

## INDIVIDUAL AND COLLECTIVE PREFERENCE AND CHOICE

Contrary to Mr. Strawn's assertion, even a rocket scientist could not design an election method to choose among three or more candidates that works in a fully satisfactory manner. (We know this because of deductive results [so-called "impossibility" theorems] in the formal theory of voting and social choice.) However, Mr. Strawn is correct in asserting that the standard election method used in the U.S. — the so-called *Simple Plurality* method: vote for one candidate, the candidate with the most votes wins — has some distinctive foibles when applied to multi-candidate elections. If we expect — or perhaps want — regularly to be confronted with elections in which there are three or more "serious" candidates for a single office, other election methods are probably preferable, through they have foibles also. (However, Simple Plurality makes it less likely that multi-candidate elections will occur.)

A striking foible of the simple plurality method is that it produces winners in an erratic fashion when the candidate field expands or contracts.

Let us first consider what we might reasonably expect of *individual* preference and choice when the field of alternatives *expands or contracts*. Suppose that you are working behind the counter of an ice cream parlor and a customer comes in. The following dialog ensues.

*CUSTOMER*: "I would like an ice cream cone, please."

*YOU*: "Yes, sir. What flavor would you like?"

*CUSTOMER*: "Well, what flavors do you have?"

*YOU*: "We have vanilla and chocolate." (*This is not Baskins-Robbins 31 Flavors.*)

*CUSTOMER*: "Well, given that choice, I'll take vanilla."

*YOU*: "Oh, wait a minute, I see we have strawberry also. Does that affect your choice?"

*CUSTOMER*: "Well, if strawberry is available also, I won't take vanilla — *I'll take chocolate.*"

You would probably regard this customer as rather weird and "irrational." We might expect that a "rational" customer has a preference between vanilla and chocolate, which is revealed by his answer to your first question ("What flavor would you like, given that we have vanilla and chocolate?") and the customer reveals a preference for vanilla) and that he would answer the second question in a way that depends only on his preference between vanilla and the newly available flavor.

### *Let All Parties Be Heard*

E. J. Dionne Jr. acknowledges the valuable role of third parties but still wonders if they should be allowed into the presidential debates [op-ed, June 30]. This isn't rocket science. Why is it that we can put a man on the moon but can't come up with a way to elect our president that allows voters to vote for their favorite candidate, allows multiple candidates to run and present their issues and ensures that the winner has majority support? The real fault lies with our presidential election method (also used to elect our congressional and state legislatures), which allows a candidate to win whether he or she has majority support or not. It defies the principle of "majority rule." If we used a runoff election or an "instant runoff," which elects a majority winner in one round, the "spoiler" problem would go away. Why not criticize our election method instead of the candidates?

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More formally and generally, we might expect the customer to have one of the following six *preference ranking* or *ordering* of the three flavors:

	<u>Ranking 1</u>	<u>Ranking 2</u>	<u>Ranking 3</u>	<u>Ranking 4</u>	<u>Ranking 5</u>	<u>Ranking 6</u>
1 <sup>st</sup> pref.	<i>Vanilla</i>	<i>Vanilla</i>	<i>Chocolate</i>	<i>Chocolate</i>	<i>Strawberry</i>	<i>Strawberry</i>
2 <sup>nd</sup> pref.	<i>Chocolate</i>	<i>Strawberry</i>	<i>Vanilla</i>	<i>Strawberry</i>	<i>Vanilla</i>	<i>Chocolate</i>
3 <sup>rd</sup> pref.	<i>Strawberry</i>	<i>Chocolate</i>	<i>Strawberry</i>	<i>Vanilla</i>	<i>Chocolate</i>	<i>Vanilla</i>

Thus, if the customer is “rational” in the sense of having a preference ordering, his answer to the first question reveals that he prefers *Vanilla* to *Chocolate* and therefore that he has Preference Ranking 1, 2, or 5. Therefore his answer to the second question must be either *Vanilla* (if he has Ranking 1 or 2) or *Strawberry* (if he has Ranking 5).

We would react the same way if the customer behaved in a parallel fashion as the range of choice was *contracted* (rather than expanded).

*CUSTOMER*: “I would like an ice cream cone, please.”

*YOU*: “Yes, sir. What flavor would you like?”

*CUSTOMER*: “Well, what flavors do you have?”

*YOU*: “We have vanilla, chocolate, and strawberry.”

*CUSTOMER*: “Well, given that choice, I’ll take chocolate.”

*YOU*: “Oh, I’m glad you didn’t choose strawberry, because I see that we’re out of strawberry.”

*CUSTOMER*: “Well, if strawberry isn’t available, I won’t take chocolate. I’ll take vanilla.”

If the customer is “rational,” his answer to the first question reveals that his has either Ranking 3 or 4. Since his first preference remains available at the second question, his answer must remain *Chocolate*.

More fundamentally, a “rational” customer would not express preference along the following lines.

*QUESTION 1*: “Given a choice between vanilla and chocolate, which flavor do you prefer?”

*ANSWER*: “Vanilla.”

*QUESTION 2*: “Given a choice between chocolate and strawberry, which flavor do you prefer?”

*ANSWER*: “Chocolate.”

*QUESTION 3*: “Given a choice between strawberry and vanilla, which flavor do you prefer?”

*ANSWER*: “Strawberry.”

If the customer is “rational,” his answer to the first question reveals that his has Ranking 1, 2 or 5, and his answer to the second question reveals that he has Ranking 1, 3, or 4. Together his

answers to these two questions thus imply he has Ranking 1. So his answer to the third question must be “*Vanilla*.”

Now suppose you are a pollster interviewing a prospective voter and replace ice cream flavors with Presidential candidates. The field candidate might be expanded:

*INTERVIEWER’S FIRST QUESTION*: “Given a choice between Bush and Kerry, which candidate do you most prefer?”

*INTERVIEWER’S SECOND QUESTION* : “Given a choice among Bush, Kerry, and Nader [or whomever], which candidate do you most prefer?”

If a “rational” voter prefers Kerry (for example) in the two-candidate field, s/he would favor either Kerry or Nader in the expanded field.

Alternatively, the range of candidate choice might be contracted, by reversing the order of the questions.

*INTERVIEWER’S FIRST QUESTION* : “Given a choice among Bush, Kerry, and Nader, which candidate do you most prefer?”

*INTERVIEWER’S SECOND QUESTION*: “Suppose it came down to Bush and Kerry. Which candidate do you most prefer?”

If a “rational” voter prefers Kerry (for example) in the three-candidate field, s/he would still favor Kerry in the contracted field.

Likewise, a “rational” voter would not (for example) prefer Bush to Kerry, Kerry to Nader, and Nader to Bush.

For the most part (though not invariably), social scientific and psychological evidence indicates that individuals are “rational” in the sense that they make *individual* economic and political choices as if they have the kind of preference rankings postulated above.

However, when voters “speak” or “reveal their preferences” *collectively* through the simple plurality (or any other) election method, “individual rationality” may be transformed into “collective irrationality.” This will be illustrated and further explained in subsequent handouts and class discussions.