Chapter 9: Social Choice: The Impossible Dream

Section 9.4 Insurmountable Difficulties: Arrow's Impossibility Theorem

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Insurmountable Difficulties: Arrow's Impossibility Theorem

- Arrow's Impossibility Theorem
  - Kenneth Arrow, an economist in 1951, proved that finding an absolutely fair and decisive voting system is impossible.
  - With three or more candidates and <u>any number of voters</u>, there does not exist—and there never will exist—a voting system that always produces a winner, satisfies the Pareto condition and independence of irrelevant alternatives (IIA), and is not a dictatorship.
    - If you had an <u>odd number of voters</u>, there does not exist—and there never will exist—a voting system that satisfies both the CWC and IIA and that always produces at least one winner in every election.

Kenneth Arrow

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