



Designing *Race for the Galaxy*

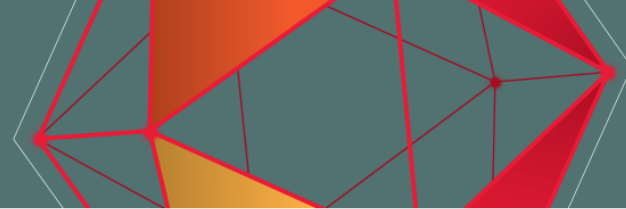
Making a strategic card game

Tom Lehmann



RACE FOR THE
Galaxy





Today's Talk

1. Intro
2. *Race* overview
3. Design deep dive

Takeaway

help you make your games more strategic





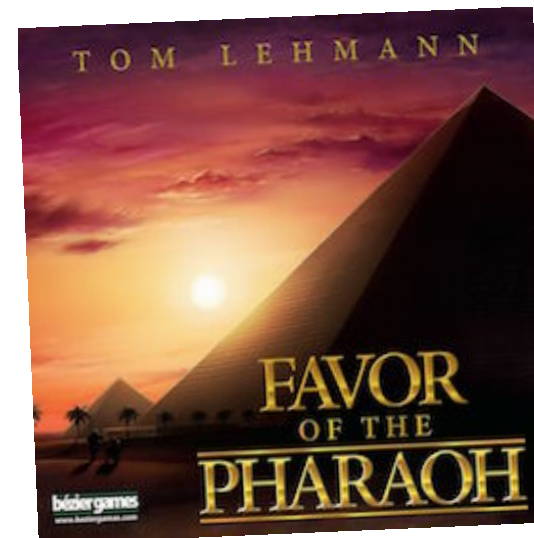
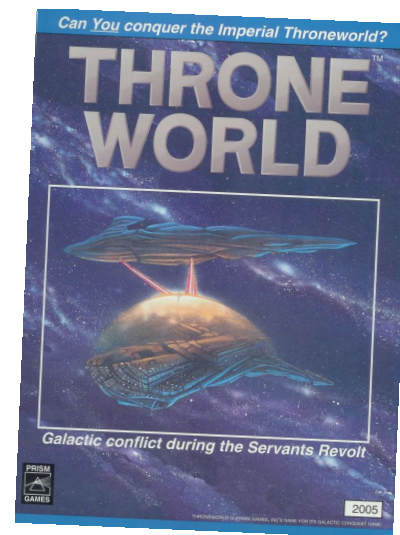
1. Intro





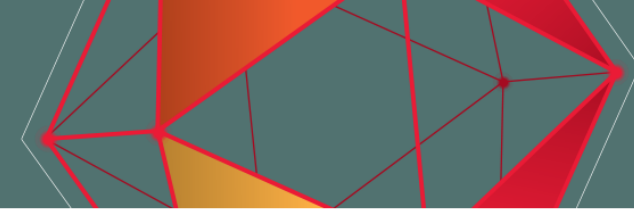
- Tom Lehmann, designer of *Race for the Galaxy*
- first published game: 1992
- full time designer since 2008

board

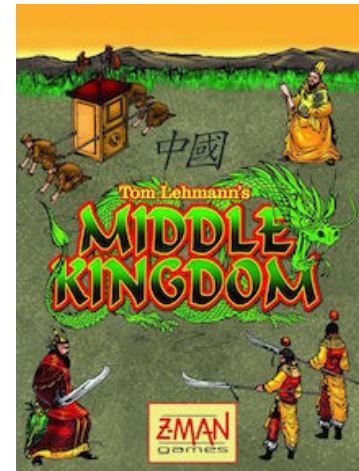
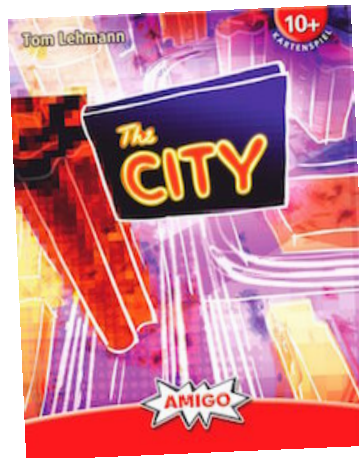


dice

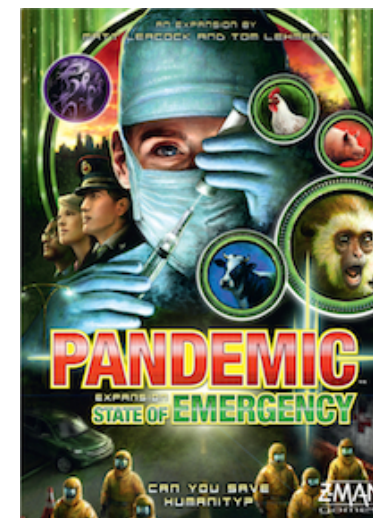
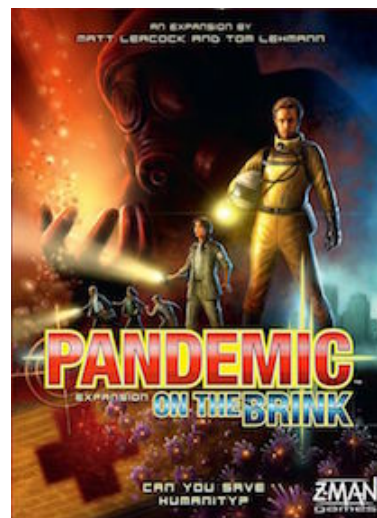




card



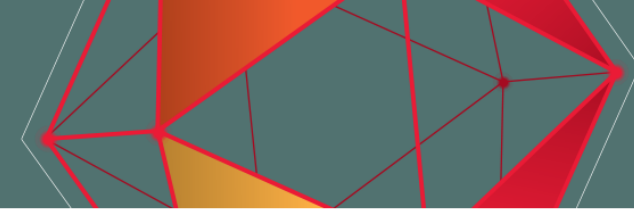
co-ops (with Matt Leacock)



