interpreted his phrase to imply that an all-knowing, all-powerful God actively intervenes in human affairs to assure that supply on the market will tend to equal demand, and vice versa. This misinterpretation reinforces Mises' words of caution that similes and metaphors may lead to misunderstandings if interpreted literally.

Individuals Choose

Persons who introduce into economic discussions and analyses terms from the fields of the physical sciences and mechanics fail to understand clearly the nature of economics. They do not realize that economics deals with personal ideas and conscious actions of individuals which are neither quantifiable nor measurable. Nor do they realize that there are no constant relations in the field of human action. There is nothing "automatic" or mechanical about the market. Using terms that imply that there is denies, in effect, the essence of market transactions based on individual ideas and subjective values and purposive actions. It ignores the inevitability of change and may very well mislead unwary users into unfortunate "language traps." Thus such terms as "market mechanism," "automatic forces of the market," "business cycles" or "equilibrium prices" are never appropriate for describing market phenomena.

Terms from Mathematics

The current infatuation with aggregate economics and computers has enhanced the popularity of mathematical terms for describing market phenomena. However, they are not appropriate for dealing with the principles of human action. To understand why not, consider the origins and definitions of mathematical terms.

When physical scientists analyze the world and the universe, they seek to describe distance, area, weight, volume, time, sound, heat, light, and so on, in units of measurement that do not change, or at least do not change perceptibly enough to distort the particular measurements being taken. Each unit of measurement is related in some way to the physical world itself. Units of distance and area are defined in terms of the earth's surface. The unit of time by which we reckon years, months, days, hours, minutes and seconds, is based on the rotation of the earth and the movement of the stars. The weight of an object is a measurement of its resistance to the earth's gravitational pull, i.e., according to *Webster's New Collegiate Dictionary* (1951), weight is "the force with which a body is attracted toward the earth. It is equal to the mass of a body multiplied by the acceleration due to gravity." Volume is a measure of solid content, or a dry or liquid measure.

Various scales have been devised to record temperatures—Centigrade, Fahrenheit, Kelvin, Reaumur, etc.—all easily convertible for "on each of these [scales] are two fixed points, the melting point of ice and the freezing point of water under standard pressure" (*The Columbia Encyclopedia*). The most frequently used units of measurement for heat are the Calorie and the British Thermal Unit, both defined as "the amount of heat required to raise the temperature [of a certain amount] of water at its maximum density one degree" Centigrade or Fahrenheit, respectively. Scientists can also measure sound, heat and light now by the waves they emit.

Units of Measurement

These units of physical measurements are all precisely defined. They do not deal with ideas, opinions or values. Scientists may mismeasure or misread measurements. Their instruments may be wrongly calibrated. Their very attempts to measure an element may raise or lower its temperature, influence its chemistry or physiology in some way and so affect the measurements taken—the Werner Heisenberg principle. Their experiments may go awry and their interpretations of their results may vary. However, the existence of such difficulties does not affect the basic fact that physical scientists can deal with physical objects as if they are constant, or variable only within certain inconsequential limits. And they can expect that physical experiments and measurements carefully carried out, under controlled conditions, will be precise and accurate.

Mises used to say, "economics is not potatoes." Rather economics is a study of the ideas, actions and values of men. The study of economics provides the theories and understanding that help men determine how best to supply consumers with precisely enough potatoes, neither too few nor too many, so as to satisfy their demands for potatoes without wasting time, labor and other resources, resources that might better be used to satisfy other market demands, more urgent than the demand for more potatoes. This, in essence, is the "economic problem."

Now it is true that some of the *consequences* of conscious, purposive human action may be measured in mathematical terms. The raw materials and agricultural products brought forth from the earth, potatoes for example, may be counted, measured and weighed. The physical goods produced with the cooperation of entrepreneurs, investors and workers may also be totaled and measured in various ways. However, these physical goods and services are distinct from the values men place on them and it is their values to men that interest economists.

Economics is the science of human