

80. 1983.

81. Reed, Hock & Lockhead, 1983.

Notes to I.C.5.

1. E.g. 1975, 1978b.

2. Kosslyn, 1975 p.342.

3. Kosslyn, 1980 pp.vii-ix, and see the opening pages of §I.C.4 above.

4. E.g. Kosslyn, 1975 p.342; 1980 p.1; 1983 p.2; 1985.

5. See Kosslyn, 1980 chap.7 for a review of the situation to that date.

6. Pylyshyn, 1984 pp.231-245, and p.244.

7. The principal results to be outlined below first appeared in the form of Kosslyn's doctoral thesis [1974] but have since been published [Kosslyn, 1975, 1976a,b].

8. Kosslyn, 1980 p.vii; 1975 p.342.

9. See e.g. Kosslyn & Shwartz, 1977; Kosslyn, 1980 p.6; 1983 p.206.

10. This is experiment 1 of Kosslyn [1975].

11. Kosslyn, 1975 p.346.

12. This is Kosslyn [1975] experiment 2.

13. Kosslyn, 1975 experiment 3.

14. This is Kosslyn [1975] experiment 4.

15. Kosslyn, 1975 experiment 5.

16. Kosslyn, 1975 p.359.

17. Five others were also apparently able to guess the purpose of this, but they claimed only to have reached this realization after their participation was over. It was thus considered acceptable to use the data from them [Kosslyn, 1975 pp.361-2].

18. Kosslyn, 1980 p.vii - quoted in §I.C.4 above.

19. See Kosslyn, 1980 p.vii. The work done with Nelson has never been published.

20. Kosslyn, 1976a experiment 1 - first reported as experiment 6 of Kosslyn's [1974] thesis.

21. Examples taken from Kosslyn [1976a p.292]. Association strength was assessed from ratings given by a group of subjects different from those who participated in the main experiment.

22. Kosslyn is inclined to assume that non-imagery strategies are 'propositional' in form. However, I can see nothing in his results to prevent them being interpreted as verbal strategies, in the spirit of Paivio's 'Dual Coding' theory.

23. This is published as Kosslyn [1976a] experiment 2. See also Kosslyn [1980] p.232.

24. Although for some reason association strength did have some effect even in the imagery condition this time. This is hardly surprising since to image the feature on the animal the subjects would presumably already have had to understand the word in the context of that animal before being able to 'look' for the feature on their image. If anything it is odder that no effects of association strength appeared in the first version of the experiment, but see Kosslyn [1980 pp.232ff] for discussion.

25. E.g. Bruner, Olver, Greenfield et al. 1966 pp.21ff.. This is the relevant example because it seems to have been the book which alerted Kosslyn to the idea [Kosslyn, 1980 p.vii.

26. 1971; Paivio & Begg, 1981.

27. On its rôle in inference see e.g. Huttenlocher [1968], Handel, DeSoto & London [1968] and Clement & Palmange [1986]. On its rôle in more concrete problems see e.g. Kaufmann [1980]. A recent review of work on imagery in thinking and problem solving is given by Richardson [1983].

28. E.g. Horowitz, 1983.

29. E.g. Samuels & Samuels, 1975.

30. C.f. Denis & Carfantan, 1985 p.54.

31. E.g. Mendoza & Wichman, 1978; Ryan & Simons, 1982; Issac, Russell & Marks, 1985.

32. Block, 1983b.

33. See e.g. Fodor [1975, 1981a] and Haugeland [1978] on the commitment to quasi-linguistic representations. Norman [1981] and Kintsch, Miller & Polson [1984] are examples of symposia on Cognitive Science, which is supposed to be a hybrid discipline encompassing parts of psychology, philosophy, computer science and linguistics.

Cognitive Science as a field of interest is sometimes distinguished from 'cognitivism' as a theoretical commitment to quasi-linguistic representation and computational mechanisms. In that case I hope that this work might be considered as a contribution to Cognitive Science, but it is fundamentally opposed to 'cognitivism'.

34. Something which Zenon Pylyshyn [1973, 1978, 1979a,b,c, 1980, 1981, 1984] would still like to deny.

35. See e.g. Anderson [1983] or Fodor [1975 p.191].

36. Whose pioneering textbook *Cognitive Psychology* [Neisser, 1967], which is universally regarded as "seminal", discusses imagery at some length.

Notes to §II.A.1.

1. Galton, 1880, 1883 pp.83ff.. See §I.B.2 above.

2. E.g. Coleridge, 1817; Keats, 1817; Shelley, 1821.

3. See e.g. Coleridge, 1817 chap.13 p.167.

4. Key references would be: Pylyshyn, 1973, 1978, 1981; Kosslyn & Pomerantz, 1977; Kosslyn, Pinker, Smith & Shwartz, 1979a,b; Kosslyn, 1981; Shepard, 1975, 1978b; Anderson & Bower, 1973 pp.499ff..

5. 1978, 1979. The first of these papers has become one of the most frequently cited works in all of cognitive psychology [White, 1983].

6. 1978.

7. Palmer [1978 p.298+n] does think that the theories in question should eventually be distinguishable by neurophysiological evidence, or perhaps on "pragmatic or esthetic" grounds. Anderson [1978], however, seems to doubt even these possibilities.

8. It should be added that many who do seem to see the issue as directly between 'analog' and 'propositional' nevertheless continue to believe that there can be good reasons for preferring one theory to the other. Hayes-Roth [1979] and Pylyshyn [1979c] reply to Anderson's [1978] arguments from 'analog' and 'propositional' viewpoints respectively. Anderson [1979] provides a reply to them. (Also on this issue see Keenan & Moore [1979].)

9. Morris & Hampson, 1983 chap.6. Also Hampson & Morris, 1979 p.11. Kaufmann [1980, 1986] gives a similar taxonomy but rejects all three types of theory and proposes