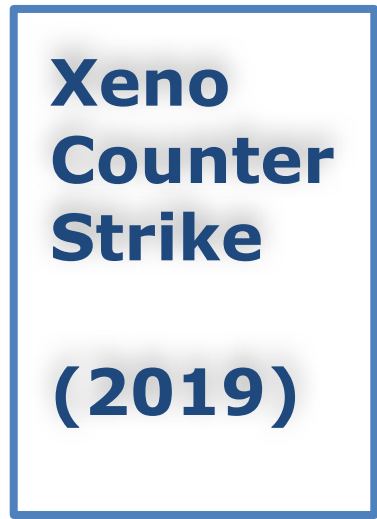


- card game
- 2007
- Rio Grande Games
- 2-4 players
- 20-40 minutes

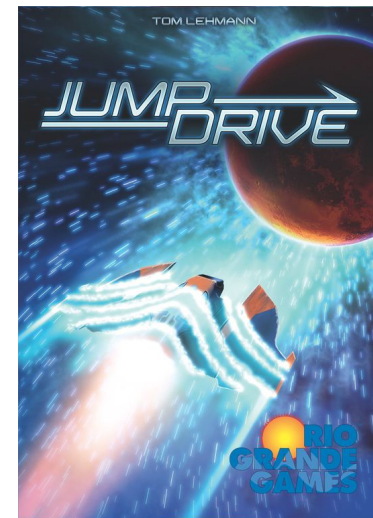




expansions

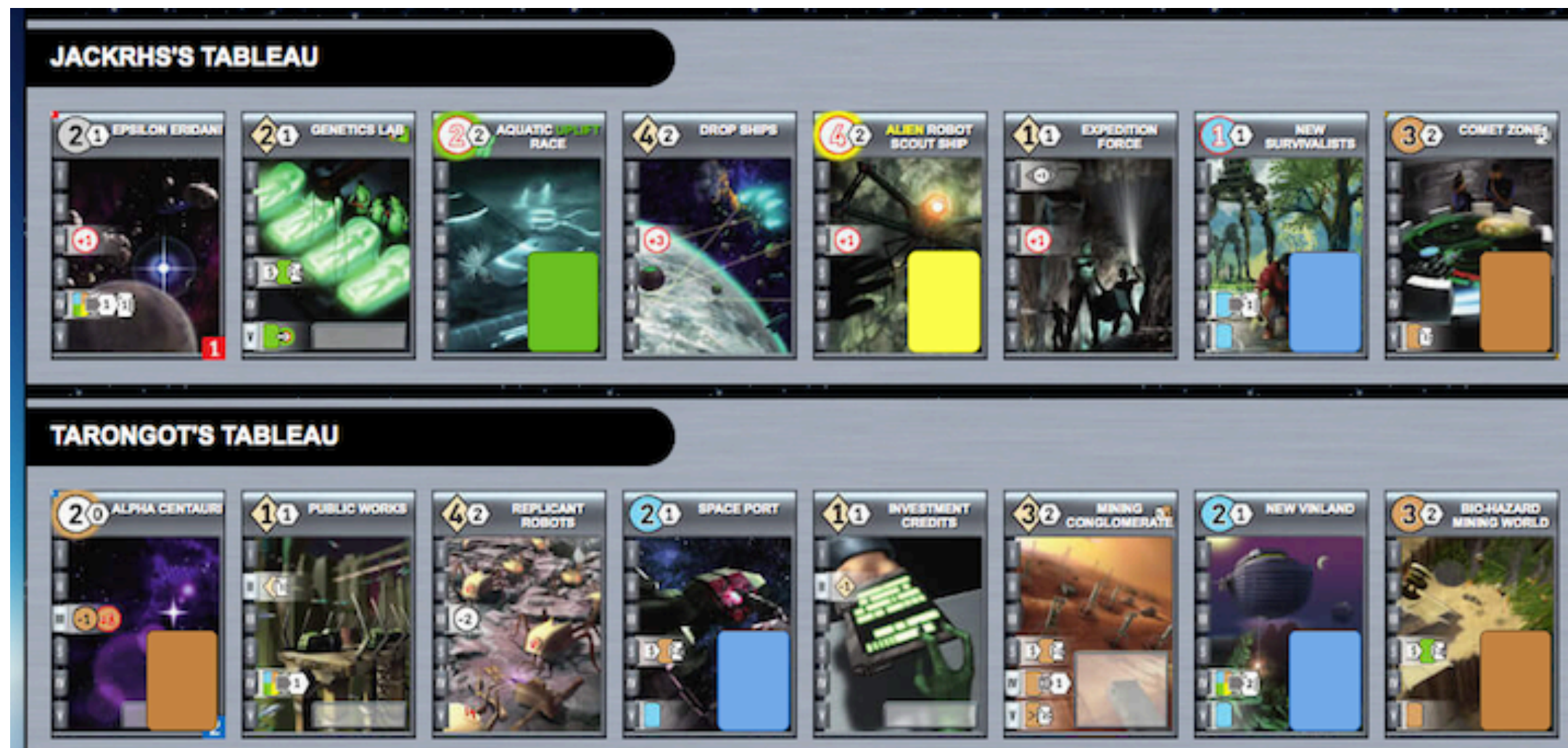


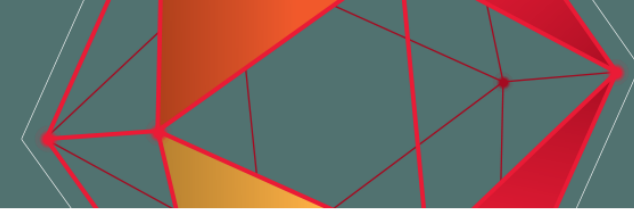
spin-off games



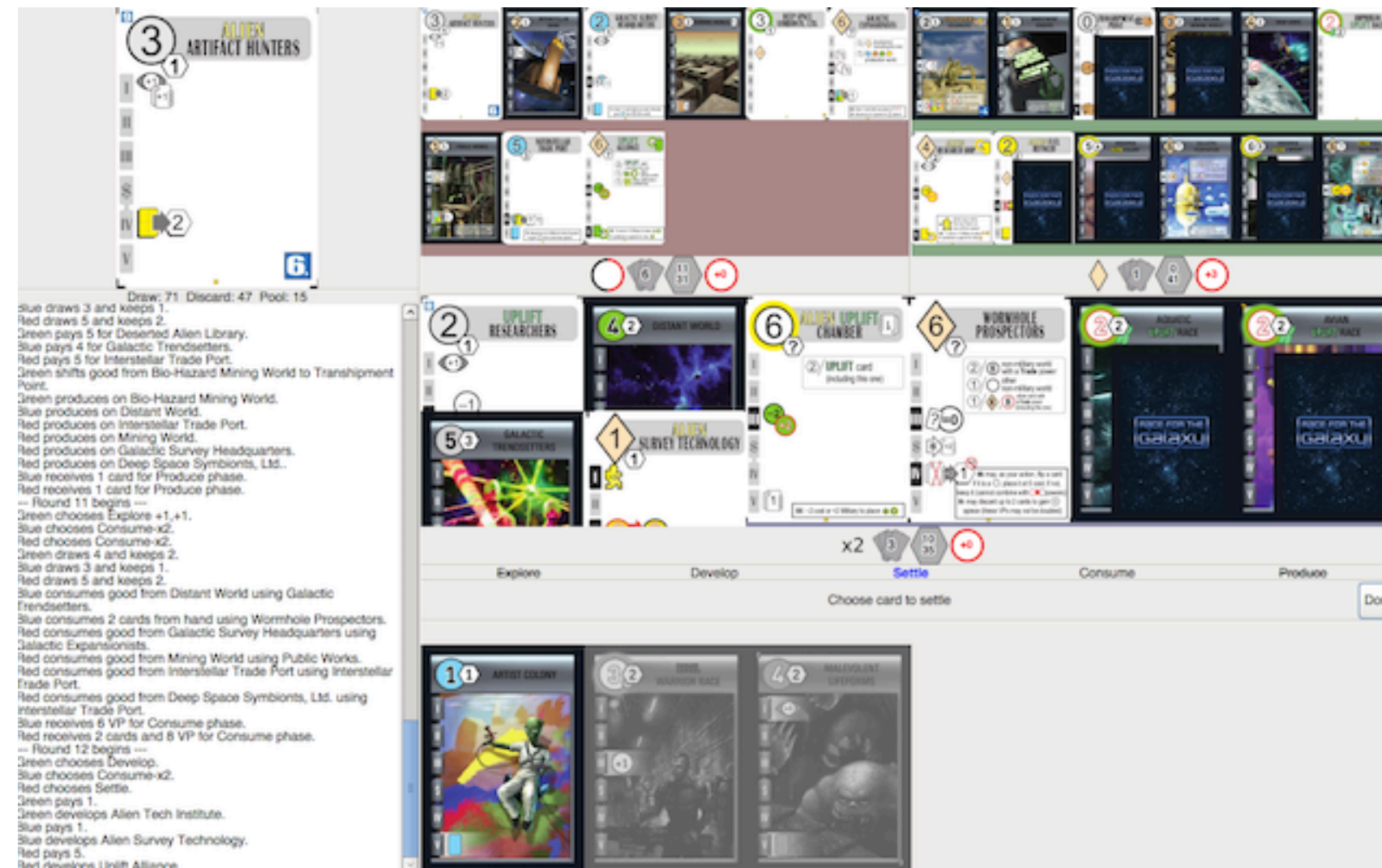


- play online in a browser at **Boardgame Arena**
 - over 5 million games played





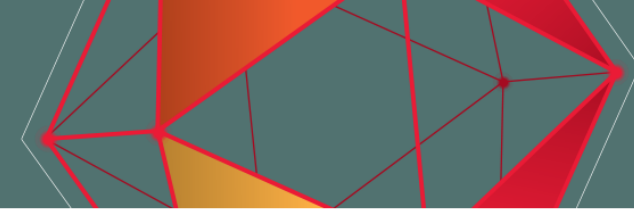
- free, open source PC version
 - AI project by Keldon Jones





- mobile app (iOS, Android) by **Temple Gates Games**
 - supports AI and internet play, plus a Steam version





2. Overview

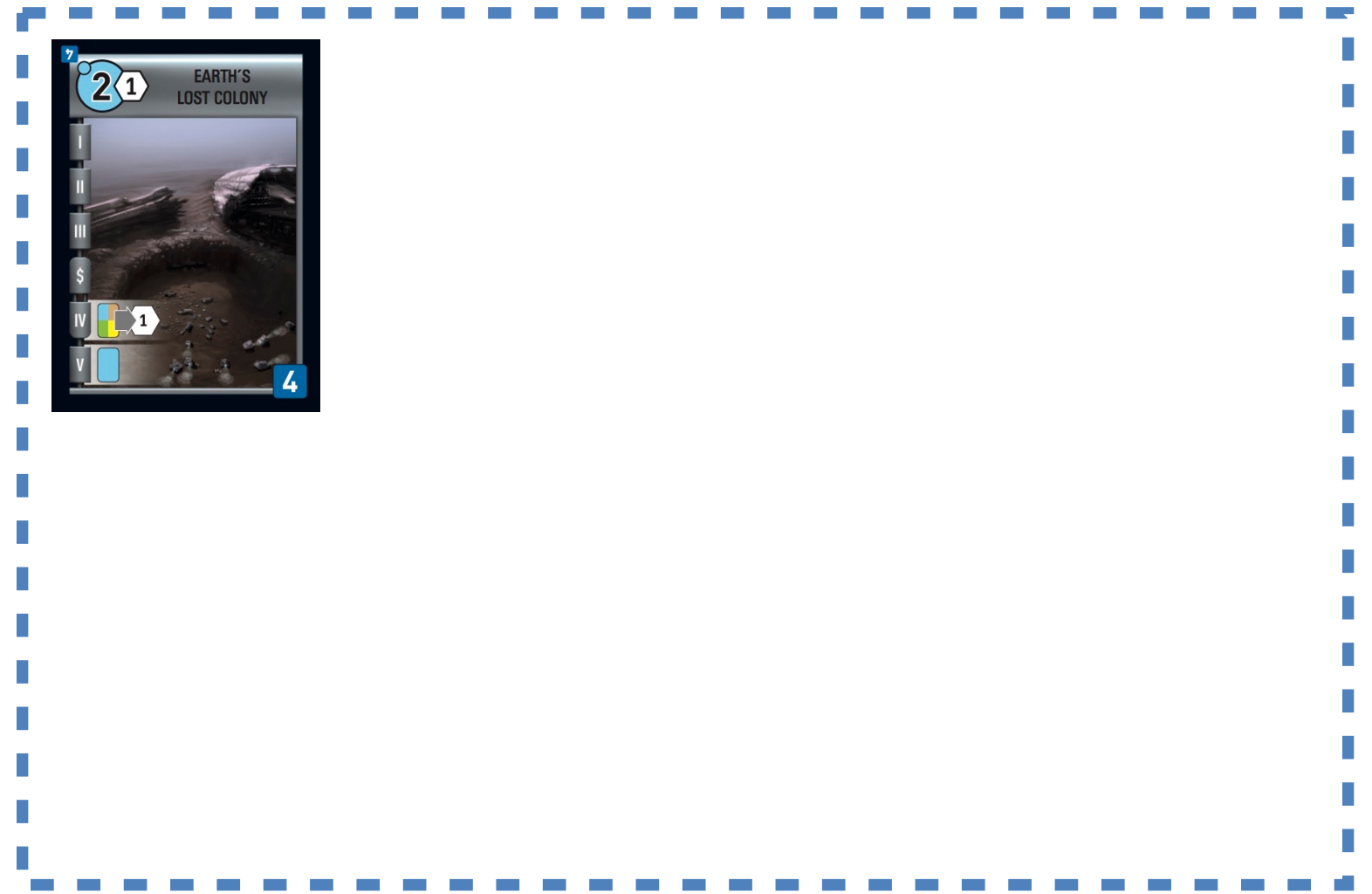


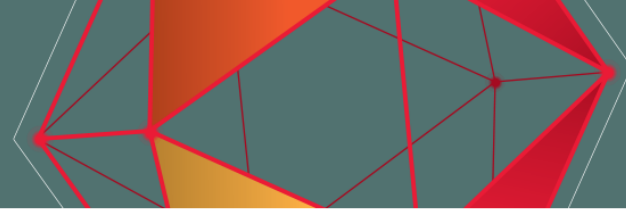


- action cards: select phases
- game cards: play to build your empire



- # 6 choose 4





- players select actions secretly and simultaneously
- 5 possible phases:
 - Explore, Develop, Settle, Consume, Produce
- only selected phases occur; everyone does them
- the player who selects a phase gets a bonus in it

A

Develop

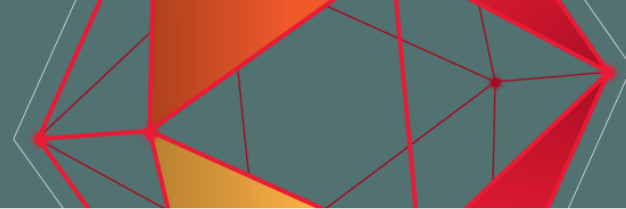
B

Settle

C

Develop





- every round is different

1

Develop

Settle

2

Explore

Consume

3

Explore

Settle

Produce

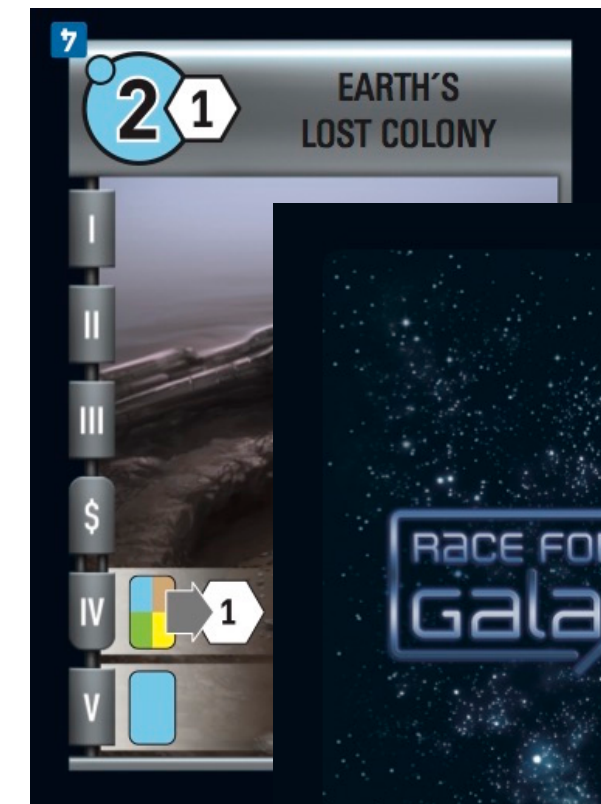




- **Explore** to find new cards
- **Develop** and **Settle** to build your empire

