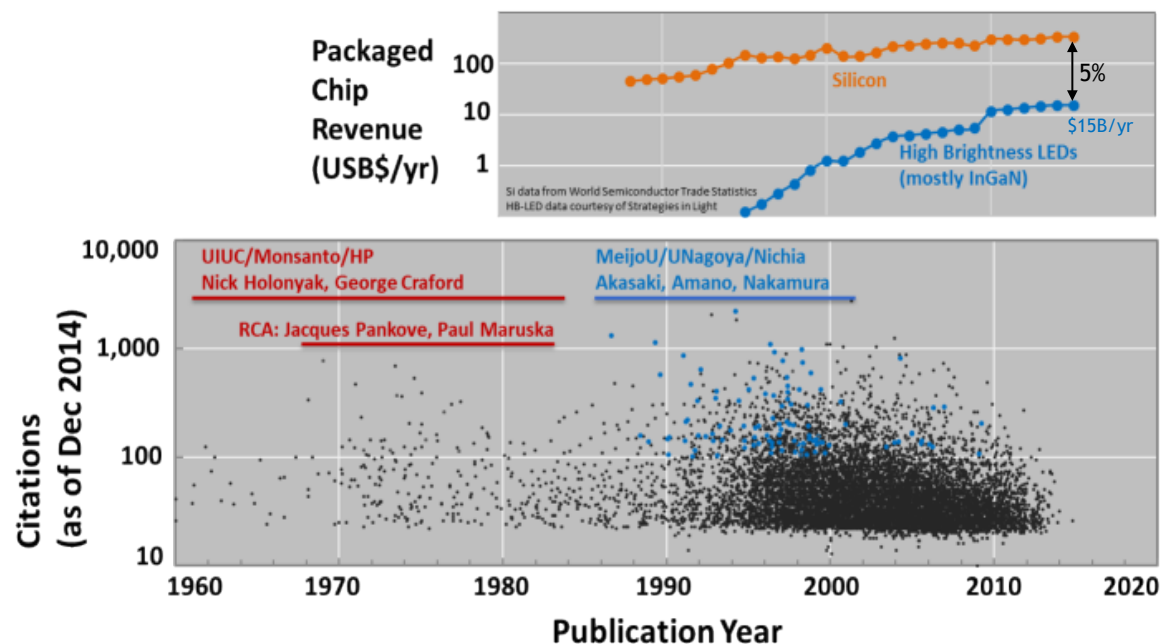
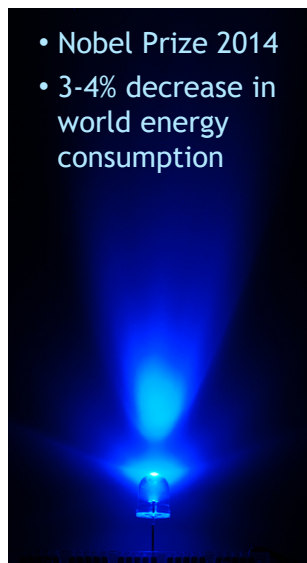




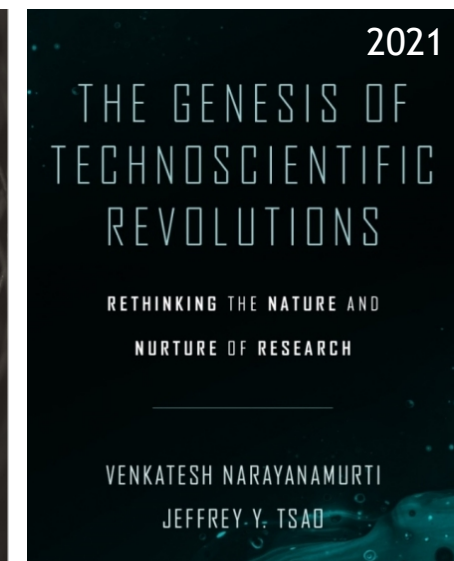
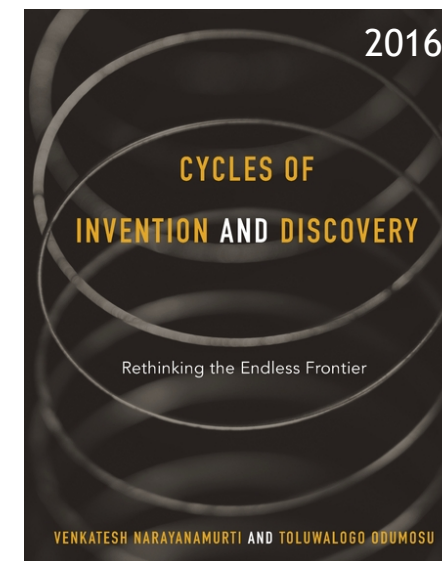
SOLID-STATE LIGHTING'S VIRTUOUS CYCLE

