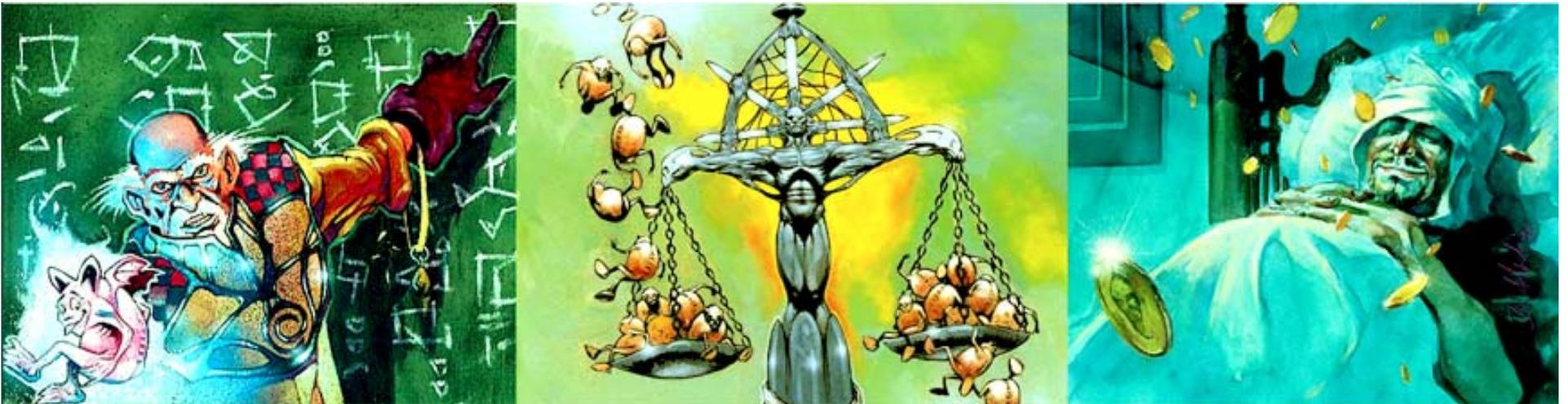


MAGIC LESSONS:

# Designing & Balancing Game Objects



K. Robert Gutschera

*Director of Development, Wizards of the Coast R&D*

**G D C 2 0 0 7**

# Overview

- ▶ Setting the Stage
- ▶ Wizards' Game Development Process
- ▶ Costing Tips & Tricks



# Relevant Games

- ▶ Games with:
  - 2+ players
  - Many objects
  - Player choice among objects  
(e.g. *Magic*, *Starcraft*, *WoW*)
- ▶ Why look at paper games
  - Similar gameplay
  - Large game design community



# Why We Cost

- ▶ Designers want a varied game, players want to win
- ▶ Good costing preserves game variety



