

Dr. Barry Commoner: Reflections on a Life and  
Work

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## Barry Commoner on “Systems Thinking”

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1. Observe the real world.
2. Analyze changes with time in the real world – i.e. observe not merely what is, but what happens to it with time.
3. From the analyses of such changes we can design a set of analytical principles – useful ways of thinking about the real changing world. Some examples of these principles:
  - o The whole has properties different from the sum of its parts’ properties.
  - o There is a central set of relationships (a ‘tendency’) that helps to explain the behavior of the whole and how parts participate in that general behavior. For example, in economics, how the parts relate to the means of production.
4. The analysis is for the purpose of acting on the existing real world in order to change it for the better (for people).
5. These four operational elements are not to be done separately, for they are linked and influence each other. So, how the world is observed (1) and what is learned (2 and 3) are conditioned by the interest in changing it (4). For example, science, as a part of society, is not “value-free” or “objective”. In a sense, the dedication of the whole process to action is the “central tendency” and colors all the subparts.