Steve Rosen, “Emotions, Memory and Decision Making” (Unpublished Manuscript).

Rosen questions the rationality assumption. His argument is that people make decisions not by comparing alternative expected outcomes, but by adopting “a single course of action in a way that seems ‘obvious’ and necessary to them given what they observe.”In particular, people recall more quickly those patterns that were formed during a state of emotional arousal (“emotion based pattern recognition”). “Conscious cognition” is confined to a secondary role.

This is a descriptive theory of decision making. Rosen claims that emotion based pattern recognition (EBPR) leads to observable, external behavior that is different than that predicted by rational calculation: 1. The learning pathway, in terms of brain physiology, is different; 2. Emotion based memories predispose the actor towards broad *categories* of action, but do select detailed *courses* of action; 3. Decisions are taken very early on in the process, prior to (i) the need to decide, (ii) the arrival of relevant information; and (iii) the evaluation of alternative strategies; 4. Variation in individual behavior is the result of variation in experiences inducing emotional reactions; 5. individual behavior can become group behavior when groups of people had the same experience and reactions; 6. Individual memories of a dominant figure can be transformed into group behavior.

The argument is based on cognitive efficiency: “Chunking” or “patterning” is a way for the brain to conserve energy (eg. speech does not require letter-by-letter cognition). Through pattern recognition, processing time is radically reduced. Cognition (data processing) and awareness (consciousness) are not coextensive, but are related through the phenomena of selective memory retrieval (how do we recall information from long-term memory as a result of brain activity of which we are not aware?); data chunking (how do we connect pieces into patterns?); and implicit memory (how do we understand the unconscious/implicit kinds of memory?).

Evidence:

Memories created in the context of traumatic experiences (eg. Post Traumatic Stress Disorder) remain vivid. Physiologically, declarative (articulated) memories and PTSD memories are processed separately by the brain. In a lab, students remember stories with high level of emotional content better than those with low emotional content. The amygdala turns emotionally charged perceptions into memories. Patients with damage to the amygdala (part of the autonomous nervous system / ANS) fail to behave in accordance with to this process. Rosen argues that external cues may lead us to recall more easily those memories associated with a similar event when emotion forms part of the encoding process.

Crucial to Rosen’s argument is the question of whether emotion *precedes* cognition: “If emotional arousal followed cognition, then emotion would add little to our understanding of decision-making. I may avoid war simply because I have thought about the experiences of past wars, and learned what the costs of war are.” Thus: (1) When does an emotional response occur?; and (2) Does it take place independently of conscious cognition?

Rosen points to mixed evidence on the primacy of emotion (eg. Zajonc-Lazarus debate, at 24-25), but cites animal research in support of the fact that fear operates through different physiological

(synaptic) pathways than conscious thought (i.e. "the thalamus-amygdala link operates twice as rapidly as the thalamus-cortex link", at 27). In humans, there is evidence that damage to the processes involving emotion-based memory encoding leads to 'endless deliberation' among patients. Similarly, controlled blockage of the amygdala-ANS link in subjects resulted in a capacity to form long-term memories. Scientists have also confirmed the role of the amygdala in assessing facial expressions and their 'codification' into memory.

If EBPR does have an impact, then where do policymakers' 'historical lessons' come from? Rosen adds to Yuen Foong Khong's conclusion that the 'most readily available, superficially similar' analogies come to mind: The memories that will be invoked are those if "external sensory inputs that were processed by the hippocampus at a time when the ANS was activated by the amygdala." Fear arousal, for example, will be recalled "whether the new stimuli closely resemble the remembered, emotion-linked pattern or not." Rosen acknowledges that "some processing of the current situation is left unspecified," but that the range of memories can be greatly narrowed "because most leaders will not have had many experiences that aroused in them personally great fear." (36).

Gideon Rose has shown that negative historical experiences and emotions better predicted US war termination policy than bureaucratic interests, the balance of power, and domestic opinion. Dan Reiter demonstrated the explanatory power of learning in the context of the alliance behavior of small states. Thus, "massive social violence or trauma can generate shared emotional experiences and memories, which can then determine state behavior." Rosen sets out some testable propositions:

1. EBPR leads to fast, early decisions, irrespective of the complexity of the problem or the availability of date.

2. These decisions are directly related to (conform to) past emotional experience; the pattern is one of 'selecting away from' policies associated with the negative experience.

3. EBPR decisions will resist contradictory data.

4. They can be distinguished from other, more cognitive (non-emotional) decisions.

Rosen reviews 4 cases, including Roosevelt(Munich; reversal of US policy of non-involvement); Truman (Potsdam; T's perception of Stalin congruent with his image of 'trustworthy politician); Kennedy (Cuba; decision to use (some kind of) force to remove missiles made earlier than necessary; non-consideration of *status quo*; K. favoring military action prior to Sep. 4 statements; learning experience at Vienna; personal challenge); Johnson (Vietnam - commitment of ground troops; decision made earlier than necessary; McNamara fact-finding missions were an effort to build consensus on a decision already taken; options to leave S. Vietnam not on the table; 1948 experience at Democratic convention; public statement that opponent was 'soft on communism; personal challenge).

Is the hypothesis falsifiable? Yes, through 'historical checks' (Eisenhower example) and 'thought experiments.' Domestic regime type appears to be an intervening variable. Thought experiments may

include the ‘wiring’ of state leaders to determine whether emotional responses (as measured by changes in physiology) “did or did not correlate with decision making time and conformity to past emotional experiences.”