

Bryant, Lynwood. "The Origin of the Automobile Engine." In Rochlin, Gene I. *Scientific Technology and Social Change: Readings from Scientific American*. San Francisco, CA: W. H. Freeman, 1974. ISBN: 9780716705000. pp. 106 - 115. Originally published in *Scientific American* 216 (March 1967): 102-112.

The development of the engine required both scientific exploration and fine pragmatic tuning. Mechanical efficiency, in particular, is an important factor, both for the commercial success of an engine, and as a tool for tuning its inner workings. Otto's story is more than a human interest story -- it's about how all great technology is developed.

- Why was Otto so concerned with controlling the explosion?
- How did Otto's bad theory lead him to the right result?
- Why is temperature such an important unmeasured variable?
- What other bad theories led to the modern car and its adoption as we know it?

Revell, Inc. "How an Auto Engine Works: An Illustrated Guide to the Visible V-8 Engine Assembly Kit." Des Plaines, IL: Revell, 1987.

This breakdown of the car is useful to help students take apart their engines, and to understand the complex, interconnected engineering system embodied in the engine. One principle of the Culture Tech seminar is that a practical understanding of technologies facilitates discussion of their cultural implications.

- What do you predict is the next part of the engine to change?
- How does the design of electric vehicle engines differ?

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