	P	If P then Q	Q
Individual 1	True	True	True
Individual 2	False	True	False
Individual 3	True	False	False
Society	True	True	False

Figure 13.5.1

Similarly, in Chapter 11 we discussed an interpretation of egalitarianism in terms of equality of opportunity. That too raises the question of how to understand and measure the extent of the opportunities available to individuals. Social choice theorists have put their formal tools to work in attempting to clarify the notion of the extent of opportunity or freedom.

Let X be the set of all possible alternatives among which people might choose. Let $A, B, \ldots$ be subsets of X which are the actual sets of alternatives among which particular individuals choose. Some normative economists have been interested in characterizing when $A \geq B$, $A > B$, or $A \approx B$, where "$A \geq B$" is to be read "A provides at least as much freedom or opportunity as B," "$A > B$" means "A provides more freedom than B," and "$A \approx B$" symbolizes "A and B provide the same amount of freedom." These economists have attempted to formulate some plausible conditions comparing the freedom provided by different sets and to investigate their implications. For example, it seems plausible that (i) opportunity sets that permit no choice at all – that contain only one member – all provide the same (zero) amount of freedom. It also seems plausible to maintain that (ii) if A contains all the options in B and some others in addition, then $A > B$. Finally, it seems plausible that (iii) if some option x is not in sets A or B and if A^* and B^* are the sets that result from adding x to A and B (respectively), then $A \geq B$ if and only if $A^* \geq B^*$. But these three conditions imply that the opportunity or freedom of a set can be measured by the number of alternatives it contains.† As Sen (1990) has argued with particular force, this implication is clearly unacceptable. It means, for example, that a worker has much

† Condition (i) tells us that $\{x\} \approx \{y\}$ and $\{z\} \approx \{w\}$ for any four distinct alternatives. If we add z to the set $\{x\}$ and also to the set $\{y\}$, then (iii) implies that $\{x, z\} \approx \{y, z\}$. If we add x to the sets $\{z\}$ and $\{w\}$, then (iii) implies that $\{x, z\} \approx \{x, w\}$. So $\{y, z\} \approx \{x, w\}$ – that is, all two-member opportunity sets provide the same amount of freedom (which is, by (ii), more than the freedom in one-member opportunity sets). In the same way we can show that, if all n-member opportunity sets provide the same amount of freedom, then all $(n+1)$-member opportunity sets provide the same amount of freedom, and by mathematical induction it follows that every two sets with the same number of alternatives provide the same amount of freedom. See Pattanaik and Xu (1990).