ASSOCIATIONS AND RULES

- Associative systems primarily (if not totally) function based on similarities between representations (stored, perceptual etc). These representations are usually assumed to be composed of sub-symbolic features.

-Symbolic/syntactic/rule-based systems are not as easy to strictly categorize, but they typically are productive and their components can operate generally on variables that can assume a range of possible values - they are abstract - its their structure thats important. They are dissoluble into meaningful atoms.

-Why can't associative systems be productive?

-Part of what makes the conflict between connectionism and syntacticism in general so durable is that rules can be made for any proposition and networks can be trained to represent any relationship. This makes a decisive defeat of either camp difficult or impossible.

-However if both systems exist, then a definite answer could (theoretically) be had if each system could be shown to produce distinct outputs to the same situation/stimulus (preferably simultaneously within the same subject).

-Rule-based reasoning seems to be somewhat available to introspection, but associative reasoning not so much

-Smolensky's intuitive processor seems to partially satisfy Hofstadter's requirement of active symbols

-Categorization has been thought to be mainly associative, however there is the problem of which sub-concepts of a representation to project or "associate" with another novel, similar but also distinct representation (zorks).

-Also, the stricter and more explicitly you make the criteria for membership, the more the decision seems to be rule-based (quarter vs pizza)

-"Criterion S"

-Perceptual biases vs knowledge (muller-lyer)
-Conjunction fallacy: having more information to use in categorization may bias one to estimate the prob. of the conjunction to be greater than one of the conjuncts alone (linda is a bank teller).
-Inclusion-similarity: people are more likely to identify a class as a subset of a larger class if there are superficial similarities between the two (robin - birds vs penguins - birds)
-Belief-bias: people are critical of conclusions to the extent that the conclusions do or do not confirm already held beliefs (US sheikh senators)
-Wason: subjects might match the verbalized conditions to what they perceive on the cards -etc

-does criterion S really distinguish between two specifically associative and rule systems, or just between two different systems in general?

-competition between the two systems: how is it resolved (speed?), what is the mechanism for suppression? etc