98_85_E8_c94_646306.htm The Relationship between Brain Process with Mental Experience

By 1950, the results of attempts to relate brain processes to mental experience appeared rather discouraging. Such variations in size, shape, chemistry, conduction speed, excitation threshold, and the like as had been demonstrated in nerve cells remained negligible in significance for any possible correlation with the manifold dimensions of mental experience. Near the turn of the century, it had been suggested by Hering that different modes of sensation, such as pain, taste and color, might be correlated with the discharge of specific kinds of nervous energy. However, subsequently developed methods of recording and analyzing nerve potentials failed to reveal any such qualitative diversity. It was possible to demonstrate by other methods refined structural differences among neuron types. However, proof was lacking that the quality of the impulse or its conduction was influenced by these differences, which seemed instead to influence the developmental patterning of the neural circuits. Although qualitative variance among nerve rigidly disproved, the doctrine was generally abandoned in favor of the opposing view, namely, that nerve impulses are essentially homogeneous in quality and are transmitted as “common currency” throughout the nervous system. According to this theory, it is not the quality of the sensory nerve impulses that determines the diverse conscious

sensations they produce, but, rather, the different areas of the brain into which they discharge, and there is some evidence for this view. In one experiment, when an electric stimulus was applied to a given sensory field of the cerebral cortex of a conscious human subject, it produced a sensation of the appropriate modality for that particular locus, that is, a visual sensation from the visual cortex, an auditory sensation from the auditory cortex, and so on. Other experiments revealed slight variations in the size, number, arrangement, and interconnection of the nerve cells, but as far as psychoneural correlations were concerned, the obvious similarities of these sensory fields to each other seemed much more remarkable than any of the minute differences. However, cortical areas as diverse as those of red, black, green and white, or touch, cold, warmth, movement, pain, posture and pressure apparently may arise through activation of the same cortical areas. What seemed to remain was some kind of differential patterning effects in the brain excitation: it is the difference in the central distribution of impulses that counts. In short, brain theory suggested a correlation between mental experience and the activity of relatively homogeneous nerve-cell units conducting essentially homogeneous impulses through homogeneous cerebral tissue. To match the multiple dimensions of mental experience psychologists could only point to a limitless variation in the spatiotemporal patterning of nerve impulses.

1. Up until 1950, efforts to establish that brain processes and mental experience are related would most likely have been met with [A] vexation [B] irritability [C] discouragement [D] neutrality

2. The

author mentions “ common currency ” primarily in order to emphasize the [A] lack of differentiation among nerve impulses in human beings. [B] similarities in the views of the scientists. [C] similarity of sensations of human beings. [D] continuous passage of nerve impulses through the nervous system. 3. Which of the following theories is reinforced by the depiction of the experiment in lines 16-19? [A] Cognitive experience manifested by sensory nerve impulses are influenced by the area of the brain stimulated. [B] Qualitative diversity in nerve potentials can now be studied more accurately. [C] Sensory stimuli are heterogeneous and are greatly influenced by the nerve sensors they produce. [D] Differentiation in neural modalities influences the length of nerve transmissions. 4. It can be inferred from the passage that which of the following exhibit the LEAST qualitative variation? [A] Nerve cells. [B] Nerve impulses. [C] Cortical areas. [D] Spatial patterns of nerve impulses. 答案详解： 1. C. 令人失望。答案见文章的第一句话“到了1950年，大脑活动过程和精神感受有关系的实验结果看起来令人沮丧。” A. 令人恼火。 B. 激怒。 D. 中立。均不对。 2. A. 在人的神经脉冲中缺少变异（差别）。Common currency本义是一般通用。这里的上下文决定了它的含义“无变异脉冲（普通脉冲）”。第二段“虽然神经能量中的质变理论从没有受到严厉的驳斥，但这一学说被普遍放弃，而赞成其对立的观点；那就是：神经脉冲在质量沙锅内基本相似，并作为无变异脉冲（普通脉冲）经神经系统传送。”所以普通脉冲就是指神经脉冲无变异，在质量上基本相似。 B. 科学家观点上的相似性。 C. 人类感觉相似性。 D. 神经脉冲连续不断通过神经系统

。这三项和common currency 无关。 3. A. 受刺激的大脑部位影响感觉神经脉冲所显示的认知感受。在第二道题译文下面“根据这一理论，不是感觉神经脉冲的质量决定它们所产生的各种有意识的感觉。而是由脉冲在大脑中释放的不同部位决定，并且有证据证明这一论点。”见难句译注3。 B. 现在对神经潜力的质量变化可以进行更精彩的研究。 C. 感官刺激是异源的，并深受它们所产生的神经感觉（感受器）的影响。 D. 神经形态上的差异影响神经传递长度。 4. B. 神经脉冲。这在第2题答案A中译注（即第二段）已有明确的答复。“神经脉冲在质量上基本相似……。” A. 神经细胞。见难句译注2，“有可能用其他办法来显示神经细胞类型之间细微的结构差异。” C. 外皮区域（部位）。 D. 神经脉冲空间模式。见难句译注5和本文最后一句“为了和精神感受多样性吻合，心理学家只能指明神经脉冲时空模式上的无限差异。”这说明，它不是“Leastqualitative variation.” 相关推荐：#0000ff>专八阅读模拟题：A Sense of Humor #0000ff>专八阅读模拟题：Exploration on the Origin of Continents #0000ff>专八阅读模拟题：Pop Stars Earn Much #0000ff>专八阅读：《肖申克救赎》里的智慧 100Test 下载频道开通，各类考试题目直接下载。详细请访问 www.100test.com