Wireless Security Panel

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This is an understandable attitude for the average end user, but what if technologists start having such feelings?

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Attackers love either

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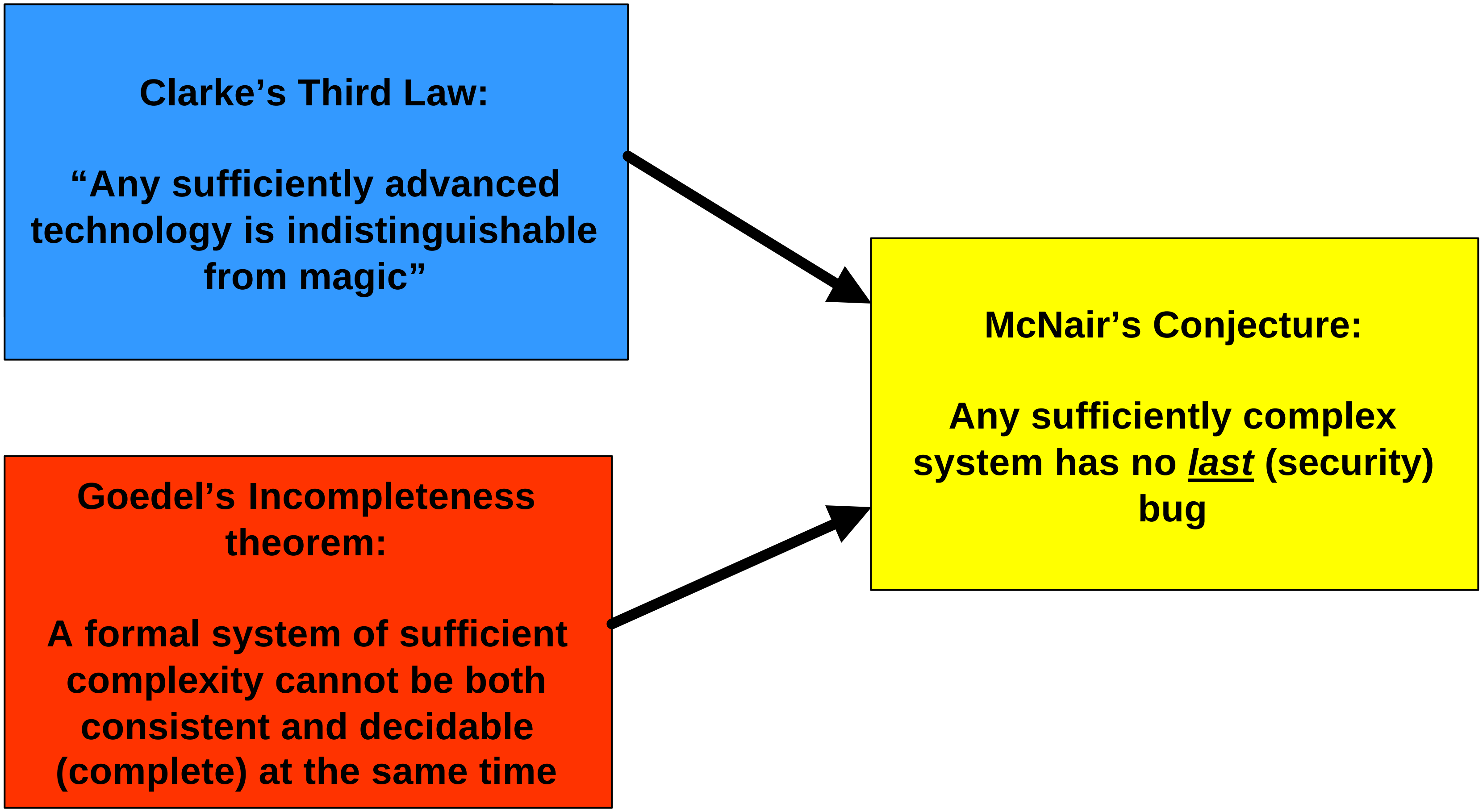

