Far from becoming more responsive to public needs, however, technology became less flexible and less responsible, precisely because it became more scientific. The reason was quite simple: a scientific technology permitted changes in scale and complexity that swamped existing mechanisms of social control. In Adam Smith's day one could assume that the "invisible hand" of market competition would guide technology to the service of human needs. Smith presupposed small, competitive economic units. In the case of the iron industry, for example, the prescientific age was characterized by great risks and dependence on the intuition, experience, and skill of the individual ironmaster. Once the technology of iron was understood scientifically, however, it could be routinized; guesswork

could be eliminated". Edwin Layton, 1980