

# MACHIAVELLI

[by John H. Lienhard](#)

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Today, thoughts about Machiavelli and immature science. The University of Houston's College of Engineering presents this series about the machines that make our civilization run, and the people whose ingenuity created them.

Machiavelli lived from 1469 to 1527. He was only a few years younger than Leonardo da Vinci and they both spent time working for the cruel Cesare Borgia. He and Leonardo had something else, even more important, in common. Both helped invent the new practice of empirical science. Leonardo observed the workings of nature. Machiavelli tried to make observational science of politics.

A popular view of scientists paints them as people who like to pull the wings off flies to see how they react. That's what we do when we let cold-blooded detachment run mad, but it has little relation to effective science. Still, Leonardo and Machiavelli give us an idea where the stereotype comes from.

Both were formed by the revival of classical Greek values we call Renaissance humanism. Like early Greeks they tried to reduce the world to human scale by observing it with detachment. Leonardo set us on the way. A century later, Galileo fine-honed the new experimental method. All the while, scores of bright people tried to see things in this new perspective.

So Machiavelli made his detached dissection of politics. He removed the religious language used in contemporary discussions of statecraft. He stripped the art down to secular cause and effect. He wrote much, but the book he's famous for is *The Prince*. Machiavelli modeled his hypothetical prince on Cesare Borgia and used him to show how the state should be run. He'd come to hate Borgia the man, but Borgia the prince served his purposes.

Joseph Bronowski and Bruce Mazlish read *The Prince* and find a flawed scientist looking at the problem of running a state. Machiavelli's Prince (or prime minister or president) is obliged to be unscrupulous in the interests of the state -- lying, killing, torturing -- using religion to further the ends of the state.

Machiavelli advises his prince not to let his standards of personal morality fall apart. But personal morality is a luxury to be set aside in the interests of the state. He tells the Prince not to casually violate his people's personal property and to be surgically accurate in using cruelty for the common good. Again and again he warns the Prince not be self-indulgent when he's unscrupulous in support of the state.

And so Machiavelli forged a science of ends over means. Yet, even as he wrote, Borgia's rule was coming apart just because it was unscrupulous. Any prince serves at the pleasure of the people, whether he realizes it or not. The failure of Machiavelli's scientific model lay in its naive acceptance of apparent truth. Science is much more than pulling wings off flies. It is looking below the surface and seeing with the mind as well as the eye. But Machiavelli hadn't come that far. And today would-be leaders still read his simplistic embryonic science and are still taken in by it.

I'm John Lienhard at the University of Houston, where we're interested in the way inventive minds work.

(Theme music)

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Machiavelli, N., *The Prince* (tr. J. B. Atkinson). Indianapolis: Bobbs-Merrill, 1976.

Bronowski, J., and Mazlish, B., *The Western Intellectual Tradition: From Leonardo to Hegel*. New York: Barnes & Noble, 1960.

For more on Machiavelli, see the following websites:

<http://www.utm.edu/research/iep/m/machiave.htm>

<http://www.sas.upenn.edu/~pgrose/mach/>

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