

# World Building



# World Building One Slide Summary

- **World building** is the process of constructing an imaginary world. World building produces a rich setting that appeals to certain types of players.
- In addition to **Aesthetics**, we can use **GNS Theory** and **Psychographic Profiles** as lenses to examine player desires.
- Given a notion of what players want, we can allocate resources to world building, as well as to designing mechanics and dynamics, etc., as part of game design and development.

# World Building Outline

- What is world building?
- Why build worlds?
  - Aesthetics and Motivations
- How to build worlds
  - In-class discussion
- What can go wrong?
- Tips for success

# Is “World Building” Just Genre?

World Building

Nope

RPG



Puzzle



Shooter

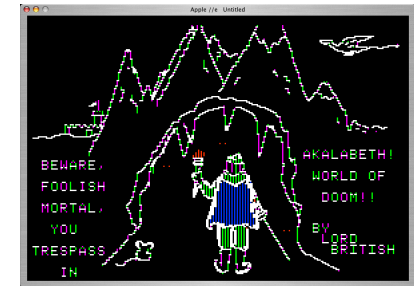


# “World Building” Is *Not* Genre

World Building

Nope

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Puzzle



Shooter



# Is “World Building” Just Plot?

- Is there a distinction between good plotting and good world building?

- Many stories and games **share** the same plot

*“A hero ventures forth from the world of common day into a region of supernatural wonder: fabulous forces are there encountered and a decisive victory is won: the hero comes back from this mysterious adventure with the power to bestow boons on his fellow man.”*

- Joseph Campbell summarizes the Monomyth

# World Building Is *Not* Plot

- The same plot can be used by a game or story with a well-built world as well as by a game or story with a poorly-sketched one
  - Thus world building is not the same as plotting
- Example: Deep Impact vs. Armageddon

“One movie showed how families and modern civilization would be affected by an asteroid collision, while the other was a loud, action-packed thrill ride from director Michael Bay.”



# World Building

- **World building** is the process of constructing an imaginary world. World building produces a rich setting.
- Common questions in world building:
  - Is it an alternate earth? Or not earth at all?
  - What are the climate, geography and history?
  - What are the rules of magic or science?
  - People and customs, ethics and values, population?
  - Society, government, crime, legal system, weapons, commerce, trade, public life, transportation, arts, dress, diet, education ... ?



"It is necessary to create constraints, in order to invent freely. In poetry the constraint can be imposed by meter, foot, rhyme, by what has been called the "verse according to the ear."... In fiction, the surrounding world provides the constraint. This has nothing to do with realism... A completely unreal world can be constructed, in which asses fly and princesses are restored to life by a kiss; but that world, purely possible and unrealistic, must exist according to structures defined at the outset (we have to know whether it is a world where a princess can be restored to life only by the kiss of a prince, or also by that of a witch, and whether the princess's kiss transforms only frogs into princes or also, for example, armadillos)."

– Umberto Eco, postscript to *The Name of the Rose*

# Examples Beyond Cartography

- Rules of Magic or Superscience:
  - Harry Potter vs. Star Wars
- Crime and Government:
  - Grand Theft Auto vs. BioShock
- Arts and Dress:
  - Gone Home vs. L.A. Noire
- Social Ethics and Values:
  - Deus Ex vs. Dragon Age
- Transportation and Commerce:
  - Assassin's Creed vs. Skyrim



# Why Build Worlds?



# Why Build Worlds?

- World building is one of many possible activities during game design and development.
  - Resources are limited and time-to-market is critical.
- Typically undertaken for two reasons:
  - To make the **developers** (you) happy.
  - To make the **players** happy.
    - And thus to sell more units.

# What Do Players Want?

- We've seen that world building can be independent of Mechanics and Dynamics
- “Aesthetics describes the desirable emotional responses evoked in the player, when she interacts with the game system.”
  - Fantasy (game as make-believe)
  - Narrative (game as drama)
  - Discovery (game as uncharted territory)
  - Expression (game as self-discovery)
  - Submission (game as pastime)

# World Building and Aesthetics (1)

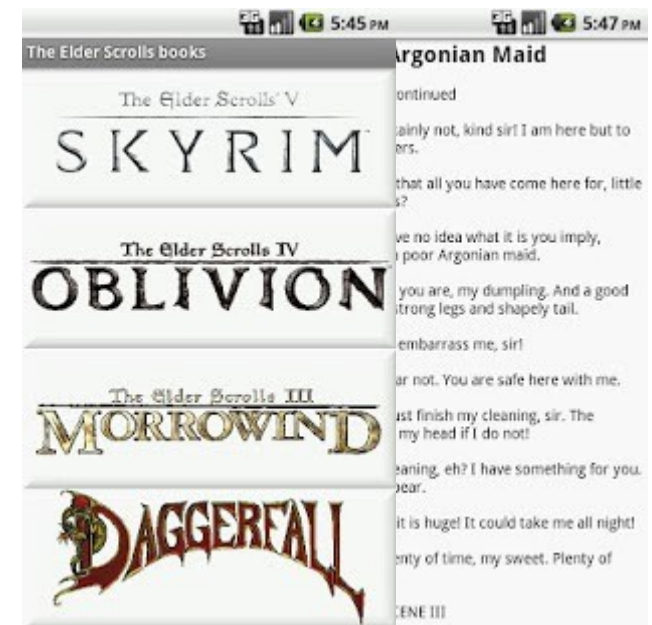
- **Fantasy** (game as make-believe)
  - World building is telling you what to believe.
- **Narrative** (game as drama)
  - World building establishes the motives.
- **Discovery** (game as uncharted territory)
  - World building provides the world to explore.

# World Building and Aesthetics (2)

- **Expression** (game as self-discovery)
  - World building **sets out values** for self-comparison.
  - To express yourself as fair you need an unjust situation. To express yourself as compassionate you need an opportunity for mercy. And so on.
- **Example: Portal**
  - "You euthanized your faithful Companion Cube more quickly than any other test subject on record. Congratulations."
- **Example: Spec-Ops: The Line**
  - "And I murdered civilians. FEEL GOOD GAME OF THE CENTURY!"

# World Building and Aesthetics (3)

- **Submission** (game as pastime)
  - World building admits a particular kind of submission aesthetic *external* to the default gameplay.
- Example: read Elder Scrolls literature off-line
- Example: learn Klingon or Quenya (ISO 639-3 qya)
- Example: Lost, Metal Gear



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# What Do Players Want?

## GNS Theory

- Ron Edwards' **GNS Theory** explains player interactions in terms of three core “reasons for play” (aesthetics). It explains why certain players play certain games.
- **Gamists** want to satisfy a goal in the face of adversity - to win.
- **Narrativists** want to create an engaging story that addresses a premise to produce a theme.
- **Simulationists** want to appreciate consistent development of character, setting and color.

