國立臺灣大學100學年度碩士班招生考試試題

科目: 認知科學

題號:76

題號: 76 共 → 頁之第 / 頁

一、認知心理學

- 1. 八零年代 Ungerleider 與 Mishkin 以何種研究方法來區分出大腦視覺皮質的 ventral pathway 及 dorsal pathway? 九零年代 Milner 與 Goodale 又是以何種方法,認為二者應該是 what 及 how pathway? (10%)
- 2. 說明 mirror neuron 的功能與其大腦區域。經驗是否會影響 mirror neuron 的反應?提出證據來支持你的說法。(10%)
- 3. 行為學派學者認為人的意識與心智功能無法以客觀的科學方法研究,而將研究課題鎖定在可觀察的外顯行為上,六十年代以降的認知心理學家,採用什麼觀點與方法開展科學的心智研究?又有何限制或問題? (10%)
- 4. 九十年代以後,各種腦照影技術的發展,對人類心智研究的發展有何新的貢獻與限制? (10%)

二、語言學概論

1. Consider the following folk-theory-based statement:

Our folk theory of language considers the meanings as contained directly in the words and their combinations, since that is all that we are ever consciously aware of: Meaning is attributed essentially to language.

How true is the statement regarding "Meaning is in the language form"? That is, is it possible for us to determine meaning by giving a formal characterization of its associated forms? Please give TWO examples to illustrate your point and answer this question from the information processing model of language. (10%)

2. The hidden temptations the lexicon offers to the language users are embraced openly in commence, as seen in the following sales publication:

An alert real estate salesman should learn how to express himself and use psychology ... Don't say down payment; say initial investment. Don't ask for a listing; ask for an authorization to sell. Don't' say second mortgage; say perhaps we can find additional financing. Don't' use the term contract; have them sign a proposal or offer ... Don't say sign here; say write your name as you want it to appear on your deed.

a) Comment specifically on what the publication above intends to achieve through its language use. (5%)

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b) If the following quasi-synonymous terms are used to name the same objective fact, do they solicit antonyms in the attitude toward the fact? Comment on their uses and give ONE additional Chinese example, if available, to show that such phenomenon also exists in Chinese.(7%)

> innovative – new – newfangled the good things of life – luxuries – extravagances

c) Advertising often cuts through the naming habits of scientists at a price. For instance, the term aspirin instead of acetylsalicylic acid is often used in doctors' prescription. Do you think it is advisable to battle the advertisers in their practice of having the doctors use the generic names instead of fabricated name-entities of commerce in their prescription? Justify your answer by commenting on the idea expressed in the statement "Conceptualization on any considerable scale is inseparable from language." (8%)

三、心智哲學

下列兩題任選一題作答,佔總分之30%:

1. 人有各種意識狀態 (conscious states): 感官經驗: 視覺、聽覺等;身體的感覺 (bodily sensations): 覺得熱、癢、痛等;情感: 覺得高興、難過等。每一種意 識狀態都有其特質,給當事者獨特的主觀體驗和感受(subjective feelings)。那麼人的意識是否能完全由物理科學所解釋?物理論(physicalism)主張可以,認為這世界所有的事實都是物理事實(physical facts),所有的現象都是自然現象。所有事物的性質,包括意識的種種特性,都是物理性質(physical properties)。 認知科學、腦神經科學及其他自然科學終究會提供所有關於意識的知識。

請回答下列各小題:(1)請舉出一個理由來支持物理論。(2)請舉出一個理由來 反對物理論。(3)根據前兩小題的作答,你認為物理論是否恰當?為什麼? 請提出論證來支持你的立場。

2. 我們每天廣泛地應用科學理論,然後可以規律地證實理論對於自然世界所作的假設。請問,這一連串規律的證實,足以說明現有的科學理論就是真實的嗎?如果是,那我們可否說,現存的科學理論完全對應了自然世界的結構?如果不是,那麼我們可以說,科學的成功是偶然的嗎?