Dennett, Phi, and Consciousness

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Introduction

Perhaps the cornerstone of Daniel Dennett's (1991) case for his "multiple drafts" view of consciousness in his well-known *Consciousness Explained* is a set of inferences he draws from the phi phenomenon. Phi was first introduced by the great gestalt psychologist Max Wertheimer (1912), and a number of fascinating variations have been studied by, among others, Paul Kolers and Michael von Grünau (1976). In the simplest version of phi, two or more small dots are briefly lit in rapid succession, but it seems to the subject that a single spot moves back and forth. In the *color* phi phenomenon (the study of which was prompted by questions from the philosopher Nelson Goodman (1978), the two illuminated spots are different colors (red and green, say). Remarkably, if these two spots are lit for 150msec each (50msec interval)

> the first spot seems to begin moving and then change color abruptly *in the middle of its illusory passage* toward the second location. Goodman wondered: "How are we able ... to fill in the spot at the intervening place-times along a path running from the first to the second flash *before that second flash occurs*?" (Dennett, 1991, p.114, emphasis his)

Dennett holds that the only way to provide an answer to Goodman's question, the only way to explain color phi, is to invoke his (Dennett's) "multiple drafts" theory (MDT) of consciousness, according to which (barbarically encapsulated here) information entering the nervous system is under continuous parallel "editorial revision." MDT is intended by Dennett to supplant traditional accounts of cognition seen, for example, in cognitive psychology—accounts which include subsystems such as long-term memory, short-term memory, etc., as well as the notion of an "executive controller" (cf. Anderson's ACT*; 1983, 1990). Armed with color phi, Dennett also means to overthrow views of the mind which distinguish between some stimulus s seeming to be F to a subject, and the subject's judging that s is in fact F. Here Dennett appeals to what is disclosed when subjects introspect about their experience during phi: he claims that such subjects cannot say, in a principled manner, whether they judged the spots to move because of what they seemed to see, or whether they seemed to see movement because they judged there to be movement.

With help from some elementary logic, the situation can be clarified: Denote the color phi experiment by ϕ_c; denote Dennett-targeted traditional theories of cognition by 'TTC.' Dennett's argument, overall, is that ϕ_c is inconsistent with TTC, and that the only other serious contender, MDT, should therefore be affirmed. However, it is a simple theorem from (modal) logic that in order to show propositions p and q consistent, it suffices to find an r which is consistent with p and which entails q. Accordingly, our refutation of Dennett will take this form: We will specify an explanation E of ϕ_c which is such that

1. E is consistent with ϕ_c; and
2. E conjoined with ϕ_c entails TTC.

We will include a report on our replication of color phi (and related phenomena) both through Java (you may now experience phi and register your impressions by accessing the relevant part of Bringsjord's web site) and via T-scope in Rensselaer's cognitive science laboratory, and concomitant reports on what subjects say after introspecting in the manner Dennett prescribes. Explanation E will be anchored to these reports.

References

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