# Gamists

- A creative agenda emphasizing clever tactics, resource management, and character victory.
- Gamists often favor games with character parity, frequent conflict, many options at each choice point, and trading off risk for reward.
- Gamists typically care the least about world building.

# Simulationists

- A creative agenda that prizes internal consistency and exploring the game elements as things unto themselves.
- Simulationism cares about character backgrounds, personality traits and motives, in an effort to model cause and effect within the intellectual realm as well as the physical.
- “That NPC wouldn't really do that.”
- Simulationists care about world building.

# Narrativists

- A creative agenda desiring an engaging story that addresses a "premise" to produce theme.
  - Premise is usually framed as a statement (“Friends are worth dying for”) or a question (“Are friends worth dying for?”). Most decisions made by a narrativist will reflect on the premise, proposing answers to the question.
- Moments of drama that revisit character motives are critical. “I swore I'd save him!”
- Narrativists care about world building.

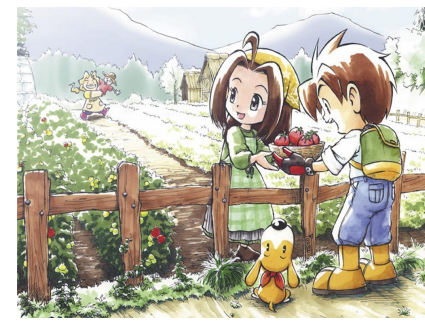
# What Do Players Want?

## Psychographic Profiles

- Wizards of the Coast groups players into four profiles to explain why they buy the product.
- **Johnny**. Wants to use mechanics for creative self-expression. *This is a clever approach!*
- **Timmy**. Wants to experience “big” dynamics. *This is so intense!*
- **Spike**. Wants to compete. *I will win!*
- **Vorthos**. Wants to appreciate flavor and creative consistency. *This theme is perfect!*



# Who cares?



- Suppose one part of your sci-fi farming game *Fallout Moon* offers three planting choices:
  - Dropping seeds from balloons (1-10 seeds / day).
  - Trained squirrel carriers (always 5 seeds / day).
  - Maglev seed launchers (always 6 seeds / day).
- Timmy. Balloon. You could plant 10 at once!
- Spike. Maglev. It's the optimal choice.
- Vorthos. Squirrels! My techno-dryad character rejects the evils of technology and favors returning the land to balance.

# World Building and Game Design

- Suppose one part of your sci-fi farming game offers three planting choices:
  - “Gun X” (1-10 seeds / day)
  - “Gun Y” (always 5 seeds / day)
  - “Gun Z” (always 6 seeds / day)
- Now there's nothing for Vorthos to do, and you lose part of your market.

# A Blended Model

- Most players care about **multiple** aesthetics, care about G S and N, and embody a little of each profile.
- Game designers have limited resources.
- Spending resources on mechanics will appeal to Gamist Johnny or Timmy players but is irrelevant to Simulationist or Narrativist Vorthos players.
- Spending resources on world building has the reverse appeal.



# How To Build Worlds

- From an SE process perspective, one important answer is: do **not**.
- License some intellectual property. Companies bid on such tie-in opportunities.



# Classic World Building

- Top-Down
  - Paint the entire world in broad strokes. Then zoom in on a region of interest and detail it. Then zoom in further ...
- Bottom-Up
  - Firmly detail on place (e.g., a particular town in crisis). Then zoom out to the surrounding region and detail it. Then zoom out again ...

# Classic World Building

- ~~Top-Down~~
- ~~Bottom-Up~~
- “Requirements Elicitation”
  - To whom are you trying to appeal?
  - A narrativist? (“Are friends worth dying for?”)  
Start by thinking of cultures, conflicts, themes, and tensions.
  - A simulationist? (“What would it be like if we had rocket ships?”) Start by thinking of one or two *points of departure*.

# Worked Examples

- Let's work through two examples of appealing to players through world building
- To further demonstrate the difference between mechanics and world building, I will focus separately on just two of the hundreds of spells in Dungeons and Dragons and ask “what would the world be like if this were really possible?”
  - And to really drive it home, we'll only consider minor (“second-level”) spells.

# Example 1: Invisibility

- Did it ever strike you as strange that the One Ring in Lord of the Rings had such a “minor” basic power?
- In fact, this goes back to 400 BCE, with Plato's description of the Ring of Gyges. The ring of invisibility is one of the oldest “magic items”. Plato asks whether an intelligent person would be moral without fear of being caught and punished.

# Invisibility Made Manifest

- In the story, after Gyges finds the ring he uses it to travel to the palace, seduce the queen, murder the king, and assume the throne.
- “No man can be imagined to be of such an iron nature that he would stand fast in justice. No man would keep his hands off what was not his own when he could safely take what he liked out of the market, or go into houses and lie with any one at his pleasure, or kill or release from prison whom he would, and in all respects be like a god among men.” - Plato

# Simple Invisible World Building

- Narrative (drama). Intrigue and politics. Can your friends still trust you? (cf. House of Cards, Game of Thrones, West Wing)
- Discovery (uncharted territory). From private mansions to untamed safaris ...
- Expression (self-discovery). How will you behave? Secret Santa or Gyges?
- Gamist (win). An invisible fighting game where the enemies weren't morons? (cf. Predator)
- Narrativist (story-premise-theme). “Is there morality without fear of consequence?”
- Simulationist (consistency). How does the rest of the world react? Can you see while invisible? (cf. Zahn's Thrawn Trilogy) <sup>31</sup>

# Complex Invisible World Building

- What if *everyone* could turn invisible?
- Would houses still have ground-floor windows? How would stadium seating be redesigned? Are you liable if you crash into an invisible person? How would you avoid getting mugged? Would everyone have to wear body armor? How would criminals ever be apprehended? How would you walk into a new room and be sure it was empty? Would ubiquitous invisible surveillance and anonymous whistle-blowing force good behavior on public figures? Would traditional religions still take hold? Would touch and physical intimacy become more important? Or vocal mimicry? How would you raise a child that could turn invisible and run away? Would the government try to force everyone to wear tracking devices? What would a polite greeting be?



# Example 2: Detect Lie

- Now it's your turn. What if humans could **detect lies** (i.e., detect when a speaker makes a claim that that speaker believes is false)?
  - Fantasy (game as make-believe), Narrative (game as drama), Discovery (game as uncharted territory), Expression (game as self-discovery), Submission (game as pastime)
  - Gamist (win), Narrativist (story-premise-theme), Simulationist (consistency)

# One Built World

- James L. Halpern's *The Truth Machine*.
  - “Soon, every citizen must pass a thorough test under a Truth Machine to get a job or receive any sort of license. Eventually, people begin wearing them all the time, thus eliminating dishonesty in all parts of human interaction, and eliminating crime, terrorism and a great deal of general social problems. ... The protagonist places a back door in the book's otherwise infallible lie detector, allowing him to avoid detection when he repeats fragments of Walt Whitman's poem "O Captain! My Captain!" in his mind.”

