Axelrod Chapters 3-4:

-A strategy is collectively stable if no strategy can invade it; a strategy can invade if a newcomer strategy gets a higher score with a native than a native gets with another native (56)

-motivation of applying collective stability to analysis of people's behavior is to discover which kinds of strategies can be maintained by a group in the face of any possible alternative strategy.

-Difficulty with collective stability vis a vis the Prisoner's Dilemma is that it is hard to determine which strategies have it and which do not (57)

-Tit for Tat is a good strategy because if the number of interactions is large, the game will always balance out in favor of the tit for tat player; because memory is only one move, unless there is merely a single move, the tit for tat player will always compete; what makes it collectively stable is that no one can do better using any other strategy providing that the future casts a large enough shadow onto the present. In other words, what makes it impossible for tit for tat to be invaded is that the discount parameter, w, is high enough relative to the requirement determined by the four payoff parameters.

-All defections is NOT collectively stable, because tit for tab invaders in CLUSTERS can do better, though a single tit for tat player will not; this explains how cooperation can emerge even in a world of unconditional defection. The development cannot take place if only do by scattered people, but a cluster of players can do it (67-69).

-Chapter 4 example is WWI trenches and the cooperative restraint that developed

-Ashworth study demonstrates that the historical situation in the quiet sectors of the Western Front was an iterated Prisoner's Dilemma; weakening the enemy is an important value, but if neither suffer, that is a higher benefit; so in continued interactions, playing tit for tat, there is an incentive for cooperative restraint to develop; this only occurred among the common soldiers, because it was their lives at risk

-Because the sides faced each other for a long period of time, though the incentive was always to shoot at a given time, there was a long shadow of the future, meaning the continued interactions changed the game from a one move Prisoner's Dilemma in which defection is the dominant choice, to an iterated Prisoner's Dilemma in which conditional strategies are possible.

-high command suppressed much cooperation in the form of fraternization, but verbal cooperation based cooperative restraint was tougher to stop

-During periods of mutual restrain, demonstrations of artillery and sniper accuracy were used as a deterrent, in a way.

-What finally destroyed the system was the institution of raids of enemy trenches, which high command COULD monitor; it completed the cycle of evolution of cooperation; small units lost their freedom of action, which meant they had to fight (82-83).

-Live and let live system that emerged in the bitter trench warfare of WWI demonstrates that friendship is hardly necessary for cooperation based upon reciprocity to get started. Under suitable circumstances, cooperation can develop even between antagonists (87).