

# Re: never attach a resident

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of the 'cyber' prefix.

Cybernetics is a cross-disciplinary science. The name was coined by Norbert Wiener [pron. whiner], who was a professor of mathematics at MIT, and did radar and firing-feedback mechanisms for the U.S. in World War II. Cybernetics describes the complex of sciences dealing with communication and control in the living organism AND in the machine. Its application is sometimes called operations research.

I personally rank Norbert Wiener above Albert Einstein.

Operations research is a difficult discipline --- I certainly don't understand it --- but when it was desperately needed during World War II, the U.S. Dept. of War went for it gung-ho, rightfully. Signals intelligence (SIGINT) is the first step...the NSA grew out of these wartime operations research efforts.

To seek out information from noise, then act on the information.

Target accuracy for precision high altitude bombing requires a complex feedback mechanism to control deployment (pre-GPS WW II).

- \* My dad:
- \*
- \* Norden bombsights revolutionized aerial bombing.
- \*
- \* They were so accurate we stopped putting explosives
- \* in the bombs and just aimed for people.

Communications, Command and Control. The above wasn't really the best example of OR, but I did get to quote my dad again. ;-)

- \* "The Future of War – Power, Technology, and American World Dominance in
- \* the 21st Century", by George & Meredith Friedman, 1996, ISBN 0-517-70403-X
- \*
- \* A discipline named operations research had begun to develop prior to World
- \* War II that aspired to use quantitative methodologies to develop a science
- \* of management. [snip]
- \*
- \* For the physicists and mathematicians of the Rand Corporation, the

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- \* intuitions of common sense were utterly insufficient as a guide to
- \* management. Mathematical precision was necessary, and operations
- \* research promised to supply that precision. [snip]
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