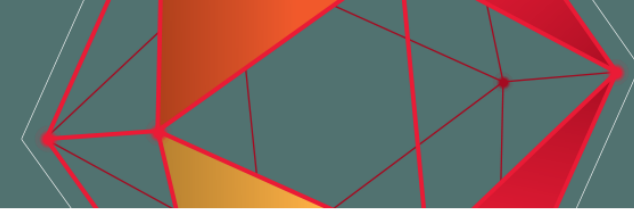


developments

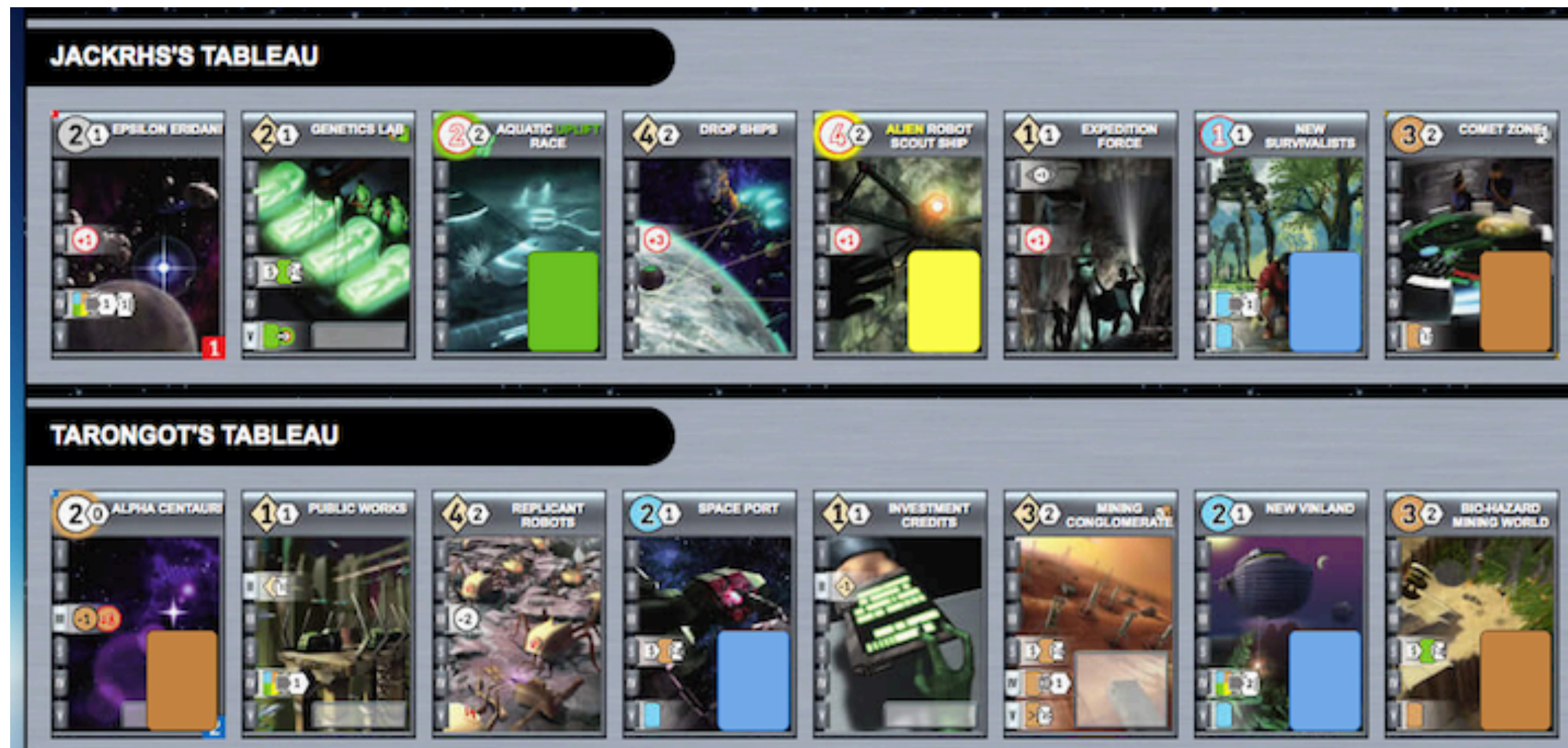


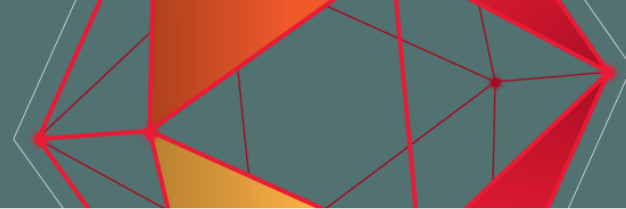
worlds



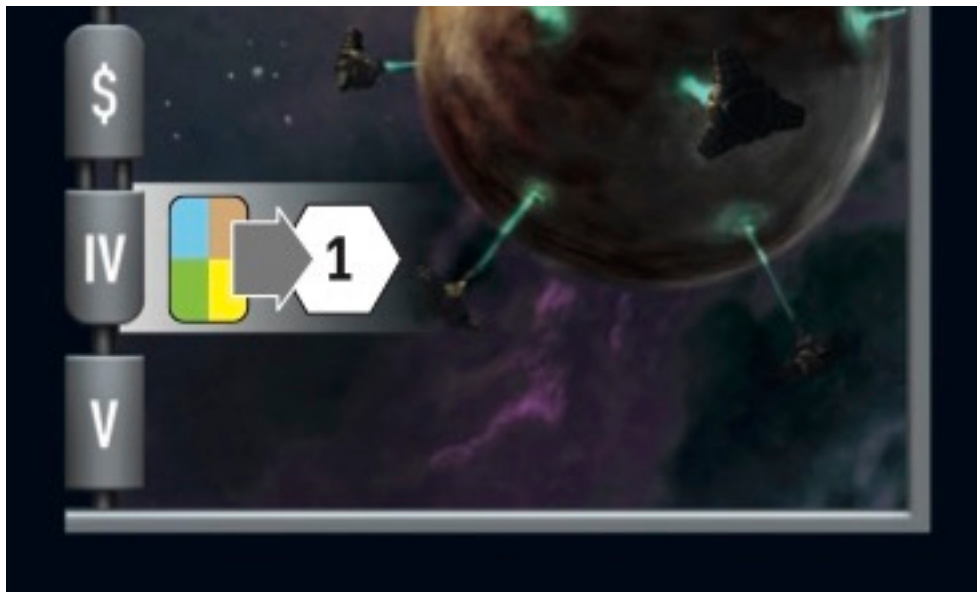


- 4 kinds of goods, based on world color





- **Produce** creates goods on production worlds
- **Consume** converts goods into VP chips / card draws

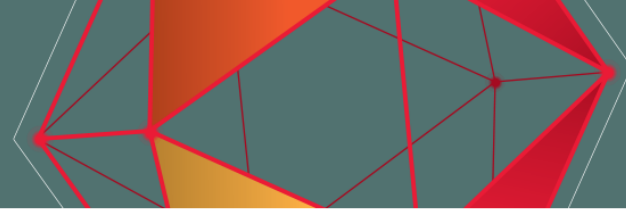


sample Consume powers



VP chips





- 2 phases: building empires
- 2 phases: producing / consuming goods
- 2 different ways to end the game



12+ cards in empire



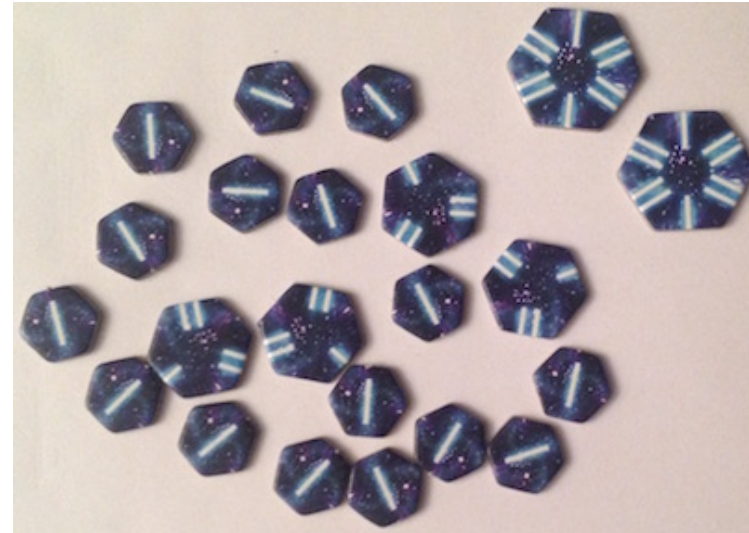
empty the VP pool
(12 VPs / player)



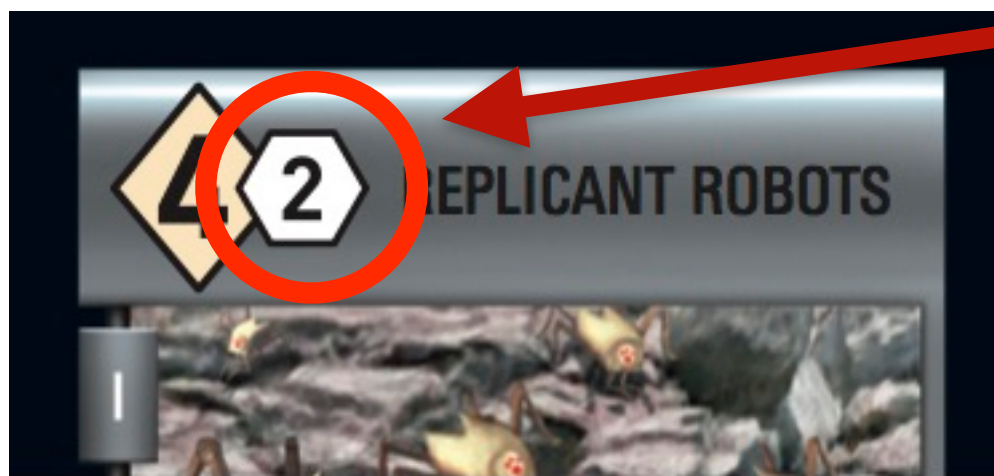


- 3 ways to score VPs

VP chips



VP values of empire cards





- VP bonuses from 6-cost developments
- each bonus is based on cards in your empire



most VPs wins!