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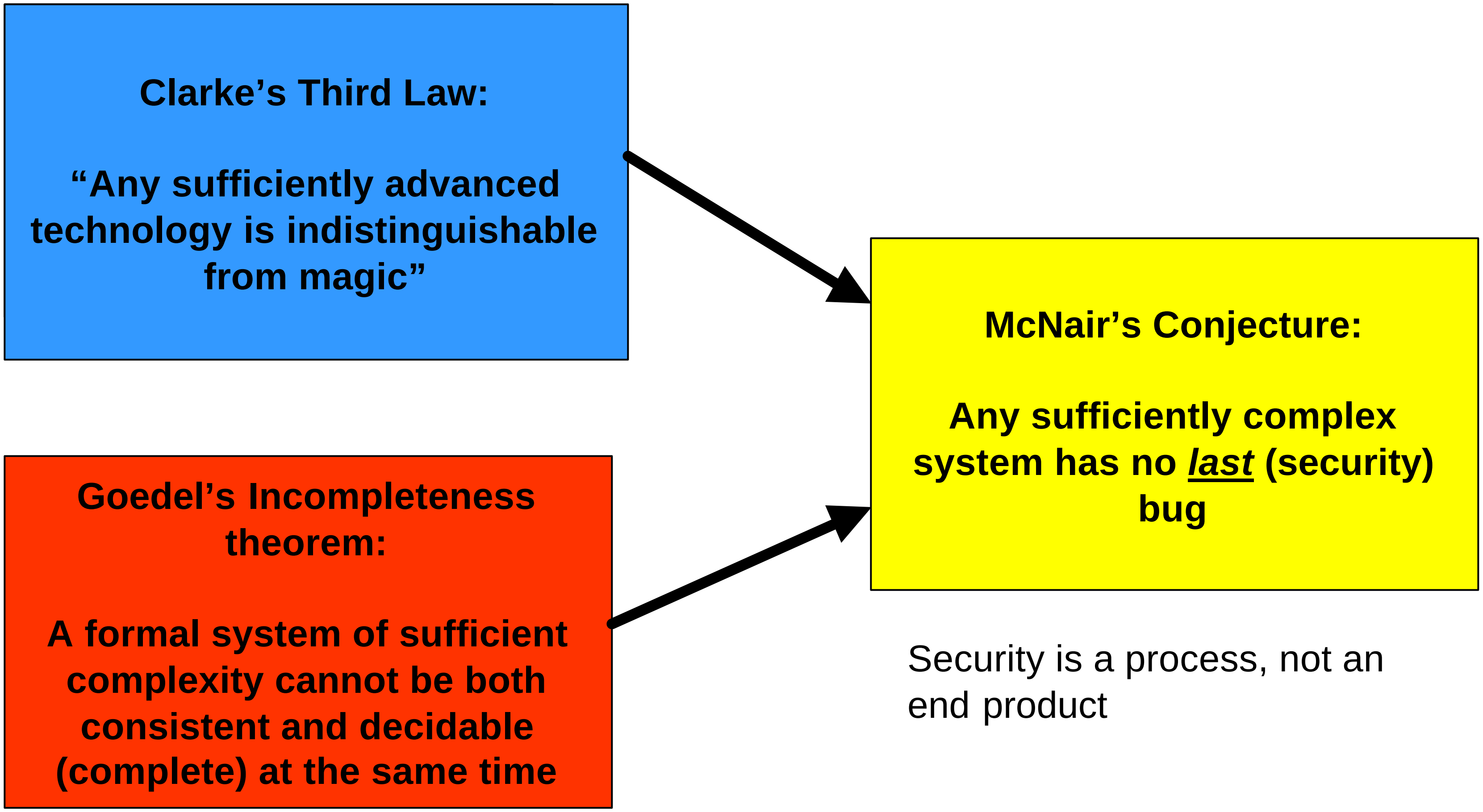

