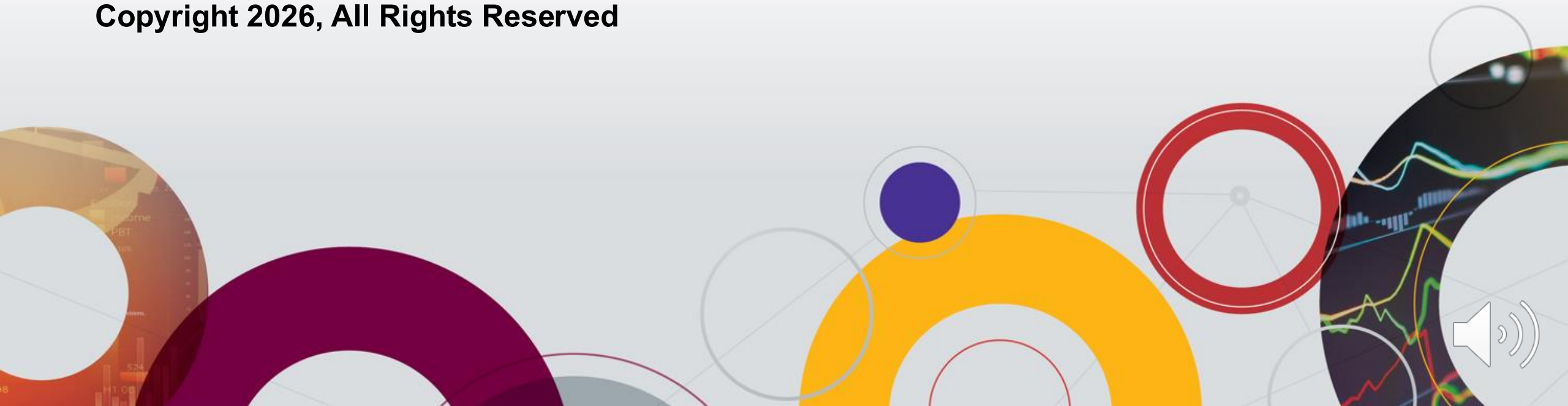


## 2. Computing Concepts for Biomedical and Health Informatics

**10x10 – Introduction to Biomedical Informatics & Artificial Intelligence**  
**William Hersh, MD, FACMI, FAMIA, FIAHSI**  
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# Unit 2 overview

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This unit covers the general principles of computers and networks necessary for biomedical informatics

Some material in this unit may be review to some of you

Maybe I am getting old, but please excuse the nostalgia in some of my “confessions” at the end

- Perhaps you’re not getting too old when you still admit to your mistakes (e.g., my initial reaction to World Wide Web)

# Basic computer concepts for biomedical informatics

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Types of computers

Data storage in computers

Computer hardware and software

Computer networks

Software engineering

Personal history of computing

# But informatics is not about technology, right? 😊

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Technology is essential for acquisition and use of our focus, which is information

Decisions about technology profoundly impact how information is managed

Focus on information should be user-centered and not technology-centered

Informaticians need to “speak the language” and know the “jargon” of computer science and information technology

