Karl Deutsch and J. David Singer, "Multipolar Power Systems and International Stability," World Politics 16:3 (1964): 390-406.

Deutsch and Singer ("D&S") provide two arguments for a "diffusion-stability relationship," positing that the frequency and intensity of war should decrease with an increase in the number of states. The dependent variable of political stability is defined probabilistically as "the probability that the system retains all of its essential characteristics; that no single nation becomes dominant; that most of its members continue to survive; and that large-scale war does not occur" (p. 390).

First, D&S observe that as the number of independent actors increases, the number of possible dyads in the system increases. They argue that this increase in interaction opportunities has a stabilizing effect on the system by fostering social stability via cross-cutting cleavages and increasing the range of possible interactions. As the issue areas get more diverse, D&S argue that with "conflict-generating scarcities, each and every increase in opportunities for cooperation . . . will diminish the tendency to pursue a conflict up to, and over, the threshold of war" (p. 396). Alliances inhibit the opportunity for actors to interact with non-alliance nations and increase range and conflict with non-alliance actors, while minimizing the range and intensity of conflict issues with alliance partners.

Their second model focuses on the accelerated diminution in the allocation of attention. As the number of independent actors increases, the share of attention that any nation can devote to another actor decreases. D&S then use communication theory, which holds that below a certain signal-to-noise ratio the signal itself is undetectable, to conclude that the increase in number of actors leads to stability. If some minimal attention is required to escalate conflict, the likelihood of conflicts is likely to decline as the average attention that each government can pay decreases. Stability may hence be contingent on the critical attention ratio (i.e., "the proneness of countries to enter into escalating conflicts even if only a small part of their government's attention is engaged" (p. 399)).

D&S then apply these propositions to Richardson's model of the arms race, where conflict behavior grows at an exponential rate one state attempts to match the other's arms growth while the other attempts to keep its proportionate lead. In the multipolar world, however, D&S posit that each country would only correspond to an increase in arms that is likely to be deployed on itself, which would slow down the arms race. Each increase in the number of powers slows down the speed of escalation, a conclusion that also holds for uneven powers that are allowed to shift alliances to maintain the balance of power.

D&S then sketch out implications for the diffusion of nuclear weapons. First, they argue that multipolarity in addition to slowing down escalation, may also slow down de-escalation. Second, they admit that relaxing the assumption of similar units, multipolarity in the real world may actually be less stable because of the introduction domestically politically unstable powers.

Lastly, D&S argue that multipolar systems exhibit a long-run problem of instability (a) if we accept the condition of zero-sum trade-offs, or (b) if we consider that the rare case of a strong power finding a preponderance of allies to destroy its enemy completely is more likely to occur in the long-run.