Race for the Galaxy

- simultaneous action selection
- find cards that “fit” together
- empire building
- VP engines
- 6-cost dev bonuses



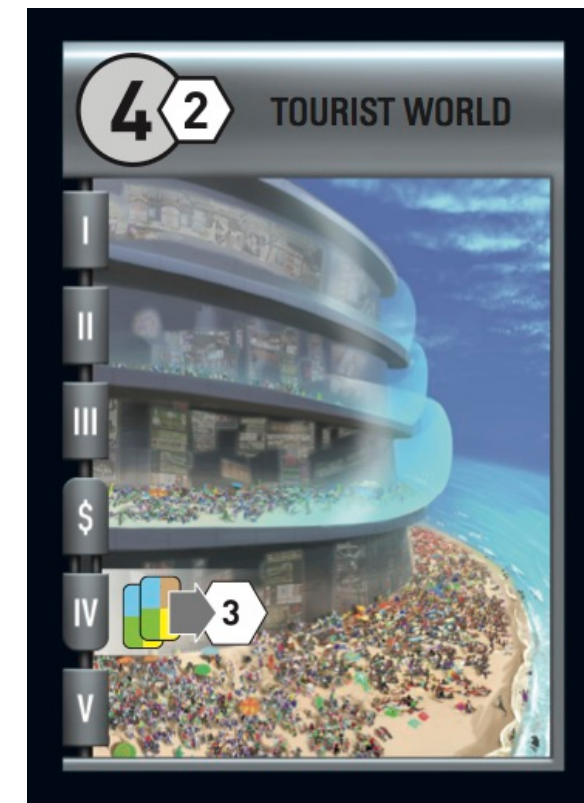


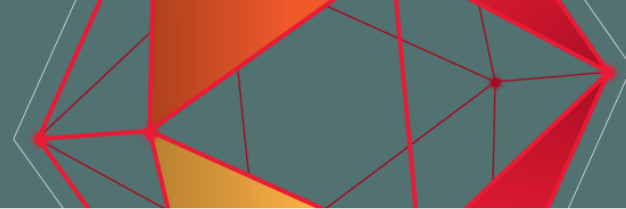
3. Design Deep Dive





- players control game pace / ending (7-11 rounds)
 - tableau rush vs density?
 - fast, small vs larger produce/consume VP engines?





- 2 different end conditions creates strategic tension
 - invest in a VP engine or develop/settle discounts?

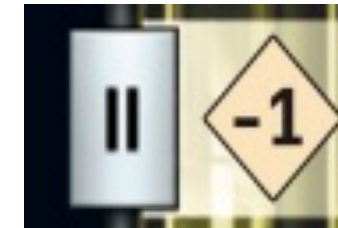


- What if *Hearthstone* or *Magic* also had “tower” wins?





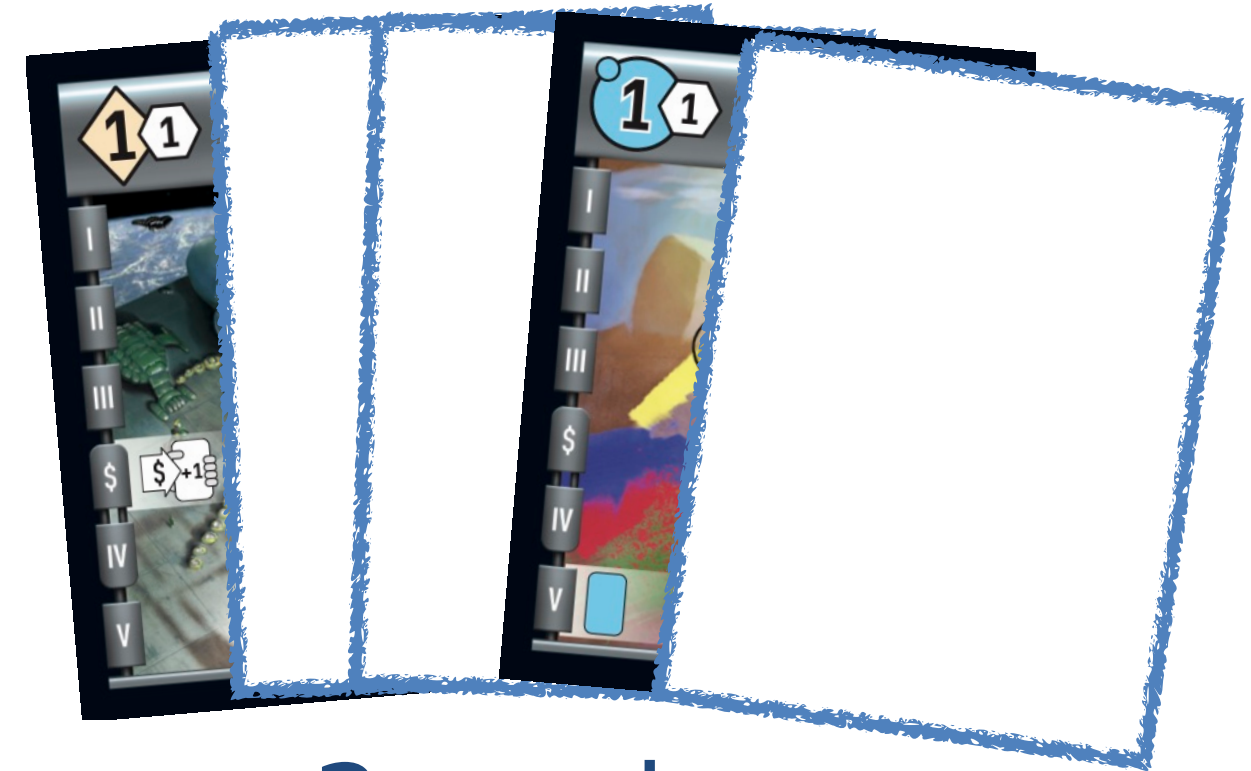
- How do you pay for cards?
 - pay by discarding other cards



6 cards



place



2 cards





- cards in hand represent *opportunities*
- **opportunity cost**
 - cost isn't just the resources spent, but
 - what you could have done instead
- examples
 - college electives
 - seminar sessions
 - job offers, investments, etc.
- spending mana has a much smaller opportunity cost
 - postponing an opportunity vs giving it up



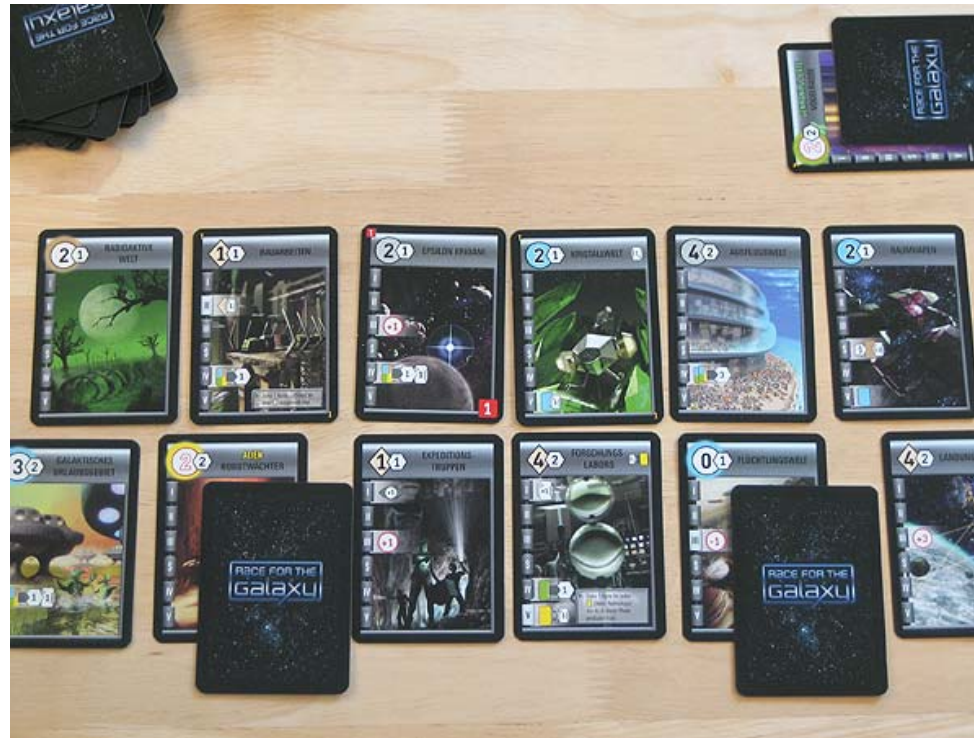


- opportunity cost is often overlooked in games



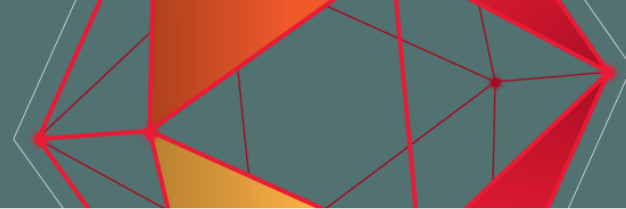


- players typically draw 30-50 cards in a game, but
- build only 8-12 of them



- “card-sifting” allows for variety (91 unique of 114 cards)
- variety supports many different strategies





- other variety approaches:
 - deck construction — need a deck to play
 - drafting — breaks up play or must be done before play
 - deck building — uses only a subset each game
- deck sifting:
 - integrates variety into game play
 - adds hand management decisions
 - can make an early “big” purchase
 - saving cards has a cost