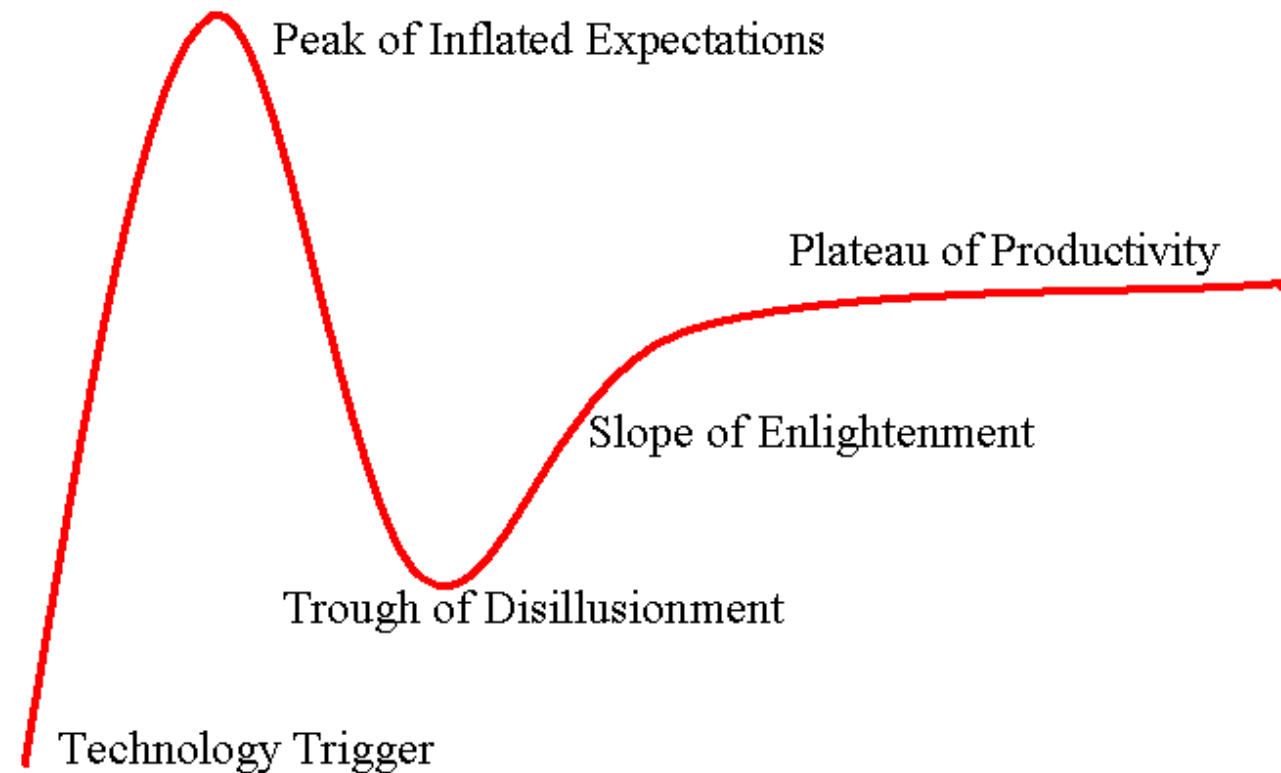
Introductions to computer science

- Brookshear (13<sup>th</sup> edition, 2018)
- Patt (3<sup>rd</sup> edition, 2019)

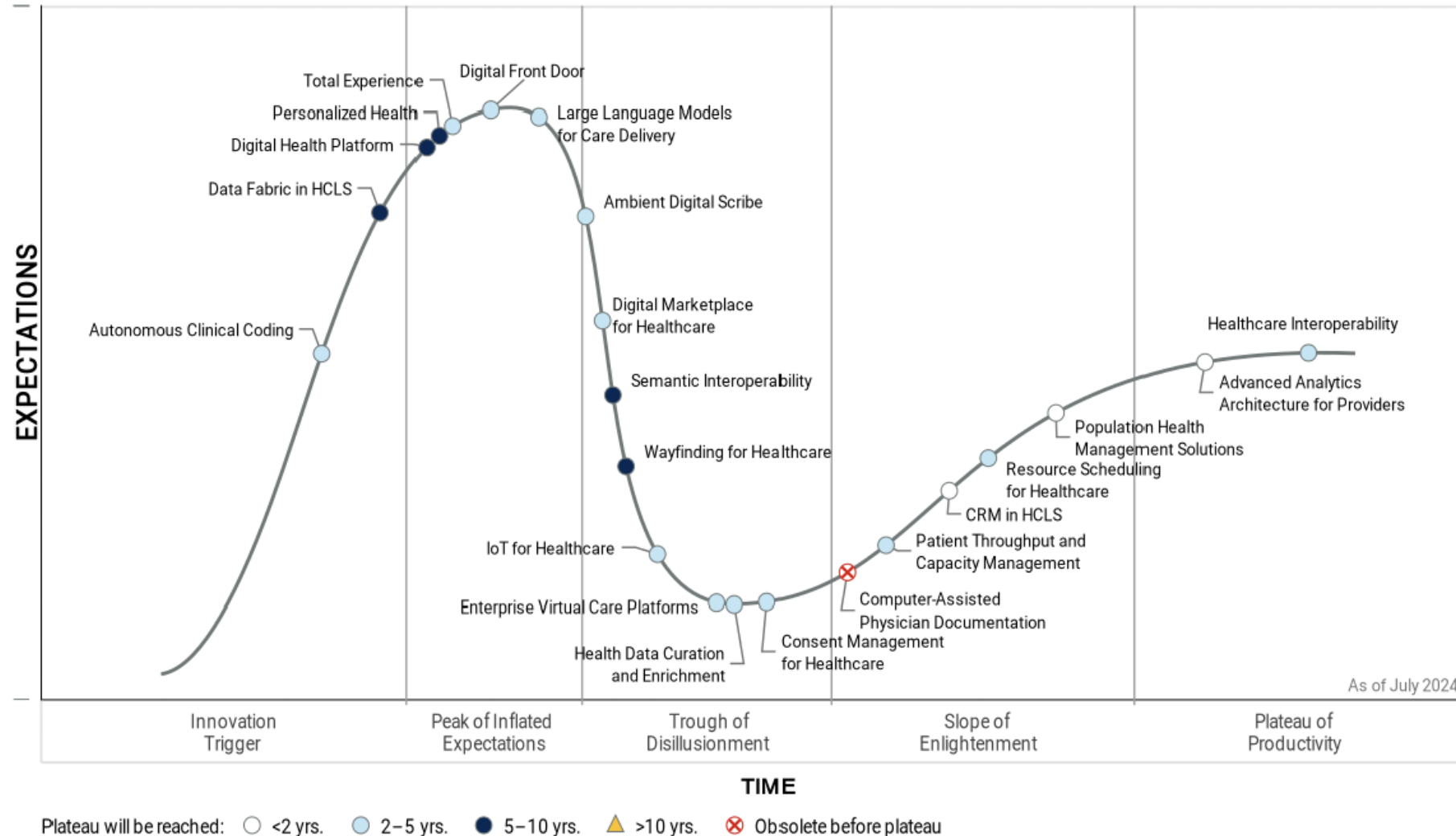
History book of “giants” of early days of computing (O’Regan, 2013)

# A good reason for understanding technology is cutting through hype

Gartner “Hype Cycle” (Fenn, 2008; Brinker, 2018) – five categories in emergence of technologies



# Hype cycle for healthcare provider technologies (Meyer, 2024)



# Hype cycle for emerging quarantines