# What is a Cost?

- ▶ It's what players must pay to get an object
- ▶ Some costs are hidden



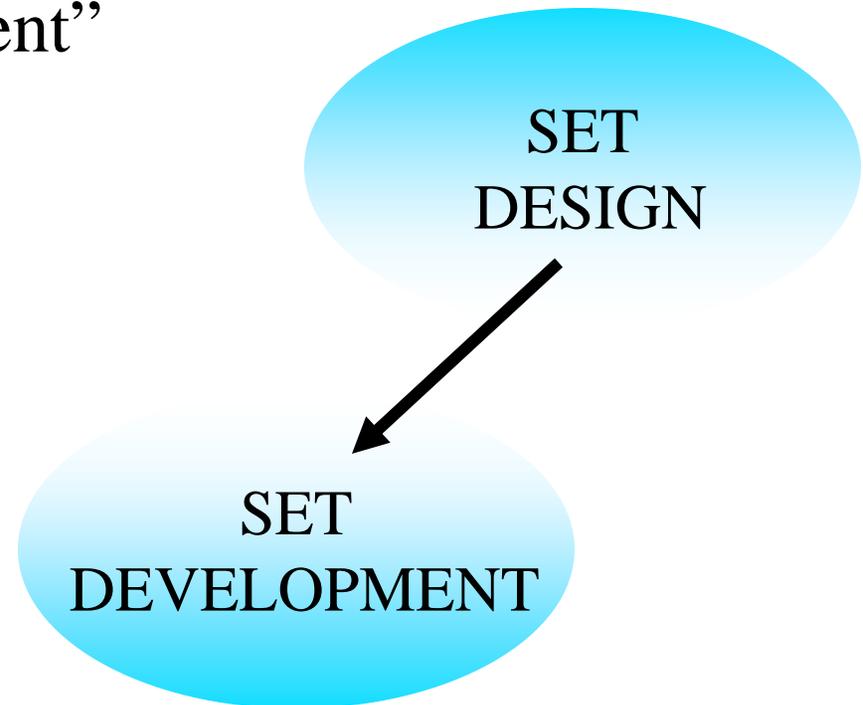
# Electronic vs. Paper

- ▶ Ease of prototyping
- ▶ Code vs. English
- ▶ Patching
- ▶ % effort on game design