# World Building Woes

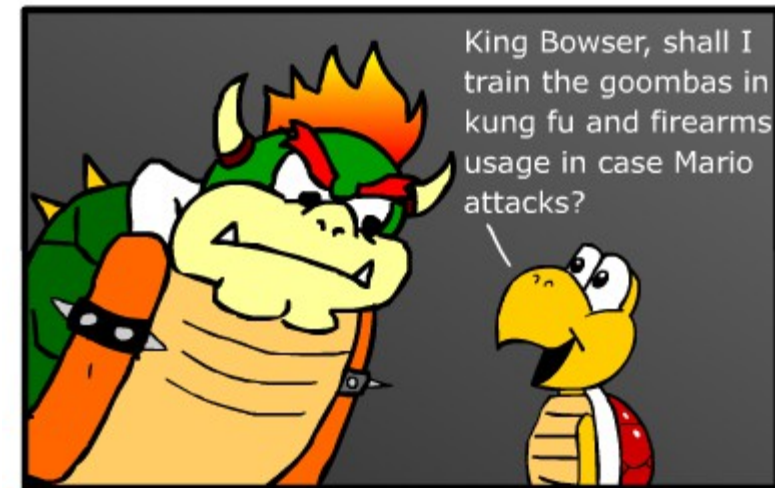
- What can go wrong with world building?
- It is one of many actions you can take at design-time, so it's worth remembering that one failure mode is “you put **too much** emphasis on world building”.
  - Few resources for other areas (mechanics, etc.).
  - “Believability comes from details.” vs.
  - “The players will get annoyed if every single person the party meets has a description that takes ten minutes to read through.”

# Too Little World Building

- At best, your world is forgettable and you fail to attract and retain certain players
- At worst, your world is inconsistent and you **actively alienate** players and their desires.
- “Mommy, why couldn't they just use a Phoenix Down on Aeris?”
- Discussion: if you establish that resurrection is cheap and ubiquitous, you cannot then raise tension by naively killing a beloved character
  - Mods, fan outrage, etc.

# World/Plot Holes

- Players tend to overlook the usual “it's a simple game” foibles
- But there are examples of significant backlash
  - Mass Effect 3 Ending, Tali
- As well as controversy
  - COW:MW2 “No Russian”
  - Spec Ops: The Line



# World Building Tips

(think “SE Process”)

- You are the game designer.
- *“How do I draw sprites?”*
  - You hire artists.
  - The real question is “what should be in my art design document and specification?”
- *“How do I build a world?”*
  - You hire a creative team.
  - The real question is “what should I request in my world building specification document?”

# Wizards of the Coast's Process

- **Design**. Vision. “How might we represent Greek gods in our game?”
- **Development**. Execution. “Does this expression of Greek gods work? Can we simplify it?”
- **Creative**. Narrative. “What creative story are we telling involving the Greek gods?”
- (cf. Microsoft's Dev, PM and Test positions.)
  - “Flavor and story are absolutely more important to Magic’s design process than they ever have been before, and I only see that continuing to grow.” - Doug Beyer, WotC

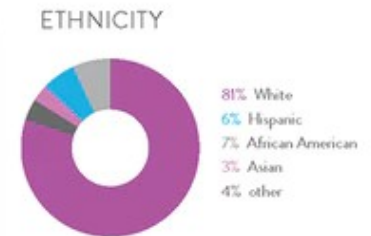
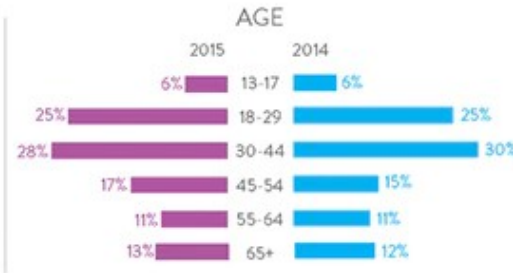
# World Building Conclusion

- **World Building** “formalized” around '70s sci-fi novels
  - “how to” guides for authors; questions listed here.
- In the context of Game Design, remember:
  - **Aesthetics**: Fantasy, Narrative, Discovery, Expression, Submission
  - **G**amist, **S**imulationist, **N**arrativist Theory
  - Johnny, Timmy, Spike, Vorthos **Profiles**
- The act of world building has a cost and a potential benefit. Know **why** you're doing it.
- *To whom are you trying to appeal?*

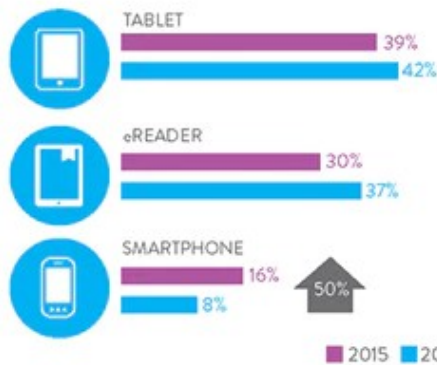


# ROMANCE READERS BY THE NUMBERS

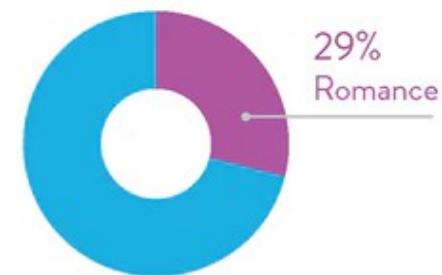
# Romance Novels



**DEVICES USED TO READ ROMANCE EBOOKS**



**ROMANCE SHARE OF FICTION 2015 (ALL FORMATS)**



# Dispelling Romance Novel Myths

- Tell me something about romance novels ...



# Why Should We Care?

- In North America, romance novels comprise **55% of all paperbacks sold**
  - **Most popular genre** in modern literature
  - And **29%** of all fiction sold in 2015
  - Also Europe & Australia, over 90 languages, etc.
  - Skyrocketing in popularity with ebooks!
- Romantic fiction generates over **\$1.438 billion in sales** (thousands of separate novels each year)
  - 64 million people claimed to read at least one
  - 16% male, 50-50 married/single, 42% BA/BS
  - 28/190 world countries have GDP < \$1.2 billion

# On The Street

- “Romance novels do better here than any other genre,” says Anna Mickelsen of the Springfield City Library in Springfield, Mass in 2013. “Romance makes up 35% of our more-than-5,000-item collection but accounts for over 43% of the circulation. On average, romance paperbacks circulate more than eight times, while items in other genres circulate fewer than six. The cost of romance novels is generally less than [the cost of novels from] many of the other genres, and with high circulations this results in a better return overall on the library's investment.”