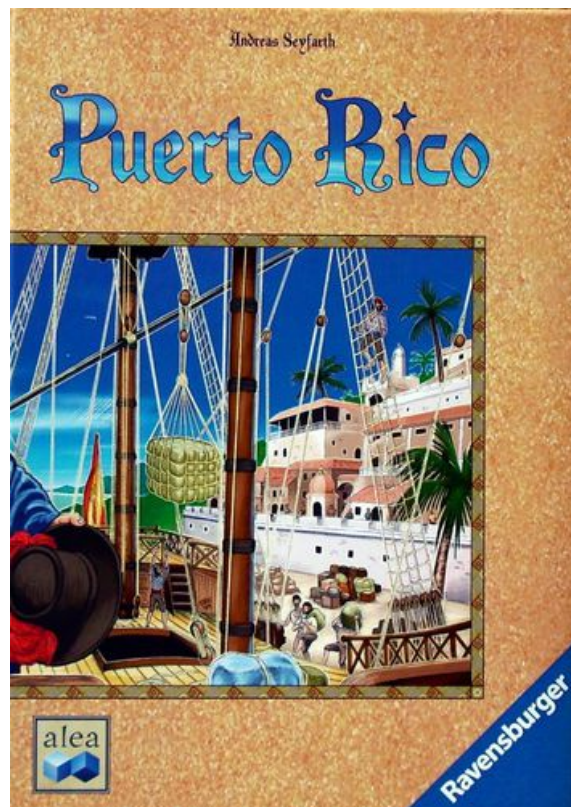




Criticisms

- too “angst-y”
- experienced players have deck knowledge advantage

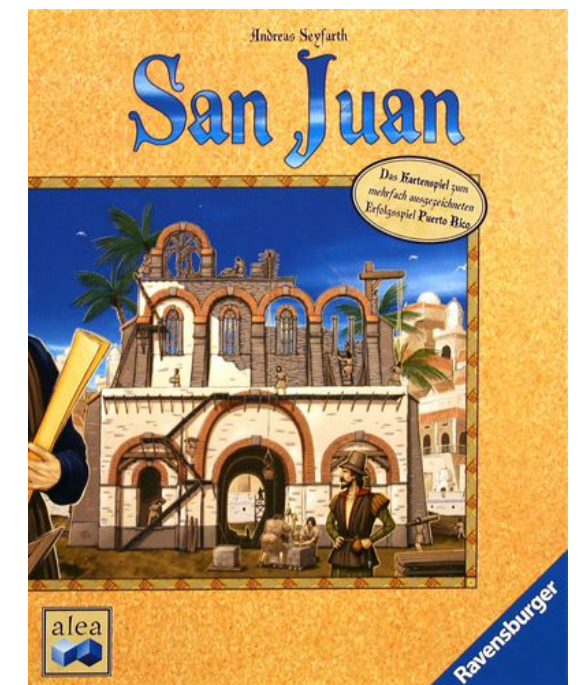


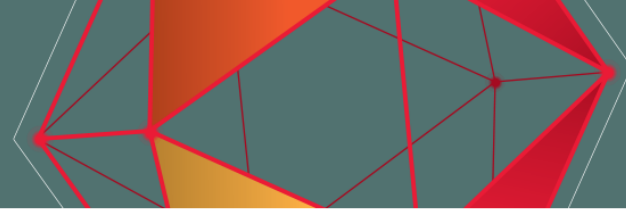


→ my *Puerto Rico* card game
cost structure

→ Andreas Seyfarth's
prototype

Stefan Brück (alea)
development & market slips



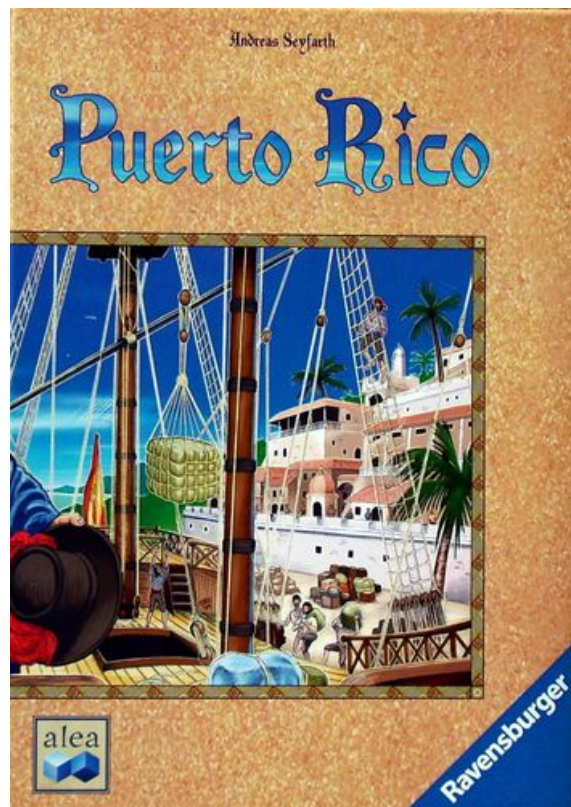
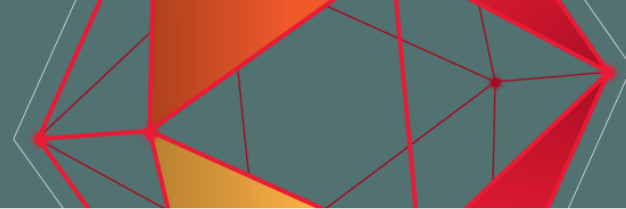


Puerto Rico
card game
(variety)

unpublished CCG
Duel for the Stars

new action
selection ideas

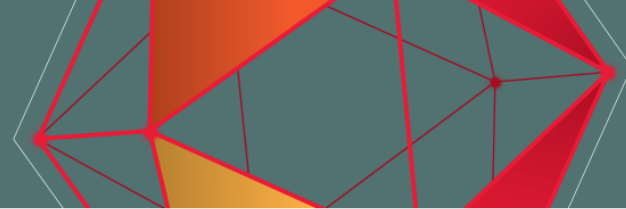




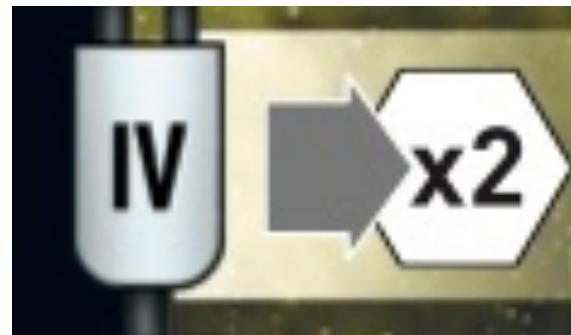
- *Puerto Rico* is a classic “euro-game”
- play is clockwise, not simultaneous
- features “constraining” interactions
- limit the next players’ options
- picking a role (action) “blocks” it for a round

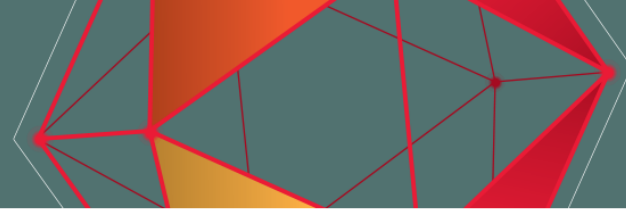
“left-right binding”
uneven skill levels





- What if the actions were picked simultaneously?
 - greater sense of player *agency*
 - eliminate left-right binding
 - games can go in more directions
- What if the build tempo/round was 0-2 (not 0-1)?
- What if the Consume bonus was x2 VPs (not +1)?



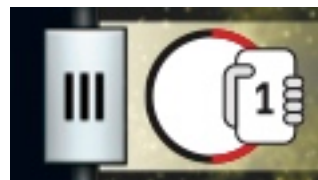


- all actions must be viable in early, mid, late game
- **Explore:** easy; always looking for cards that “fit”
- **Develop:** good; build techs early, 6-devs late, mid-game?



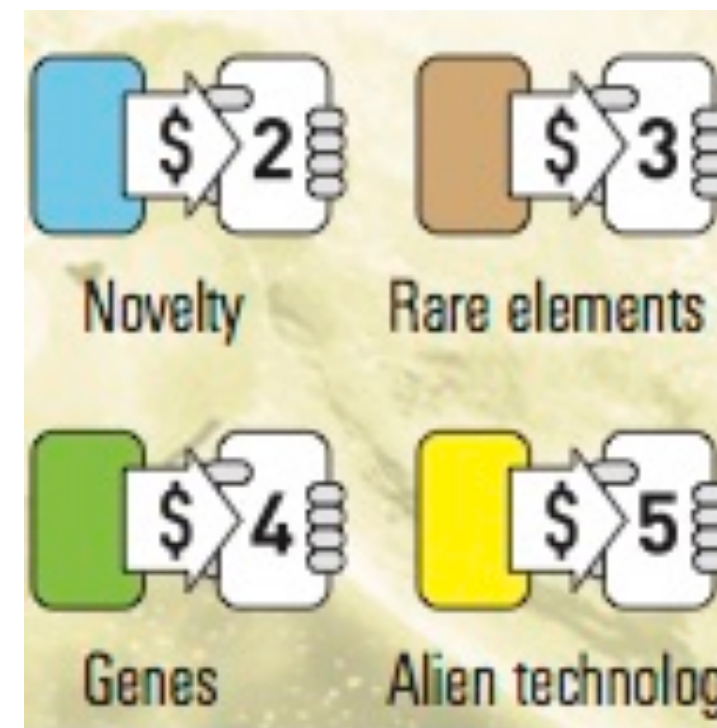


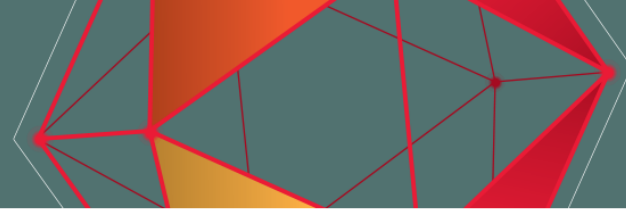
- **Settle:** early card-flow, VP engines... why Settle late?
- Military: alternative way to place worlds



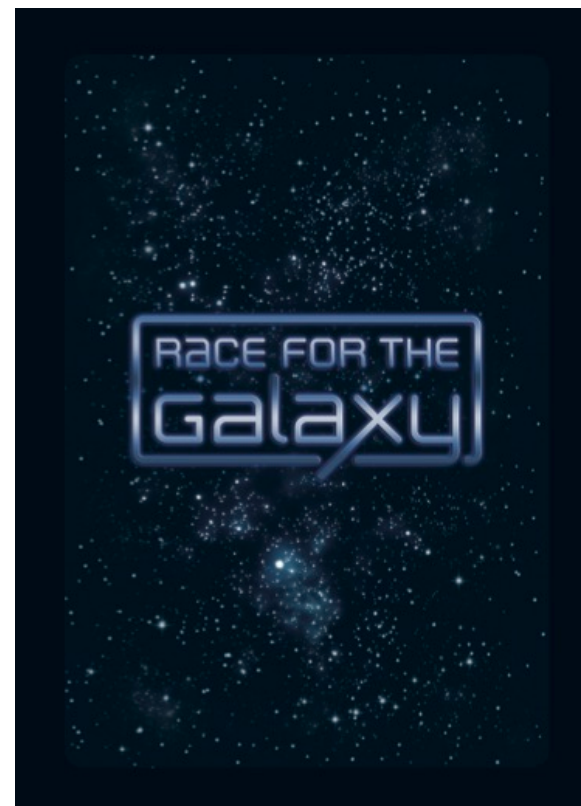


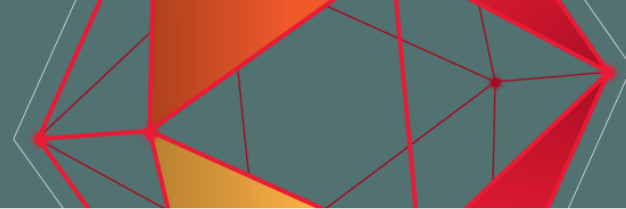
- **Produce** had the opposite issue: looming too large
 - how to avoid PR / SJ “Who bells the cat?” issue
- *windfall* worlds: get a good without calling Produce