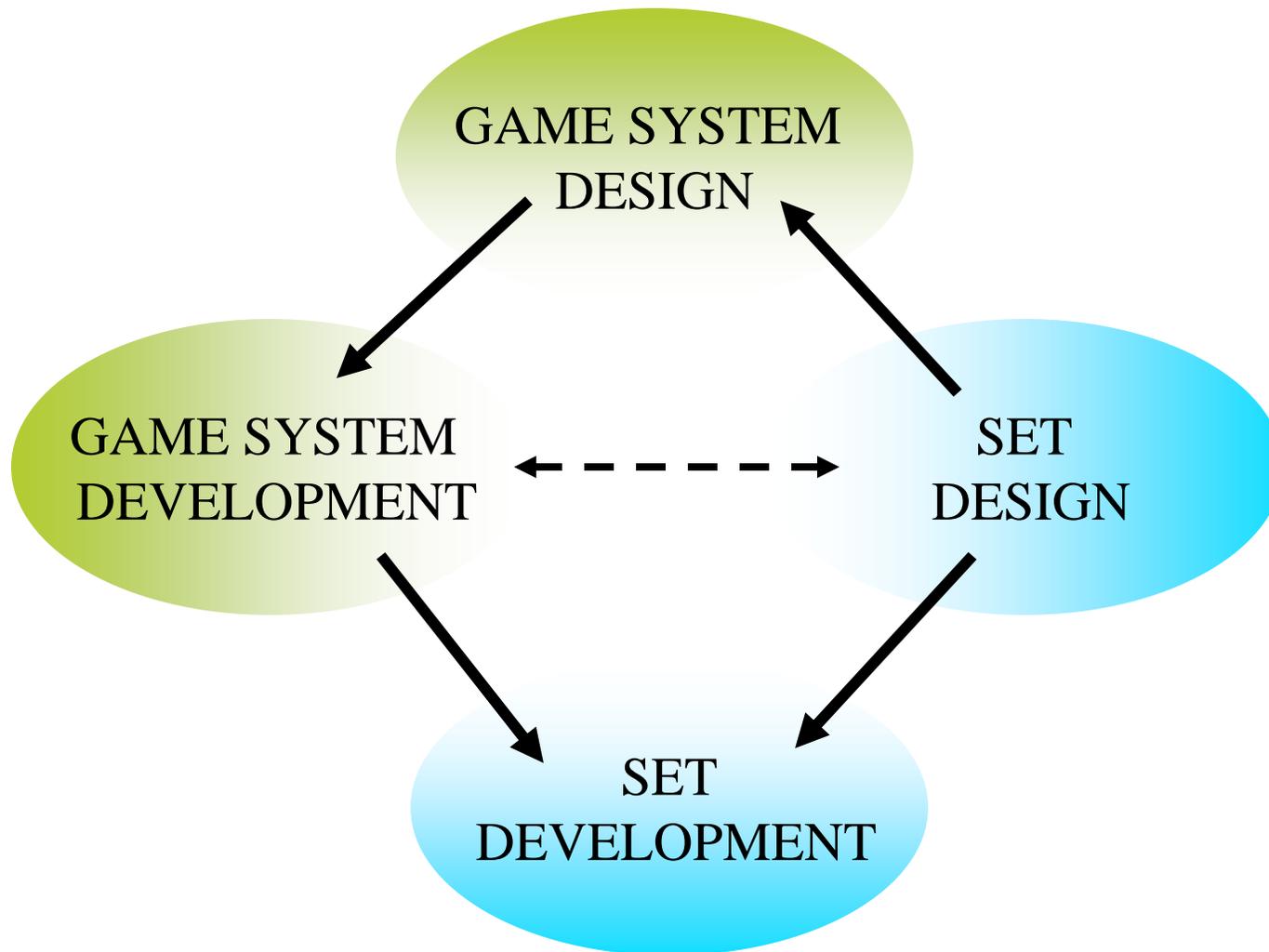


# Game Design: 2 Stages

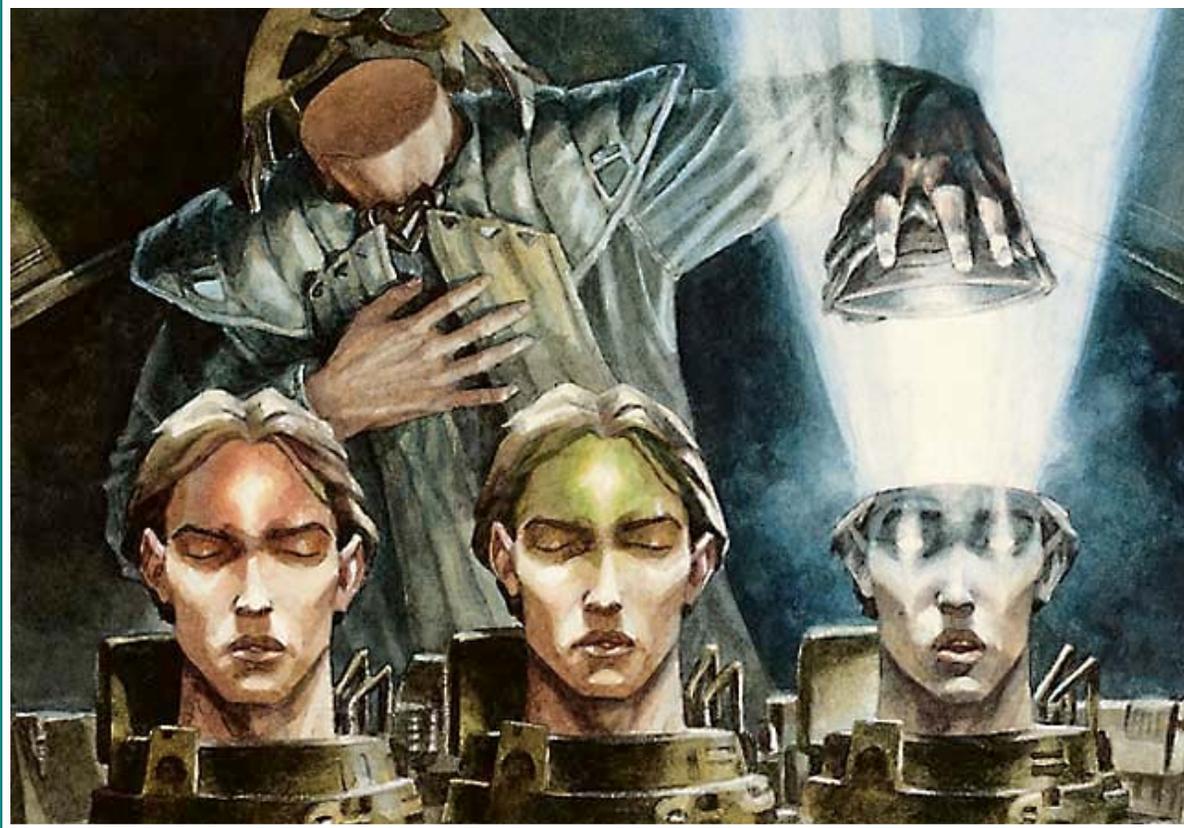
- ▶ Terminology:  
“Design” and “Development”  
in the paper world
- ▶ Metaphor:  
Architects and Engineers