# What Are We Talking About?

- According to the Romance Writers of America, the main plot of a **romance novel** must revolve around the two people as they develop romantic **love** for each other and work to build a **relationship** together. Furthermore, a romance novel must have an "**emotionally satisfying and optimistic ending.**"
- Nora Roberts claims "The books are about the celebration of falling in love and emotion and commitment, and all of those things we really want."

# Freedom?

- Modulo societal taboos, almost anything can appear in a romance novel.
  - Castles, domestic violence, science fiction, disabilities, children, religion, date rape, medicine, suspense, exotic locales, chaste kisses, etc.
- So let's do a brief **history** and **taxonomy** of romance novels and occasionally use them as a lens for studying society

# Ancient History

- 1740: Pamela, or Virtue Rewarded by Samuel Richardson
  - First popular novel based on heroine's perspective
- 1813: Pride and Prejudice by Jane Austen
  - Often critically considered “the best romance novel ever written”
  - Reinforces stereotype that women must marry?
- 1847: Jane Eyre by Charlotte Bronte
  - Orphaned heroine, gothic elements, Elizabethan drama, “demonstrated the flexibility of the romance novel form”

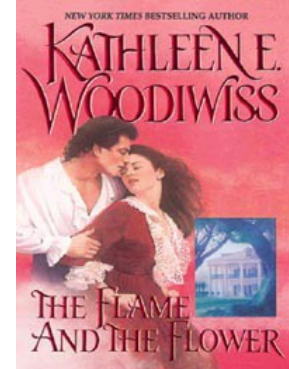
# History

- 1919: The Sheik by E.M. Hull
  - Popular, movie with Valentino, hero kidnaps heroine and wins her affection through “forceful action”
    - One of the first to introduce the rape fantasy [Regis 2003]. Publishers believed that readers would only accept premarital sex in the context of rape. In this novel and those that followed, the rape was depicted as more of a fantasy; the heroine is rarely if ever shown experiencing terror, stress, or trauma as a result.
- 1921+: Many by Georgette Heyer
  - Set during English Regency Period (1811-1820)
  - Used setting as a plot device: characters would have modern day sensibilities (e.g., marrying for love) and would be marked as eccentric



# Pre-Modern Era

- 1930+: Mills and Boon hardback romances
  - UK Company, sold in weekly two-penny libraries
- 1957: Harlequin sells M&B books in America
  - Had a “decency code”
    - cf. Hays Production Code in US Cinema, 1934-1968: replaced in modern era by MPAA ratings
    - Intimacy limited to chaste kisses between protagonists
- 1971: Harlequin purchases Mills & Boon
  - Chose to sell books “where the women are”: supermarkets, drug stores, etc.



# The Modern Era

- 1972: The Flame and the Flower by Kathleen Woodiwiss (Avon publishers)
  - First romance novel “to [follow] the principles into the bedroom”; first to be published directly in paperback; was distributed in drug stores; went on to sell 2.35 million copies
- By 1975 Avon's 4 romances sold 8 million combined copies
- By 1976 over 150 historical romance novels were published selling over 40 million copies

# Two Types Of Romance

- **Category Romances** (series romances)
  - Short: 200 pages; 55,000 words; multiple books in a line published each month
  - “pare the story down to its essentials. Subplots and minor characters are eliminated or relegated ...”
  - Wide distribution, staying on shelves until sold out or until next month's titles arrive
- **Single-Title Romances**
  - Longer: 350-400 pages, 1/year, remain on shelves
  - Not always stand-alone, often Author-driven

# Subgenres

- **40%**      **Category Romance**
- **17%**      **Historical Romance**
- **16%**      **Contemporary Romance**
- **9%**        **Paranormal Romance**
- **7%**        **Romantic Suspense**
- **6%**        **Inspirational Romance**
- **5%**        **Other**

# Social Mores: Romance Novels 1980s

- 1980: WSJ refers to “bodice-rippers” as “publishing's answer to the Big Mac: they are juicy, cheap, predictable, and devoured in stupifying quantities by legions of loyal fans”
- Contemporary romances: weak females falling in love with alpha males
- Historical romances: heroines active in the plot, but “passive in relationships with heroes”
- All genres: heroines 16-21 virgins, heroes ~30 not, all are beautiful

# The Sun Also Rises And Falls

- 1975: Harlequin purchases a romance novel that takes place in America with American morals
  - In the late 70's they rejected Nora Roberts because “they already had their American writer”
- 1980: The Tawny Gold Man by Amii Lorin
  - First to waive the virgin heroine requirement
  - By 1983, sales of that line totaled \$30 million
  - Similar lines soon had 90-100% monthly sellout rates
- 1984: Market Saturation (40% sellout rates)
  - “dampening effect of the high level of redundancy associated with series romances was evident in the decreased number of titles being read per month”

# Social Changes

- 1983: lesbian heroine
- 1984: overweight, middle-aged hero
- 1987: ugly hero, heroine searching for birth mother
- Late 1980's: heroines in more male-dominated jobs
- 1990's: self-employed heroines, 30-40 year old women, sensitive men
  - Later: single parenthood, adoption, abuse
  - Taboos: terrorism, warfare, masculine sports
- 2000's+: “chick lit”, 50 Shades, paranormal, ...