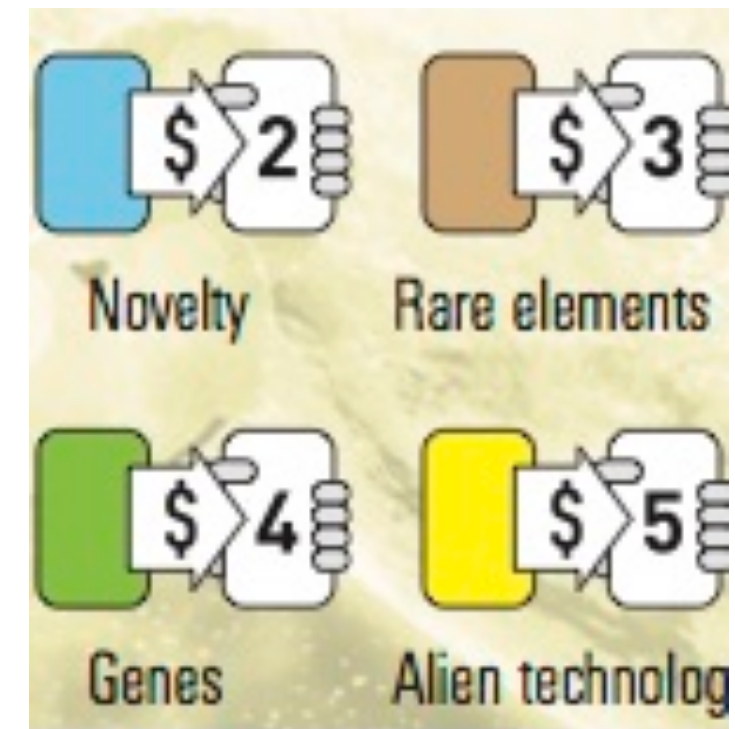


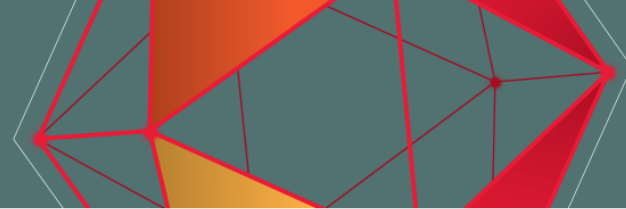
- windfall worlds don't get goods during Produce
- need a power or to call Produce for its bonus





- **Consume:** its x2 VP bonus works in the late game
 - 2nd Consume action card has a different bonus
- Consume: *Trade* sells 1 good for cards (only that player)



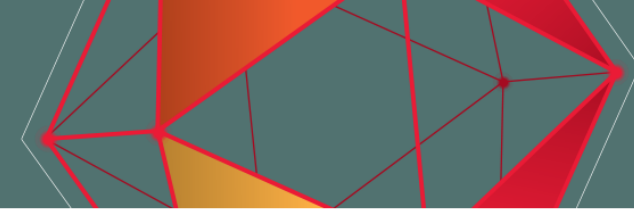


- Why is Trade a bonus, not a separate phase?

so Consume is called early on
prevent “rich gets richer”

- *PR* has Trading House; sales are often blocked
- *SJ* has lower, varying sale prices and compensation
- *Roll* has lower returns; boosted Explore as alternative
- *Race* gives largest returns, but requires player action





- **Explore** also has 2 action cards with different bonuses:
 - 1 extra card *or* 5 extra cards to choose from





- simultaneous actions led to interesting player interactions:
 - bluffing and gambling
 - “leeching” and “blunting”





- pressuring interactions in build tempo
- if opponents call both Develop and Settle:
 - 2 weak cards?
 - 1 strong?
 - 1 weak and save?
- every missed build potentially incurs an opportunity cost





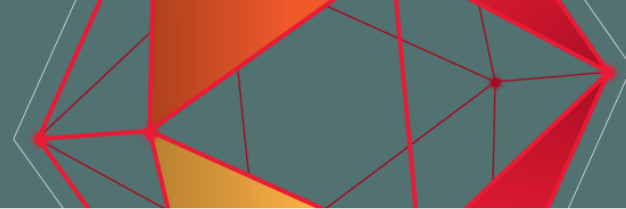
multi-player solitaire?

self-fulfilling prophecy

no “forced” interaction

strategy games work when all
players do their best to try to win





- Simultaneous play can speed up multi-player games
 - need tie-breaker, but serialize play only when needed
 - hide non-essential information to reduce serialization
 - minimize synchronization points





- card design: multiple powers on cards

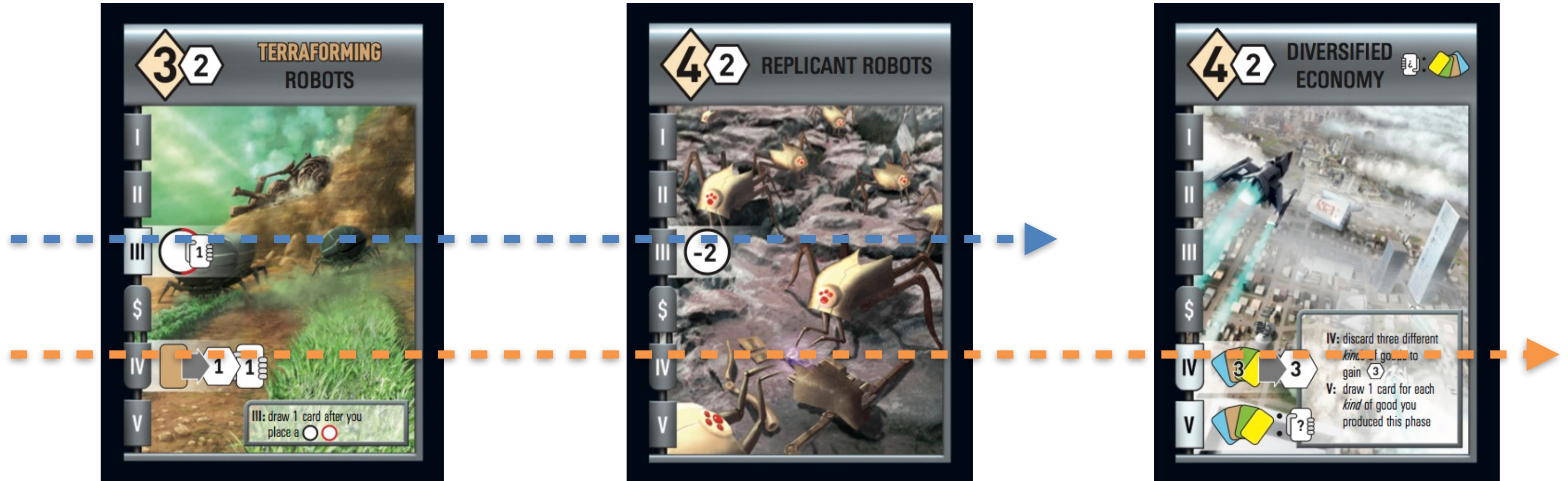


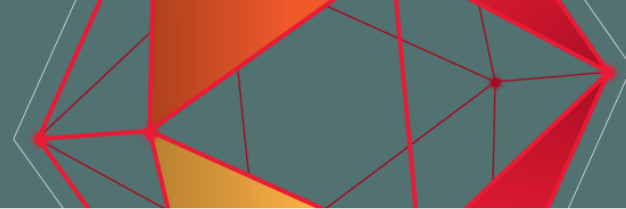
- increases cognitive load





- influenced card graphics





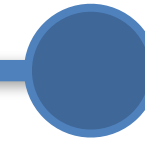
- what type of powers?
- big effects/combos vs smaller, incremental powers?

play big
combo



stave off defeat
until combo appears

gain an
edge



lots of small decisions
that gradually produce a win

lots of tough decisions
with good strategic tension

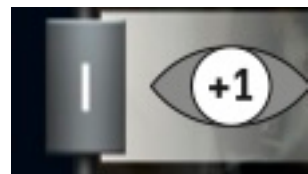




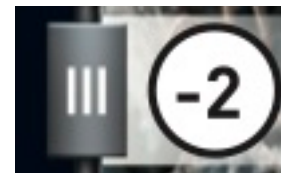
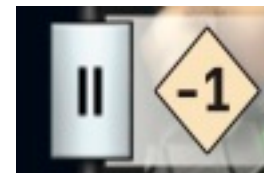
- most *Race* powers are simple variations:

- reduce cognitive load

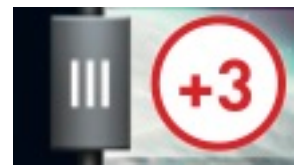
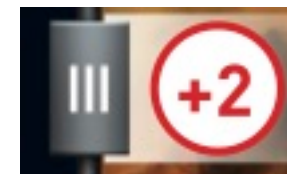
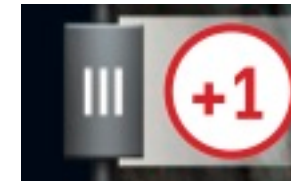
see cards



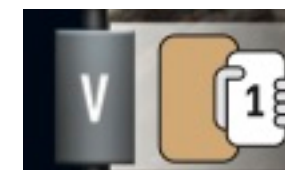
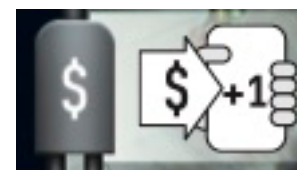
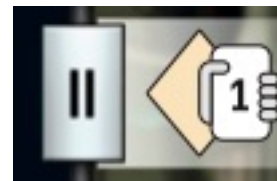
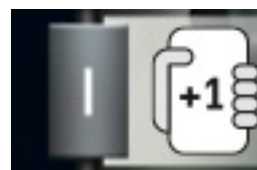
discounts



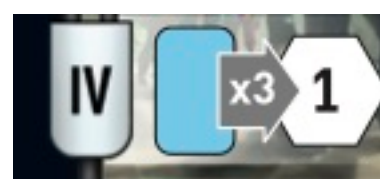
military



cards draws

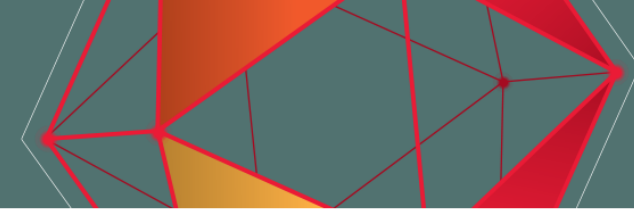


consume powers



windfall production





- 3 powers “break the rules”:



pay for military worlds



leech Consume to sell a good without calling Consume: Trade

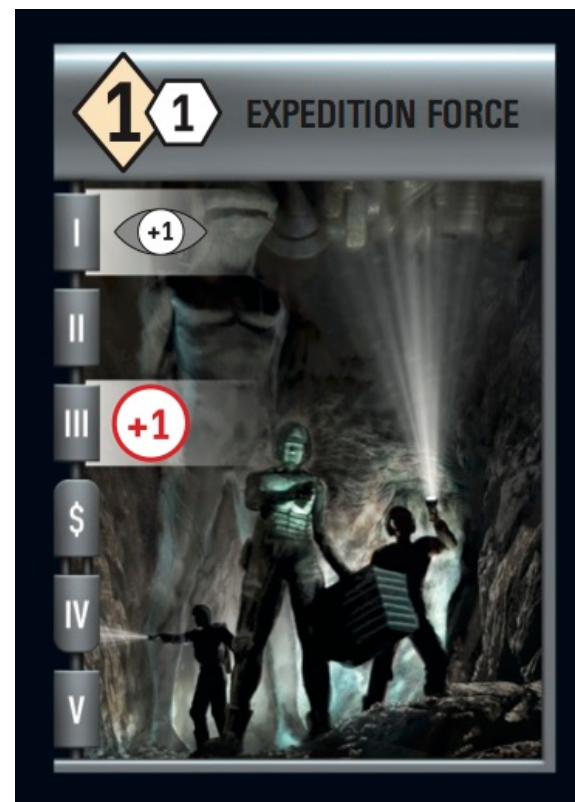


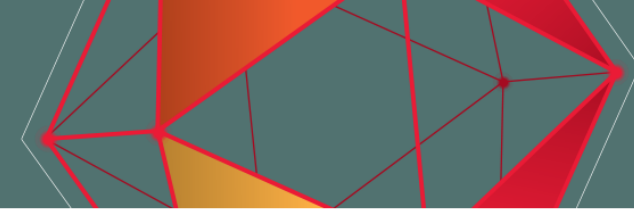
spend cards for VPs





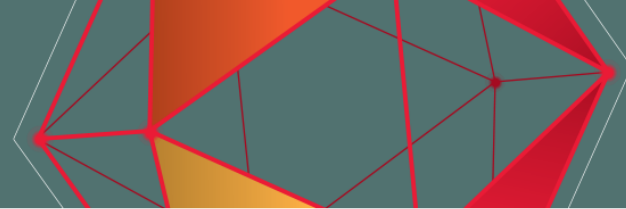
- icons: simple powers would have no text
 - textless powers: model was road-signs
 - text powers: high-light phase and use inline icons
- accessibility vs ease of replay for experienced players