# New Game Design: 4 Stages



# Costing Tips



*Some things we've picked up along the way...*

# Adjust costs, not effects



*If an object is unbalanced, change its cost before changing its effects.*

# Use a single costing dial



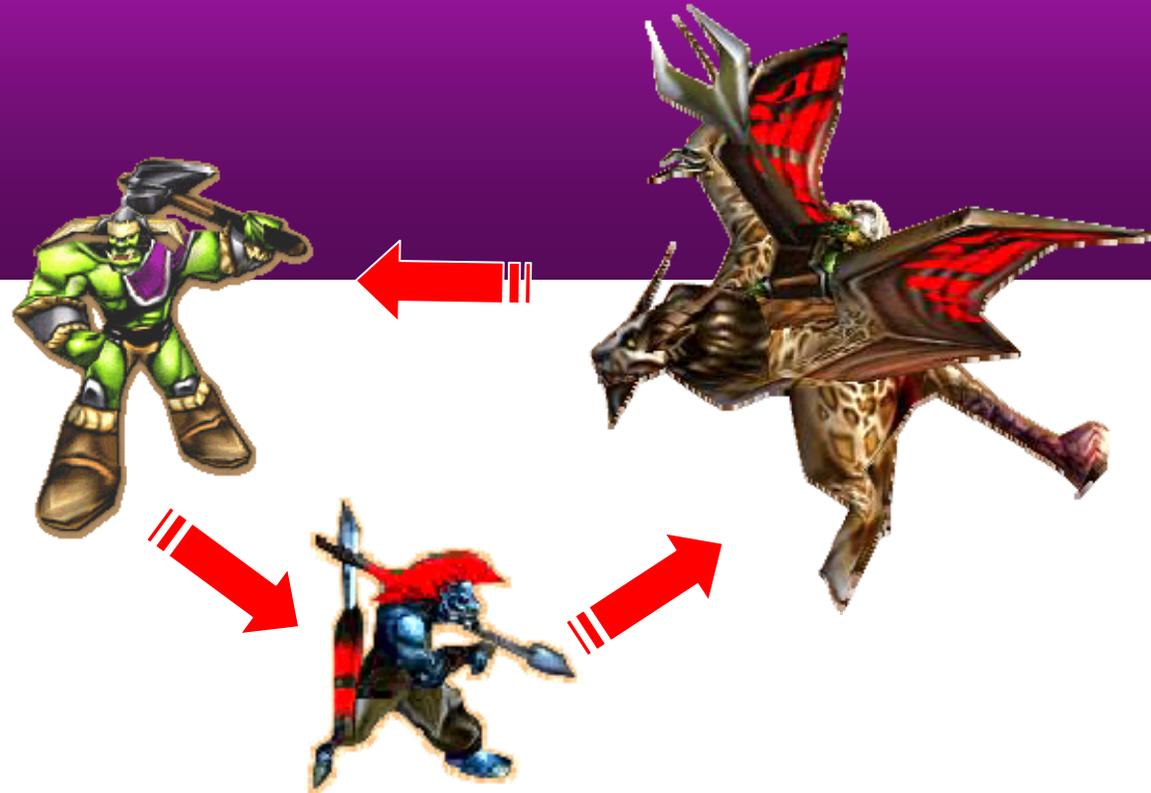
*Find a single number to represent your costs,  
not several numbers.*

# Color wheels



*Color wheels are everywhere you look.  
They can help you create gameplay variety.*

# Rock-paper-scissors



*Building on (possibly hidden) rock-paper-scissors subsystems helps make your game balance more stable.*

