III-4.   What Is Rationality?

The worm does well obedient to its kind.
                    - Buddh

Were I

A Spirit free, to choose for my own share,

I'd be a *Dog*, a *Monkey*, or a *Bear*.

Or anything but that vain Animal,

Who is so proud of being rational.

- *Satyr Against Reason and Mankind* (Rochester, 1675)

What is a better guide: Principle-based conduct or the conduct-based principle? It is about realizing the potential. Beings realize potential by processing the whole gamut of inputs into behaviors. Its potential is not about a pie-in-the-sky kind or wishful idealization. Potential is not realized by adhering to rituals. Nor is it served by polarized dialectic of a particular value, reason or cause. Such constructs attract attention, evoke emotion, and encourage adherence. They are smoke without fire: Not very meaningful.

Rational behavior for sustainable existence is a necessity. We learn of its potential and limitations through practice. Without such appreciation, one tends to gravitate towards endless augmentations of perfect truth or omniscience.

Logic alone does not guide behaviors. As applied in limited contexts logic can serve different masters to build selective theories and constructs based on inputs of their choosing.

Attributes of rational behavior emerge from consistency of conduct. Its success is rooted in the quality of interaction inherent in description, interpretation and generalization of the verifiable observed and experienced.

In a search one of the purposes of reason is to bring the criteria and objective in resonance with reality. Reasoning helps us take stock of what we have to evaluate its potential. For such dealings we rely on what we understand. Often it is also necessary to consider what else may be out there.

Reasoning brings states of perception in line with the identified elements of reality. It may not be hard-wired in our brain. But we learn to rely on it to make sense of the experiences. Reason may strengthen a template of perceived choices that could rapidly filter the inputs for real-time decision to respond.   In the longer term, reasoning provides a common basis to validate behaviors both real and hypothetical. Such projections take us out the cocoons of our own experiences and constructs.

> - Have you ever wondered how a coherent decoheres to become incoherent?
> - Rationally selected means can destroy rational thought (*Klemens Szaniawski*).

Arrow's impossibility theorem. In his Nobel Prize winning work Kenneth Arrow showed that it is impossible to aggregate the individual preferences into social preferences. Consider the preferences of human groups A, B and C for three flavors of ice cream: p (vanilla), q (nut), and r (berry). Suppose the three groups rate the individual preferences in the scale of 1 (most), 2 and 3 (least) with the following results:

Group/flavor	p (vanilla)	q (nut)	r (berry)
A	1	2	3
B	2	3	1
C	3	1	2

Consider how the three groups will vote their preference between pairs of flavors. People will vote for one of the two flavors higher in their preferences (even though their number one choice may be different from the two being considered).

Between p and q: A will vote for p, B for p, and C for q (= 2/3 for p/q)

Between q and r: A for q, B for r, and C for q (=2/3 for q/r)

Between p and r: A for p, B for r, and C for r (=2/3 for r/p)

In the contest for each flavor paired with the one of the other each is voted by 2/3 groups. Also the order of preference changes depending on the pairs. The result also leads to a paradox of *impossibility*: In the first vote p is preferred over q; in the second q is preferred over r; **but in the third r is preferred over p**. On the other hand, logically one would have expected: If p is preferred over q, and q preferred over r, **then p must be preferred over r**.

This theorem demonstrates that our arbitrary individual preferences, as well as our naive intuitions about choices, cannot be counted upon to yield a coherent and consistent outcome. It is far more important to realize that there is no method to construct social preferences from arbitrary individual preferences. In matters of social and political choices, we are often satisfied with the pair of choices, without looking at all the choices. One way to get around the limitation is consider the choice between p or q or none.

Against Gods and Humbug