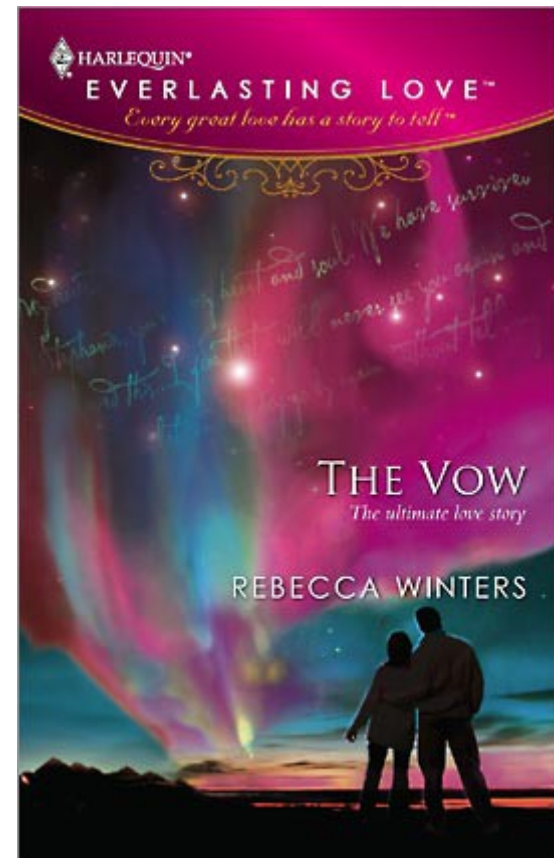
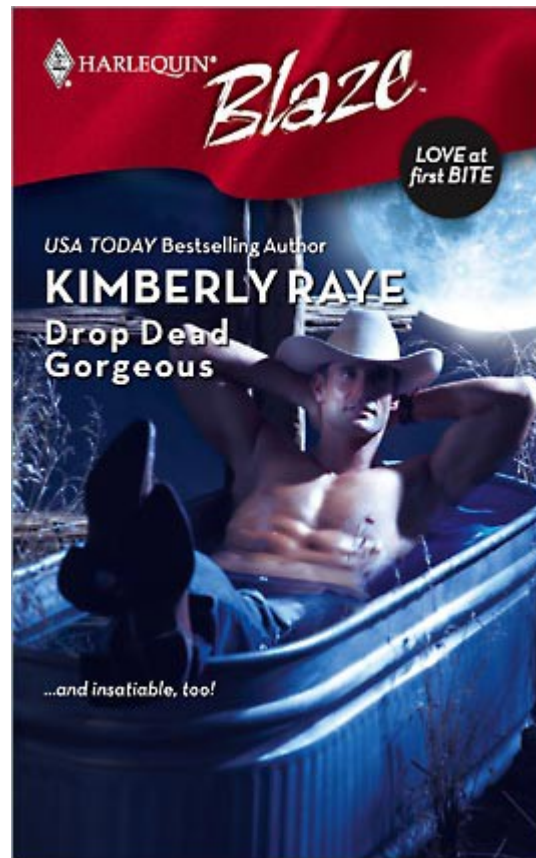
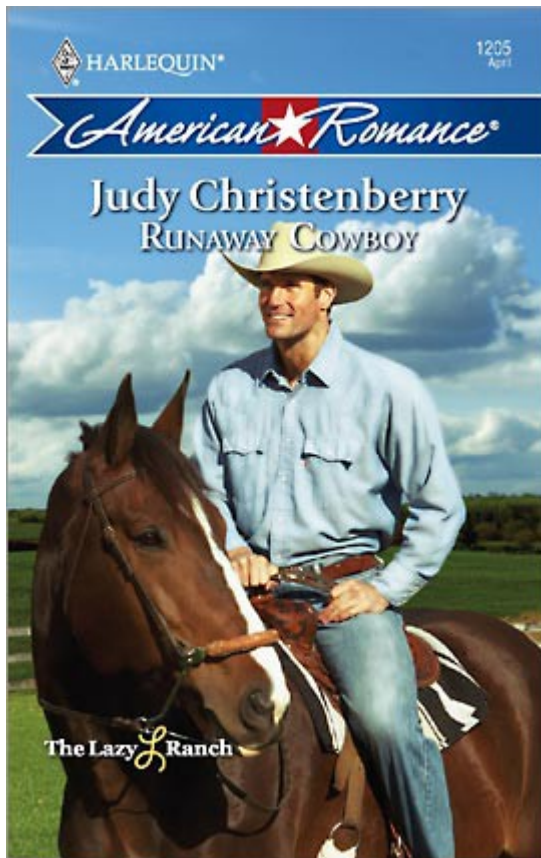
# Category Romance

- Now the fun part ...
- I'll show you a bunch of different category romance lines
- You try to identify the **subgenre** and **target audience**

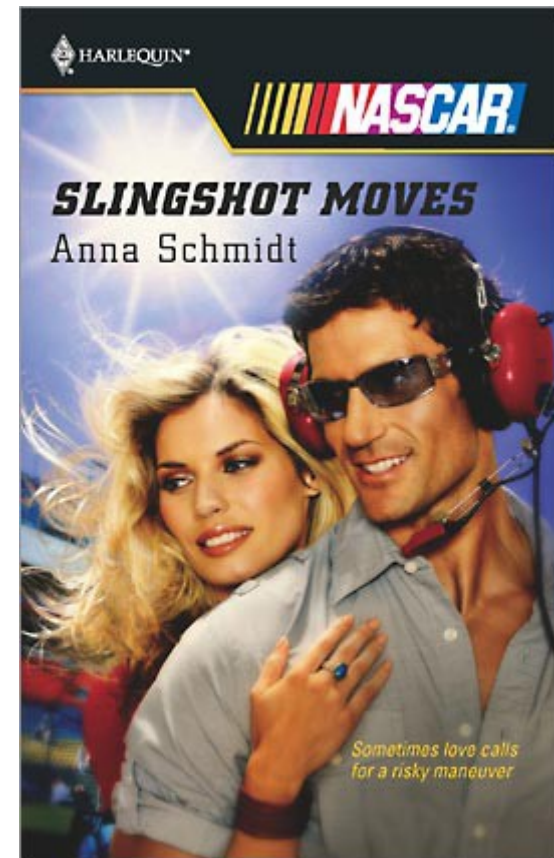
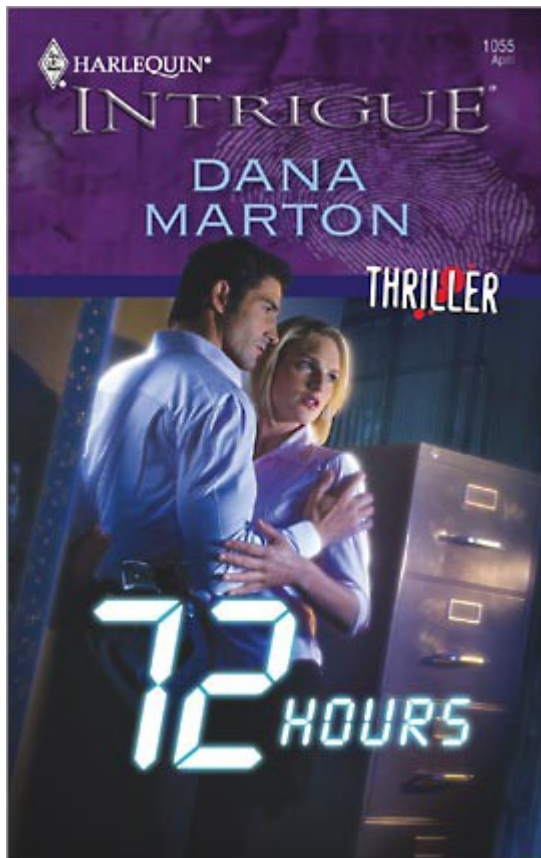




# Category Romance In Pictures



# Category Romance In Pictures





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Monday, November 7, 2005

### ThreatDown - Pirates

Stephen warns us about pirates, Canadian optometrists, professional musicians, mixing romance with NASCAR, and of course, bears. (3:48)