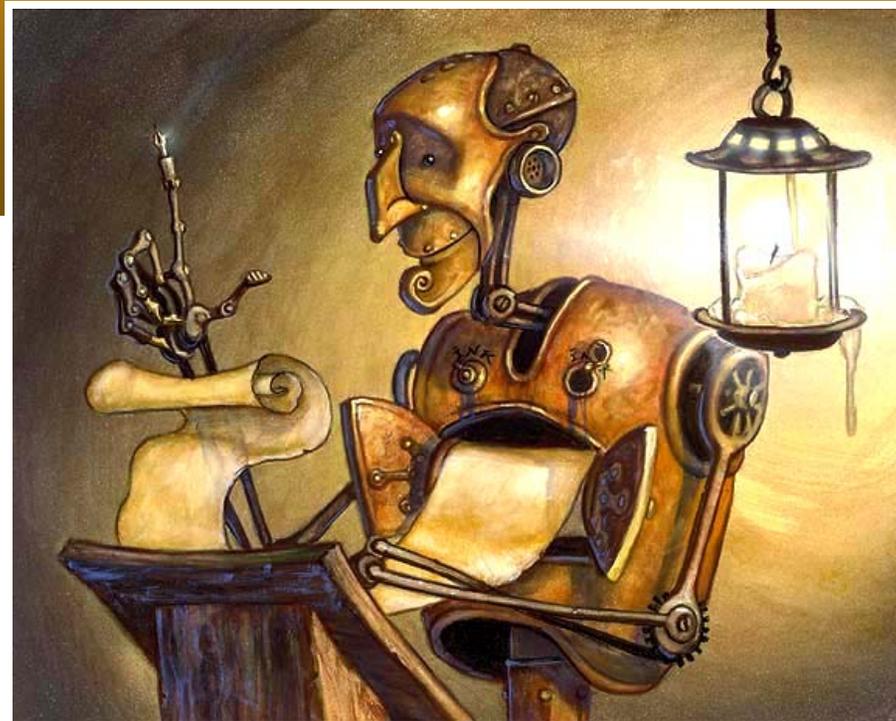
# Vanilla curves

| Raw Curves |      |      |       |   |
|------------|------|------|-------|---|
|            | C    | A    | D     | L |
| 2          | 1.50 | 2.50 | 5.88  |   |
| 3          | 2    | 3    | 7     |   |
| 4          | 2.50 | 3.50 | 8.13  |   |
| 5          | 3.00 | 4.00 | 9.25  |   |
| 6          | 3.50 | 4.50 | 10.38 |   |
| 7          | 4.00 | 5.00 | 11.50 |   |
| 8          | 4.50 | 5.50 | 12.63 |   |
| 9          | 5.00 | 6.00 | 13.75 |   |
| 10         | 5.50 | 6.50 | 14.88 |   |
| 11         | 6    | 7    | 16    |   |
| 12         | 7.00 | 8.00 | 17.00 |   |
| 13         | 8    | 10   | 19    |   |
| $\Delta$   | 0.50 | 0.50 | 1.13  |   |



*Costing curves of vanilla objects are vital.  
Get them right in system development.*

