

平成24年度実施(下期)
東北大学大学院情報科学研究科
博士課程前期2年の課程・後期3年の課程入学試験問題

専門試験科目
第6群 (心理・哲学群)

注意

- 専門科目試験問題は、全部で12問あります。
- 前期2年の課程の受験者は、4問を選んでそれぞれ答案用紙に解答しなさい。
- 前期2年の課程外国人留学生受験者は、3問を選んでそれぞれ答案用紙に解答しなさい。
- 後期3年の課程の受験者は、2問を選んでそれぞれ答案用紙に解答し、さらに学習心理情報学または認知心理情報学（人間社会情報科学専攻）及び認知情報学（応用情報科学専攻）に配属を希望する者は小論文を作成しなさい。
- 各答案用紙上

問題番号	
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 の空欄に、解答する問題番号を、
さらに、

受験番号：

 には受験番号を、それぞれ記入しなさい。
- 試験時間： 10:00 - 13:00

専門科目試験問題(第6群:心理・哲学群)

1. 潜在(的)連合テスト(Implicit Association Test: IAT)について、具体的な例を挙げながら説明しなさい。
2. 偽りの記憶(false memory)を調べる実験パラダイムについて、具体的な例を挙げながら説明しなさい。
3. 中心極限定理について詳しく説明しなさい。
4. 記憶の測定法について説明しなさい。
5. 原因帰属理論について述べなさい。
6. 文章理解研究において、文の読解時間を測定することで何が明らかになるかを、具体的な実験例を挙げながら説明しなさい。
7. 「人間は社会的(ボリス的)動物である」という定義について説明しなさい。
8. 「進歩史観」について具体的な思想家を挙げて説明しなさい。
9. ライプニッツのモナドについて説明しなさい。
10. 「存在」と「認識」とを対比させて、各自の意見を述べなさい。
11. 「直観」と「論理」とを対比させて、各自の意見を述べなさい。
12. 「人間」と「機械」とを対比させて、各自の意見を述べなさい。

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博士課程前期2年の課程・後期3年の課程入学試験問題

外国語（英語）

第6群（心理・哲学群）

注意

- 解答は答案用紙に書きなさい。
- 試験時間： 14:30 - 15:30

外国語

以下の英文は意識に関する哲学的、心理学的、脳科学的論説を紹介した本の一部である。以下の問いに答えなさい。

1. 科学的方法の3つの原理について、本文にそって説明しなさい。
2. [1] と [2] を日本語に訳しなさい。

Scientific Method

[It would not be controversial to say that modern practices in neuroscience broadly follow three principles: materialism, reductionism and empiricism. These presuppositions about the 'correct' way to do science are deeply imbued into the modern world-view, particularly in biology. Although there are exceptions, these broad principles describe how most scientists see themselves and their discipline as working.]¹ This is not the place to review the philosophy of science in toto (see, for example, Chalmers, 1999), but a few words on this topic are needed to set the scene for the next two chapters.

First, 'materialism' is the assumption that everything is made of matter; the main point here is that science should exclude supernatural forces - and thus substance dualism.

Next, 'reductionism' refers to the preference for broader, more all-encompassing theories that account for the widest range of data. Such theories tend also to be those phrased at the lowest (most molecular) level of description possible (a principle known as 'Lloyd Morgan's Canon'). For example, explanations couched in neuronal terms are preferred to those that postulate psychological and 'mental' entities, such as short-term memory or subjective pain. Implicit in this view is an assumption of bottom-up causation: for example, the phenomenon we call pain is caused by a certain pattern of events and structures at the neuronal level; indeed, pain is merely a side effect of those events. Only real physical events can cause other real physical events, in accordance with the laws of physics, and neurons are somehow 'real' and 'physical' whereas memory, qualia and so on are not.

Finally, by 'empiricism' I mean the principle that '... in science, only observation and experiment may decide upon the acceptance or rejection of scientific statements, including laws and theories' (Popper, 1963). Typically, a set of empirical data is collected, that is then generalized by induction to obtain a universal law of nature, i.e.

one with unlimited applicability. Predictions as to the expected results of further empirical tests are subsequently obtained from this law by deduction (Oldroyd, 1986). In practice, however, scientists have to use additional, blatantly rationalist principles to guide their progress, although they may not admit it (Maxwell, 1984, 1985; Rose and Dobson, 1985, 1989). For example, the criterion of simplicity is commonly used to assess and compare theories. The preference for the simplest possible theory is often (mis-)attributed to Occam ('thou shalt not multiply hypotheses needlessly') and calls for adoption of the simplest of all available theories that is consistent with the evidence. Yet this tactic is not something one can prove empirically.

Now, these three principles (materialism, reductionism, empiricism) were core aspects of the dominant view of what science is and should be, known as 'positivism', that flourished between about fifty and a hundred years ago. Its dominance among the official institutions of science was such that it is often referred to as the 'Received View' (e.g. Bechtel, 1988b) or – in view of its mythical status - 'Legend' (Kitcher, 1993a).

[The general assumption of positivist empiricism in science tied in very well with the psychological movement of 'behaviourism', which operated upon very similar principles. Thus in behaviourism, talk of mental phenomena, particularly consciousness, was not allowed, and only publicly observable events such as behaviour were acceptable as data. Theories were seen merely as convenient summaries of the empirical data rather than descriptions of real psychological entities, and such non-observable constructs as memory, perception, reward and so on had to be defined 'operationally', in terms of the empirical events that corresponded to them.]²

It is nowadays a common thesis that these empiricist principles are the central tenets of neuroscience research; they describe and determine how it works (Bickle, 1998, 2003a,b) or should work.

注 : in toto: 全体として

positivism : 実証主義