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#### ThreatDown - Pirates

Stephen warns us about pirates, Canadian optometrists, professional musicians, mixing romance with NASCAR, and of course, bears. (3:48)

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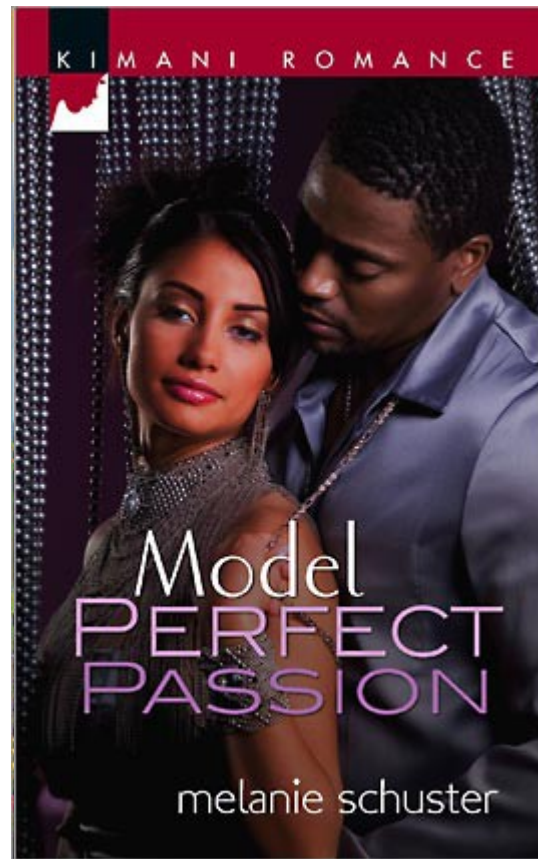
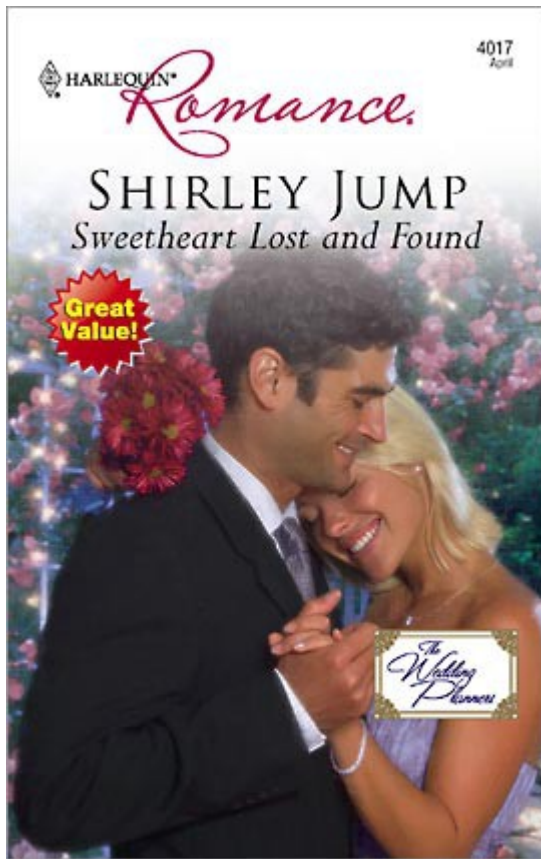


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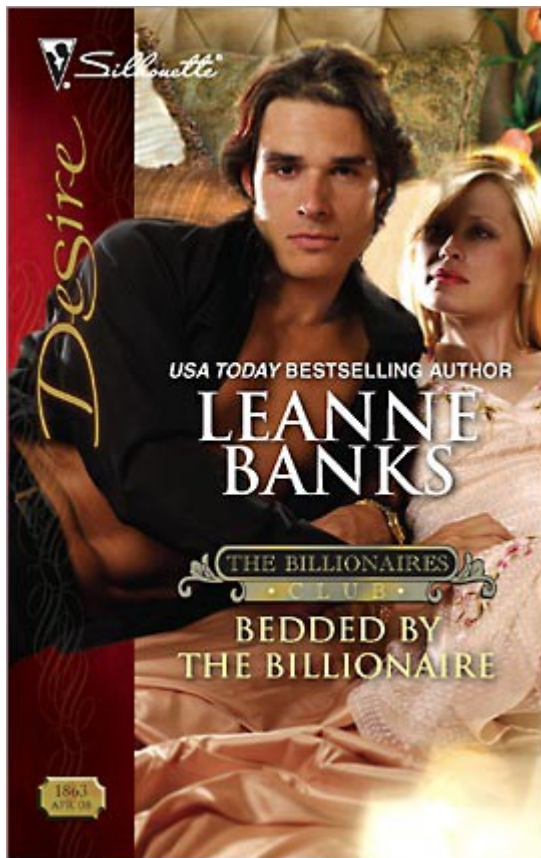
#### The Word - Hoser

After Canada picked up The Colbert Report, Stephen began to rethink his ill feelings towards the country that was once put on notice. (3:33)