# Watchlists



*Create watchlists to guide your testing.*

# Multiple environments



*What's balanced in one environment  
might not be in another.*

# The Black Lotus effect



*Sometimes an overpowered object  
is a good thing. Or is it?*

# Non-scalable effects



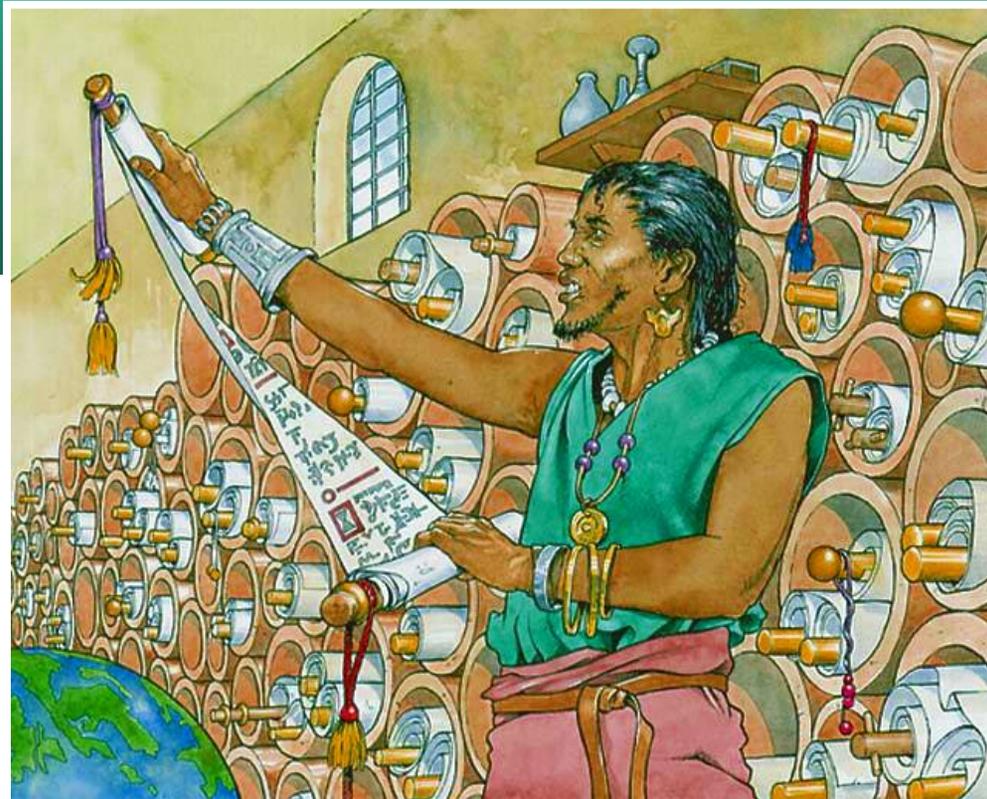
*Some effects don't scale well.  
You can cost them, but you might regret it later.*

# Late or rare effects



*Objects that show up late or rarely are hard to cost.  
It's easy to overcharge for them.*

# Simple databases



*Simple databases, with fields for discussion, can help you manage your object balance.*

# Don't charge too much for flexibility



**Tome of Knowledge**  
Soulbound  
Held In Off-hand  
+8 Strength  
+8 Agility  
+8 Stamina  
+8 Intellect  
+8 Spirit  
Requires Level 56



*Objects that do one thing well need to cost more than objects that do several things adequately.*

# Aim on the opposite side



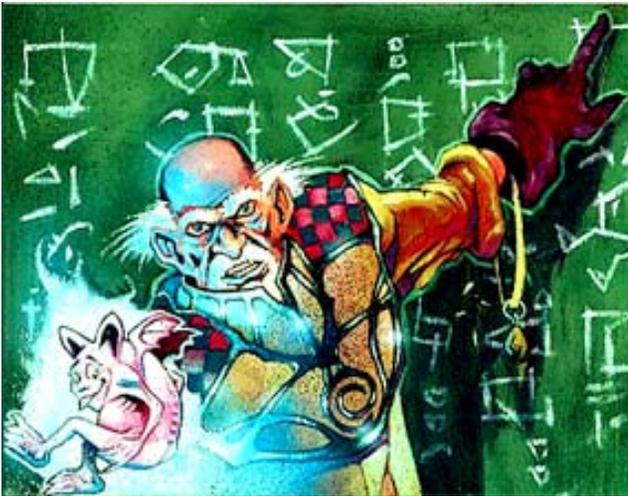
*If you keep missing with a cost, overcompensate.*

# Playtesting vs. Theorizing



*A little theorizing can sometimes save you  
a lot of playtesting.*

# Questions?



[robert.gutschera@wizards.com](mailto:robert.gutschera@wizards.com)