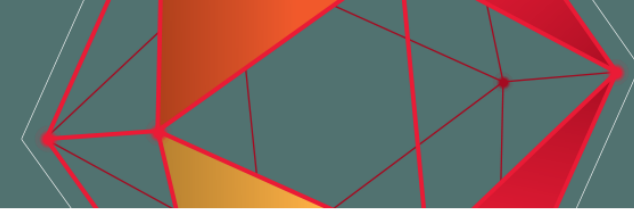
- for spin-off games, geared to more casual audiences:
 - icons plus text for all powers
 - “helper” words mixed with icons





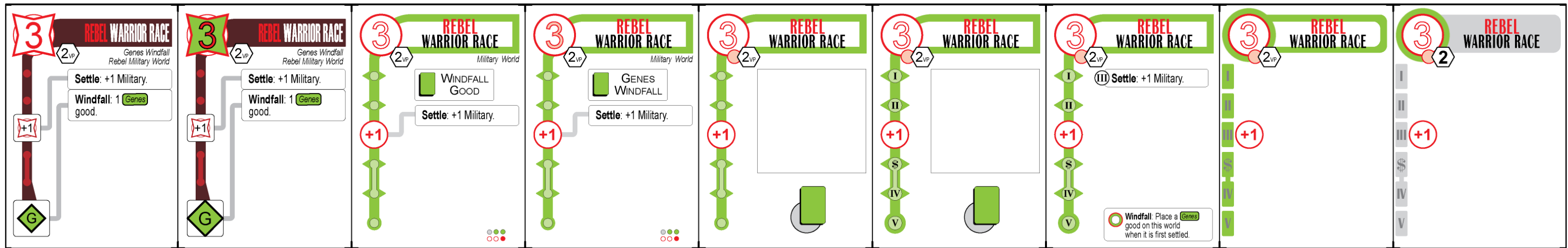
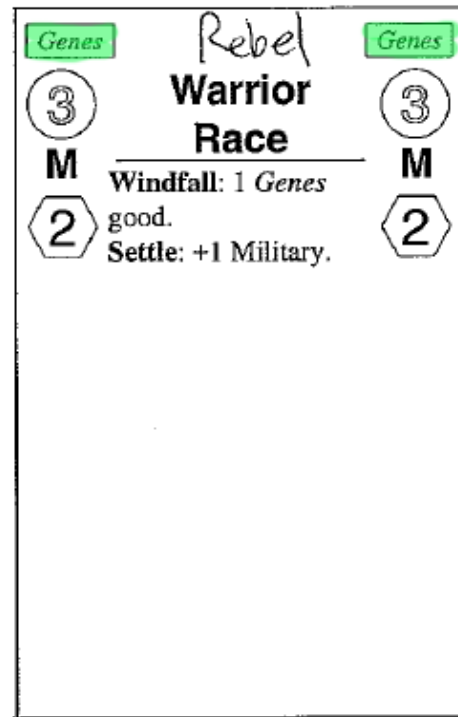
- icons paid dividends when Race was ported to devices

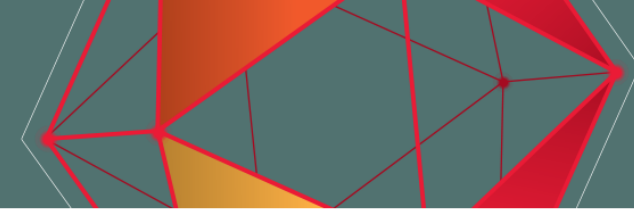






card design evolved through many iterations





Wei-Hwa Huang
prototype icons, *Roll* lead



Jay Tummelson
Rio Grande Games



Claus Stephan
covers, card art, 3D, logos



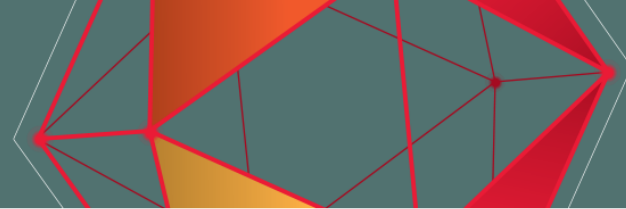
Martin Hoffmann



Mirko Suzuki
graphics, production





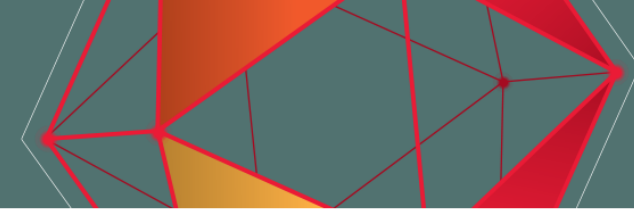


- most cards were designed from a thematic PoV...

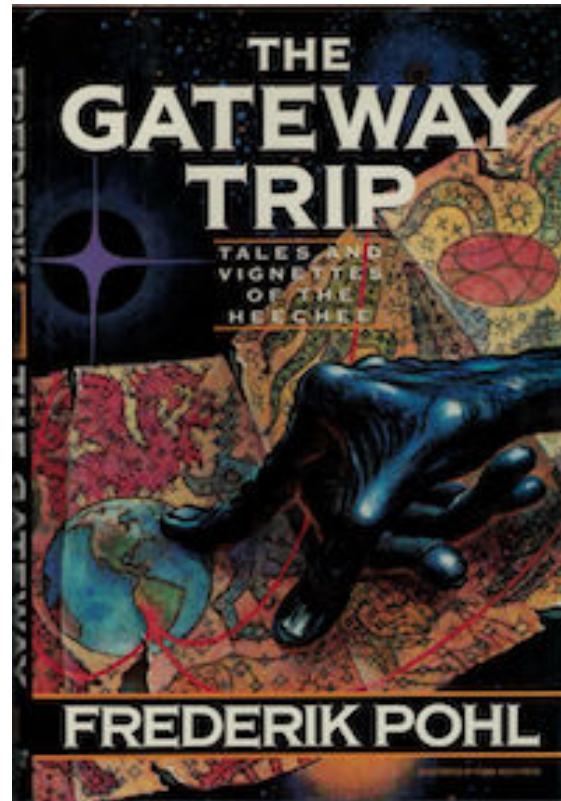


Iceland?

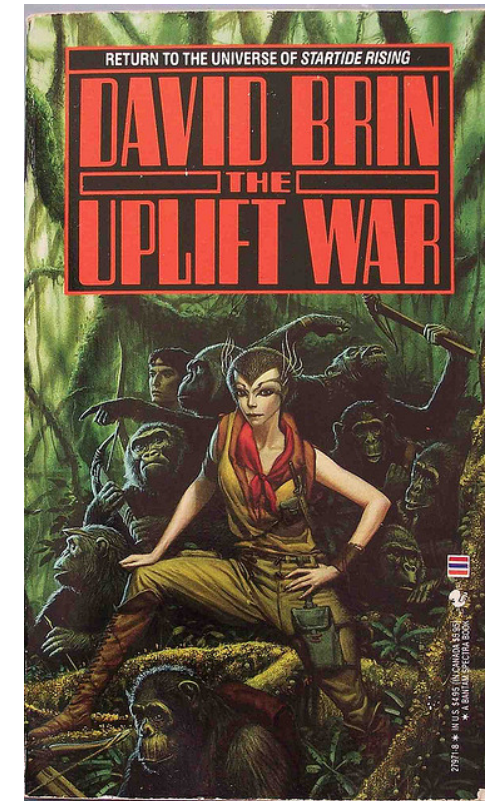




- *Race's* “universe” has two thematic inspirations:

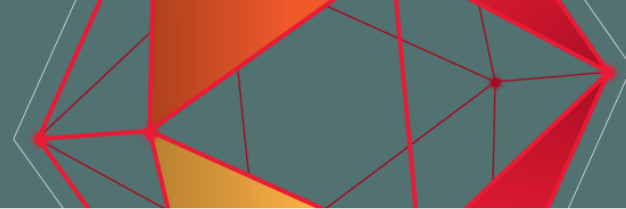


Frederik Pohl's
Heechee saga



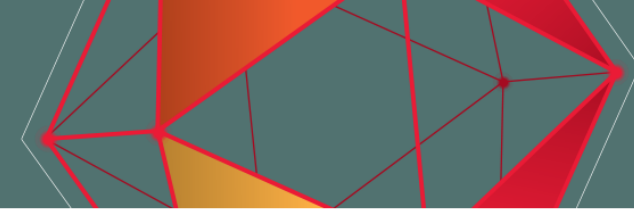
David Brin's
uplift ideas





- two ideas from optimization theory informed card design:
- to make a game more strategic, “mind the gap”