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Security is a process, not an end product

Quality Lessons

- Quality: “Meeting customer’s expectations”
- “Quality is Free” (title of Phil Crosby’s book)
- Quality is a process, not a product
- Continuous process improvement

Applying Quality Lessons to Security

- Quality: “Meeting customer’s expectations”
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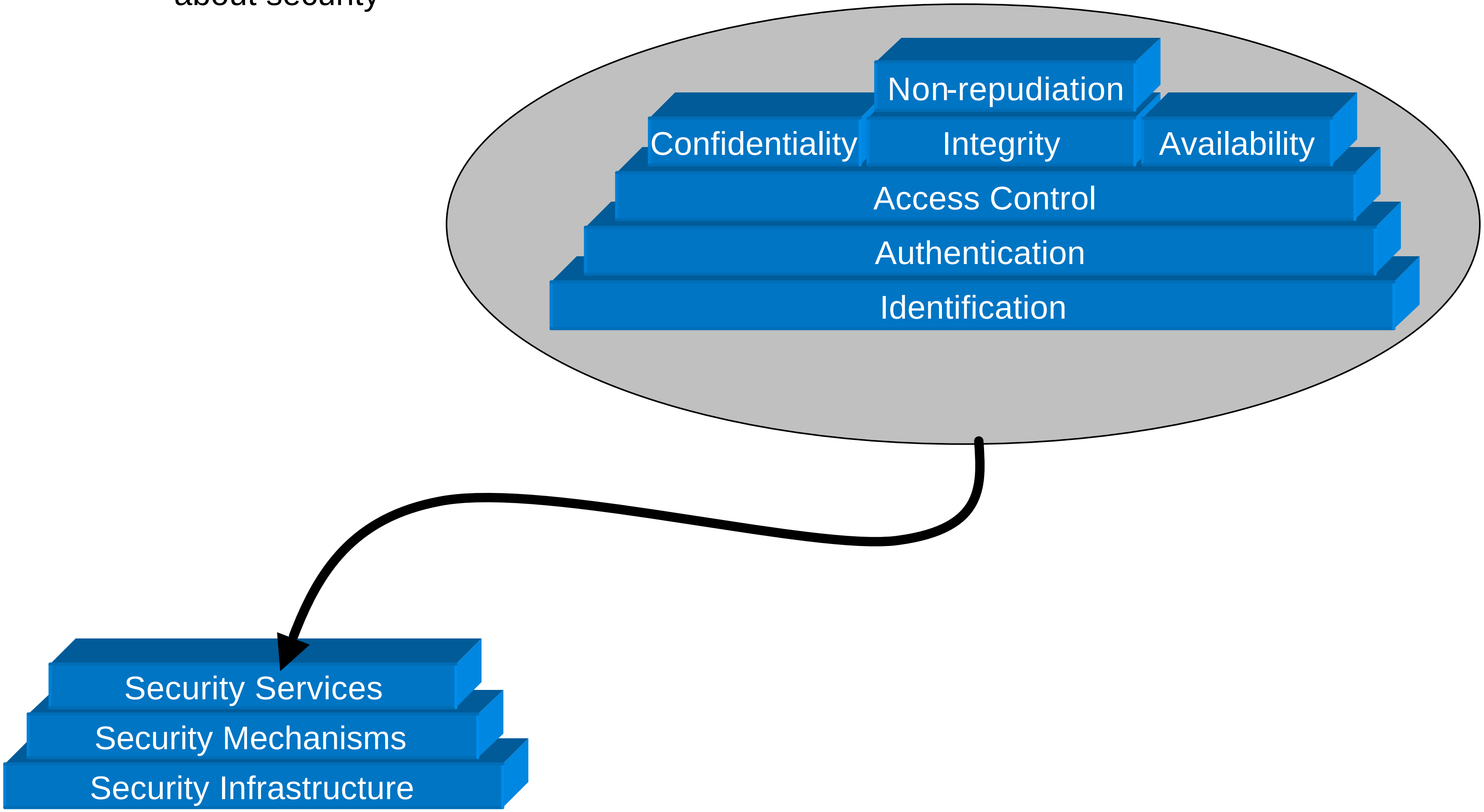
- Security: “Meeting customer’s expectations, **in the presence of the actions of an adversary**”
- Security is Free
- Security is a process, not a product (see “Secrets and Lies” by Bruce Schneier)
- Security needs evolve as the threat environment evolves