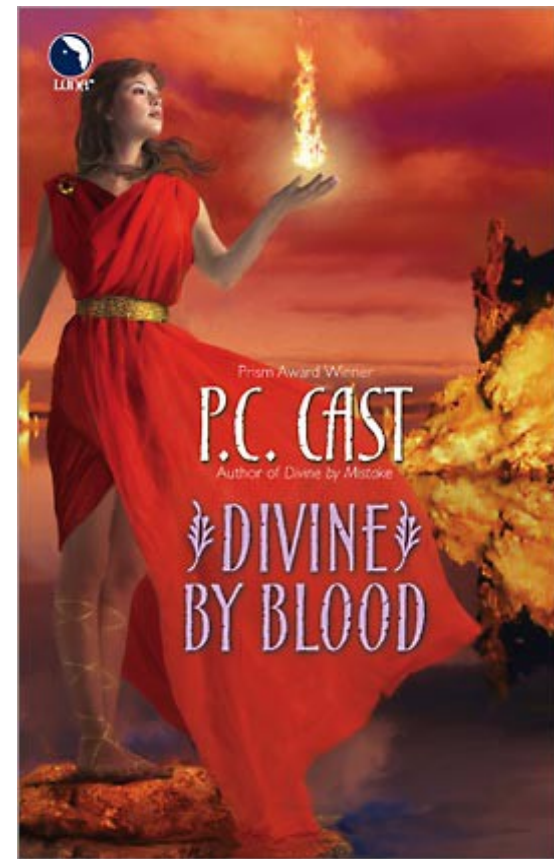
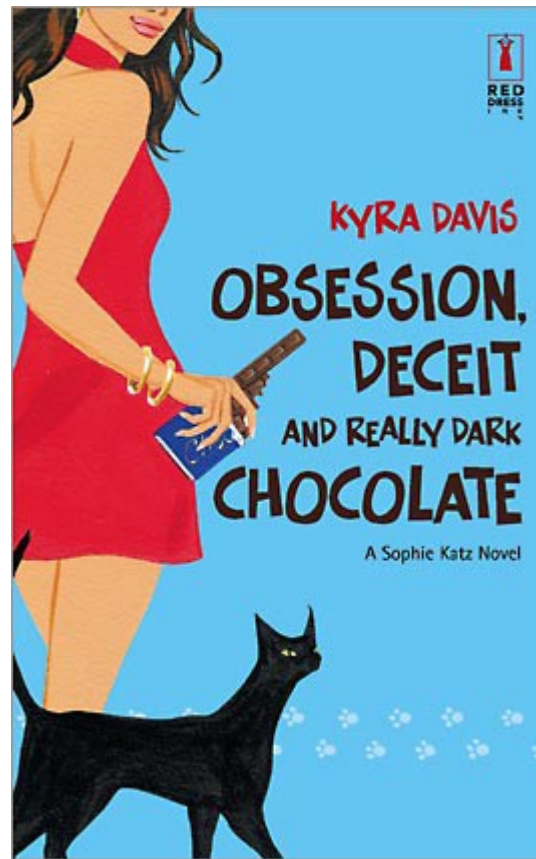
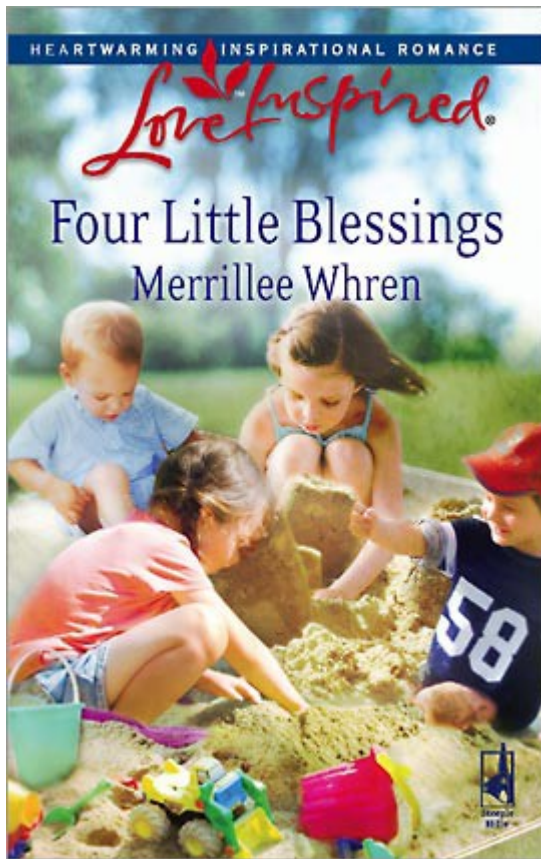
# Category Romance In Pictures



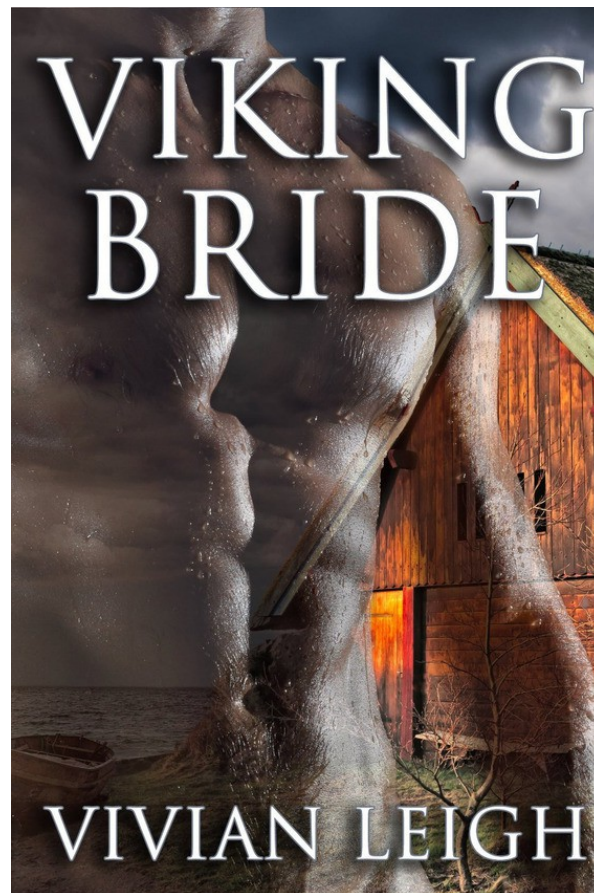
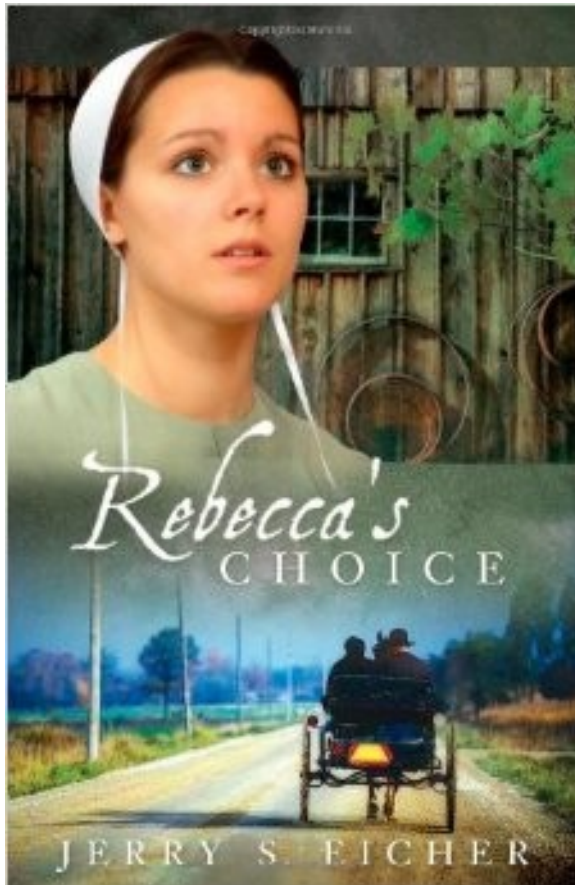
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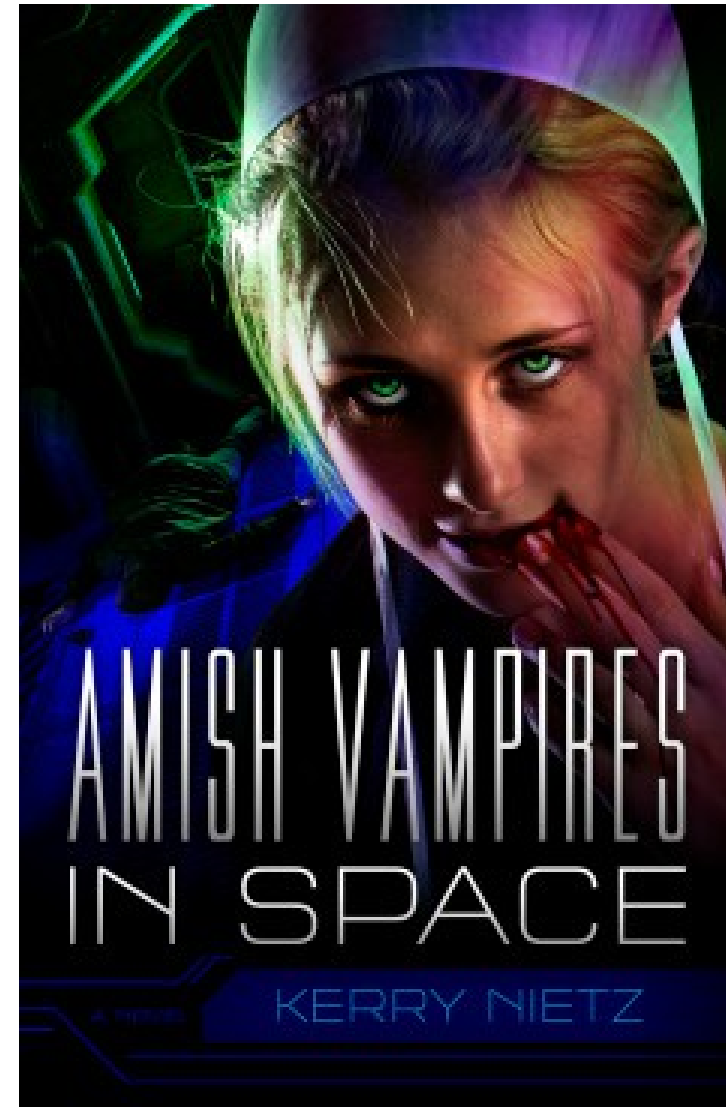