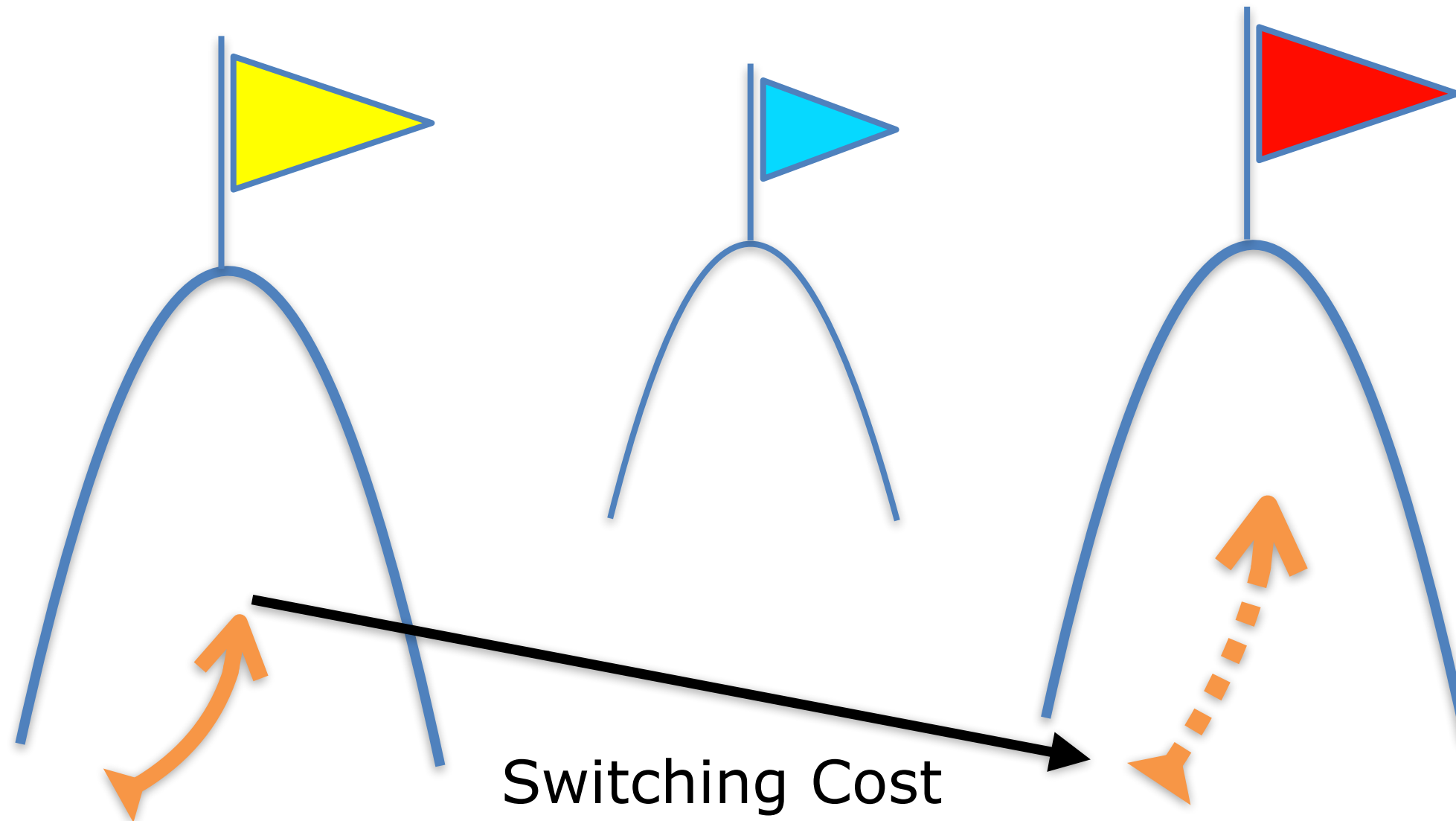


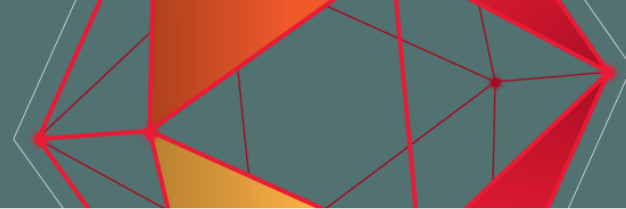
- if all power-cost combinations present, tactical play works
 - random draws reduce this issue: may not draw needed card
 - CCGs, drafting, and board games need to be careful





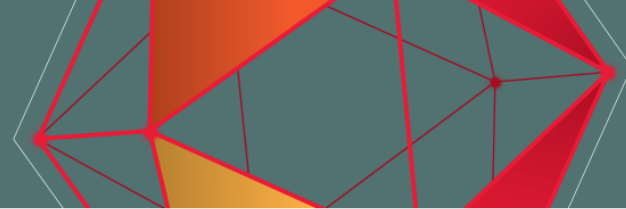
- overcoming switching costs
 - don't want players feeling trapped by their initial draws





- 6-cost devs with both powers and VPs helped:
 - **under-costed** for *both* their powers and bonus VPs
 - **over-costed** for just their powers' effects on play





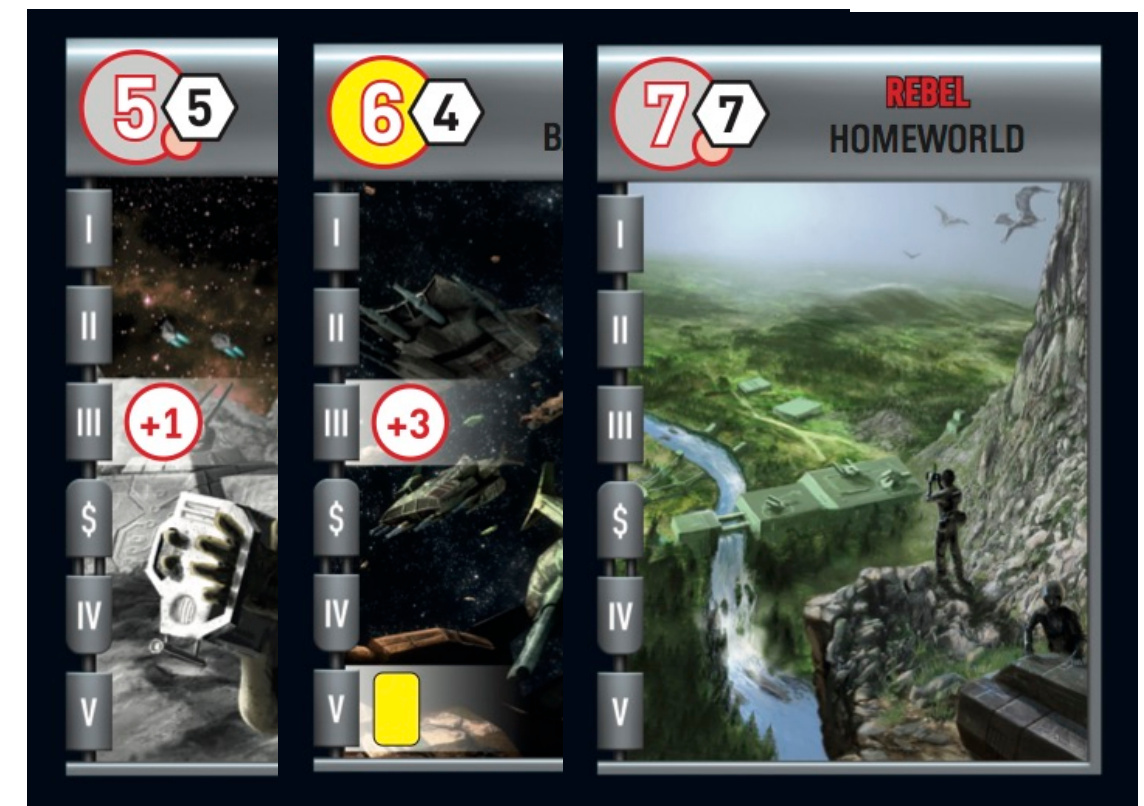
- want cards to appeal to various player *types*:
 - Mark Rosewater's classic article describing *Magic* player types



efficiency
"Spike"



creativity
"Johnny"



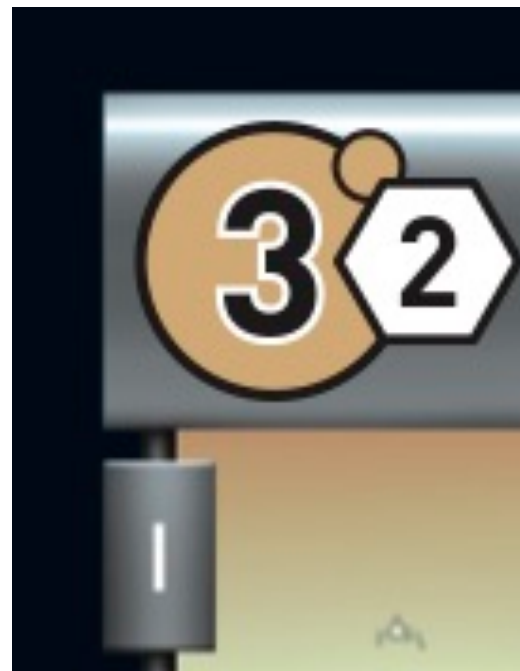
big effects
"Timmy"

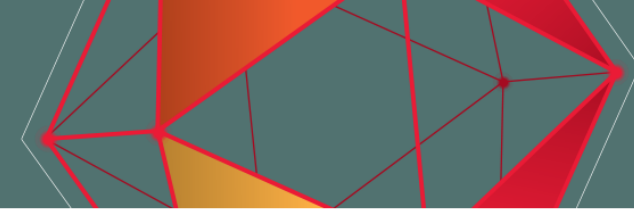




What didn't work?

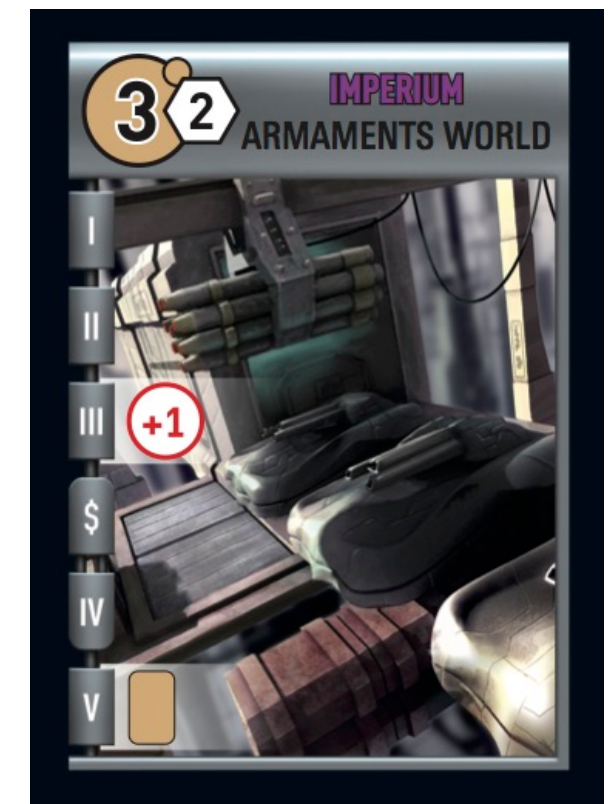
- deck size became a problem after ~180 cards
 - sample variance problem: led to arcs
- a few cards were too specialized
- color-blind issues (brown/green)





2nd Edition *Race for the Galaxy*

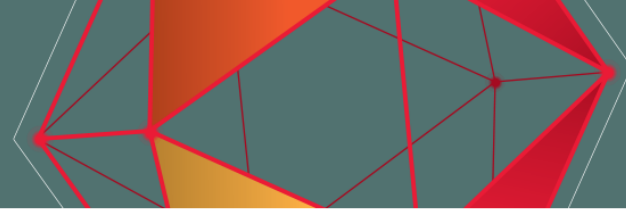
- more color-blind “friendly”
- rules completely gender-neutral (not 98%); new sample rounds of play
- 6 promo start worlds (from the app) and start world choice
- adjusted 5 cards (will be available as promos)





Takeaways





Things to Consider

- create strategic tension by having 2 different ways your game can end
- let players dictate the game pace
- use “card-sifting” to provide variety, add hand management
- account for opportunity cost
- “mind the gap” to make a game less tactical / more strategic
- design cards for different player types: big effects, efficiency, creative uses
- provide a way for players to overcome “switching costs”
- use simultaneous play for bluffing, leeching interactions
- have 1 main synchronization point





Good Luck!