But What is “Security?”

1. A structure is needed to talk about security



Non-repudiation

Confidentiality

Integrity

Availability

Access Control

Authentication

Identification

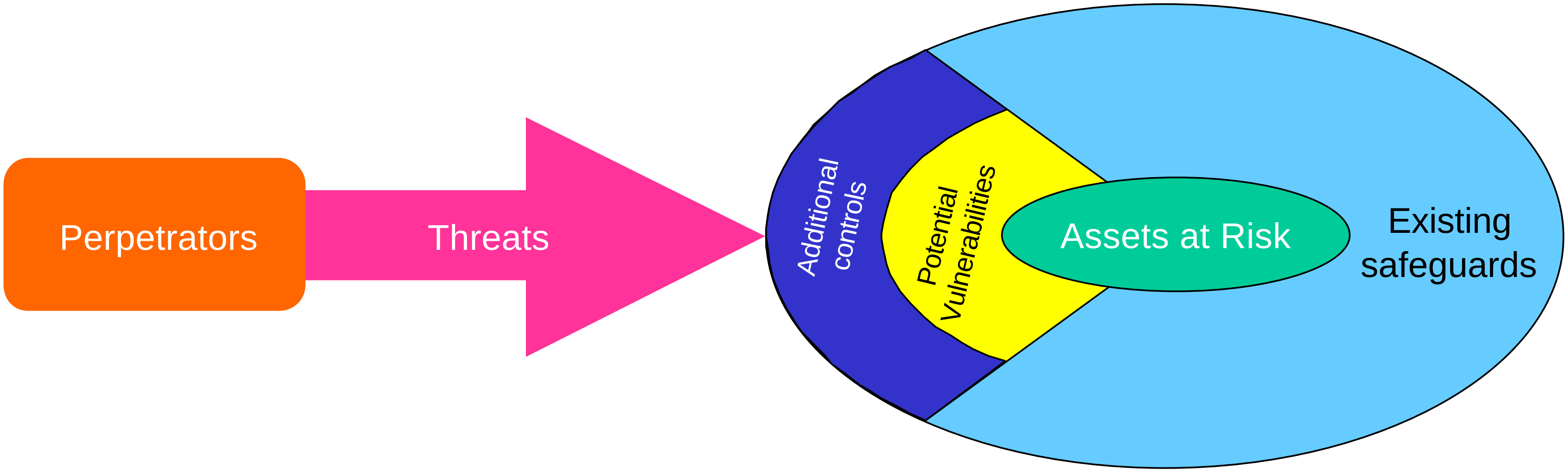
Security Services

Security Mechanisms

Security Infrastructure

How To Evaluate Security Needs

2. An assessment process is needed



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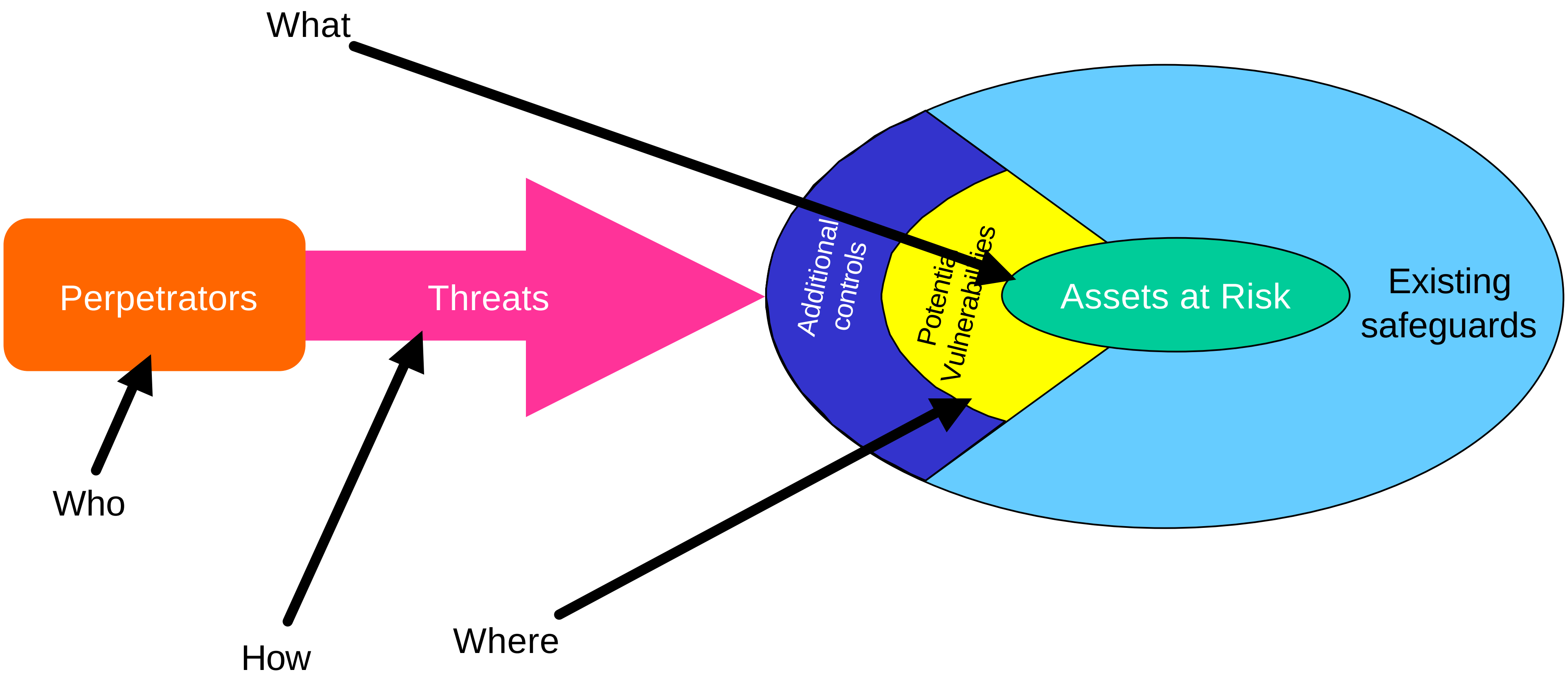

When?

Why?

How Not To Approach Security in Wireless Systems

~20th Century BC	Monoalphabetic cipher invented
~0th Century AD	Monoalphabetic cipher popular (Caesar cipher)
~15th Century	General attack on monoalphabetic cipher known
~16th Century	Polyalphabetic cipher invented
~17th Century	General attack on polyalphabetic cipher invented
~1917	Provably secure one-time pad invented
~1925	Polyalphabetic attack against incorrectly used “one-time” pad demonstrated
~1990	Wired Equivalent Privacy application of RC-4 stream cipher standardized in 802.11
~1995	17th Century attack against polyalphabetic ciphers renders WEP of questionable use

Lessons Learned

- Even not-so-advanced technologies can mystify technically savvy people when they don’t
  a) Consider the ramifications of their application
  b) Consider the skills and motivations of the attackers