# Category Romance In Pictures



# We joke, but ...

- 44% of 2013 romances are e-books: 26% for other genres
- With 25% of romances purchased from Amazon
- It is easier than ever to appeal to, or participate in, niche markets!
- The romance market is growing while others are shrinking.







# Was this course easy?

“My favorite operational definition of engineering is **'design under constraint.'** Engineering is creating, designing what can be, but it is constrained by nature, by cost, by concerns of safety, reliability, environmental impact, manufacturability, maintainability, and many other such 'ilities.’”

[Bill Wulf, NAE President, The Urgency of Engineering Education Reform, 2008]

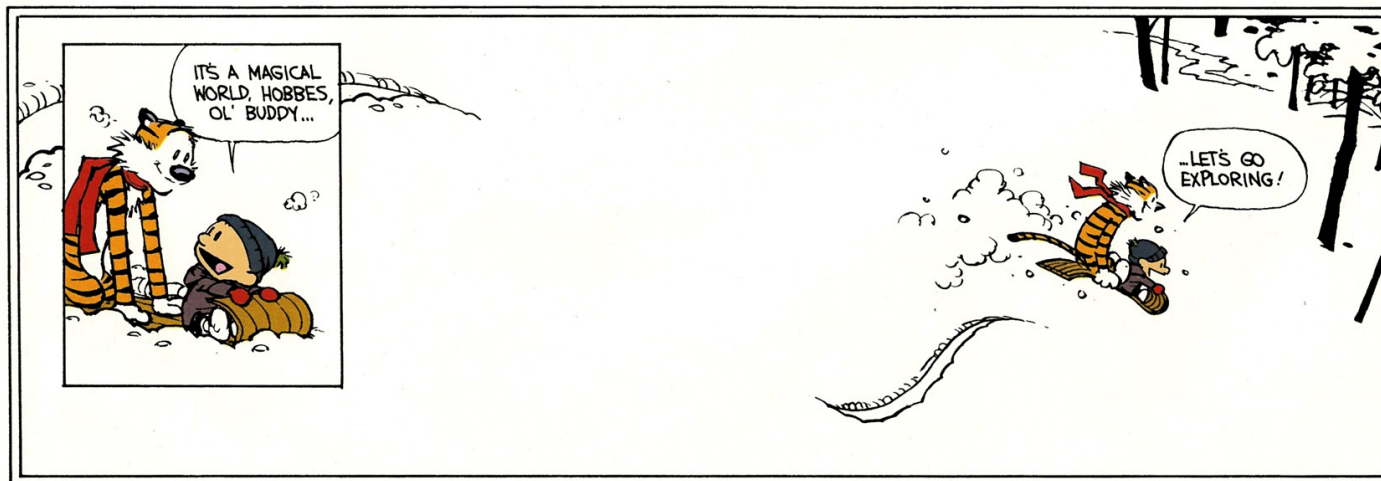
“[Software Engineering is] The Establishment and use of sound **engineering principles** in order to obtain **economically software that is reliable and works efficiently on real machines.**”

[Bauer 1975, S. 524]

# One-Slide Course Summary: You Have Learned

Process (Risk), Measurement, Quality Assurance, Testing (Metrics, Inputs, Oracles), Code Inspection and Review, Dynamic Analysis, Static Analysis (Dataflow), Defect Reporting, Fault Localization (Profiling), Automated Debugging (Delta Debugging), Requirements (Specifications, Elicitation), Design Patterns, Design for Maintainability, Human Productivity (Brains, Pair Programming, Interviews), Multi-Language Projects, Automated Program Repair, and Larger and Smaller Companies

I hope you enjoyed this class and learned something from it. I did.



# Life

Weimer recommends that you take classes on **philosophy** until you've covered epistemology, free will, logic, the philosophy of science, and “what it is like to be a bat”. Take **cognitive psychology** classes until you've covered perception and the Flynn effect. Take **speech** or **rhetoric** classes until you've covered persuasion. Take **anthropology** as well as **gender studies** classes until you've covered Mead and Freeman and you have a better feel for which behaviors are socially constructed and which may be essential. Take classes in **statistics** until you can avoid being fooled. Take classes in **religion** or **ethics** until you've covered the relationship between unhappiness and unrealized desires. Take classes in **physics** until you can explain how a microphone, radio and speaker all work. Take classes on **government** until you have an opinion about the feasibility of legislating morality. Take classes on **history** until you are not condemned to repeat the mistakes of the past.