The Blue LED and its Repercussions

- Nobel Prize 2014
- 3-4% decrease in world energy consumption

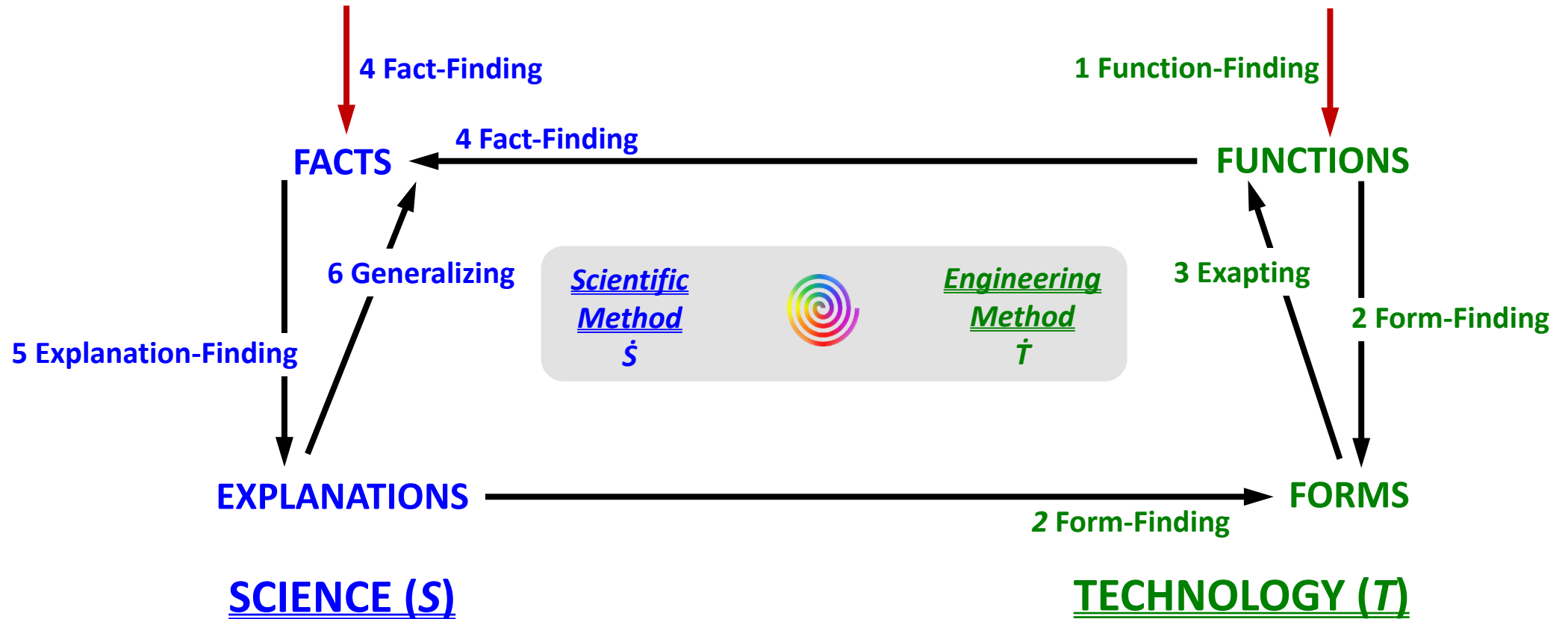


S&T Advance: It Takes an Ecosystem



1 The Technoscientific Method:

every mechanism necessary; and no additional mechanisms



2 Solid-State Lighting: 1980s-2010s

a Exaptation was essential

b Surprise and contrariness were essential

c Engineering was essential (and led science)

