Governance of Emerging Technologies
May 28, 2014

Narrative Foresight Techniques for Scenario Generation using “Eventuality”

Michael Burnam-Fink

PhD Candidate, Human and Social Dimensions of Science and Technology

How can we engage with an uncertain future?

Narrative Foresight

Scenarios

Science Fiction Prototyping

EVENTUALITY

Building Imaginative Capacities

Scenarios are about discovering biases and finding alternatives

"Scenarios deal with two worlds: the world of facts and the world of perceptions. They explore for facts but they aim at the heads of decision makers. Their purpose is to gather and transform information of strategic significance into fresh perceptions."

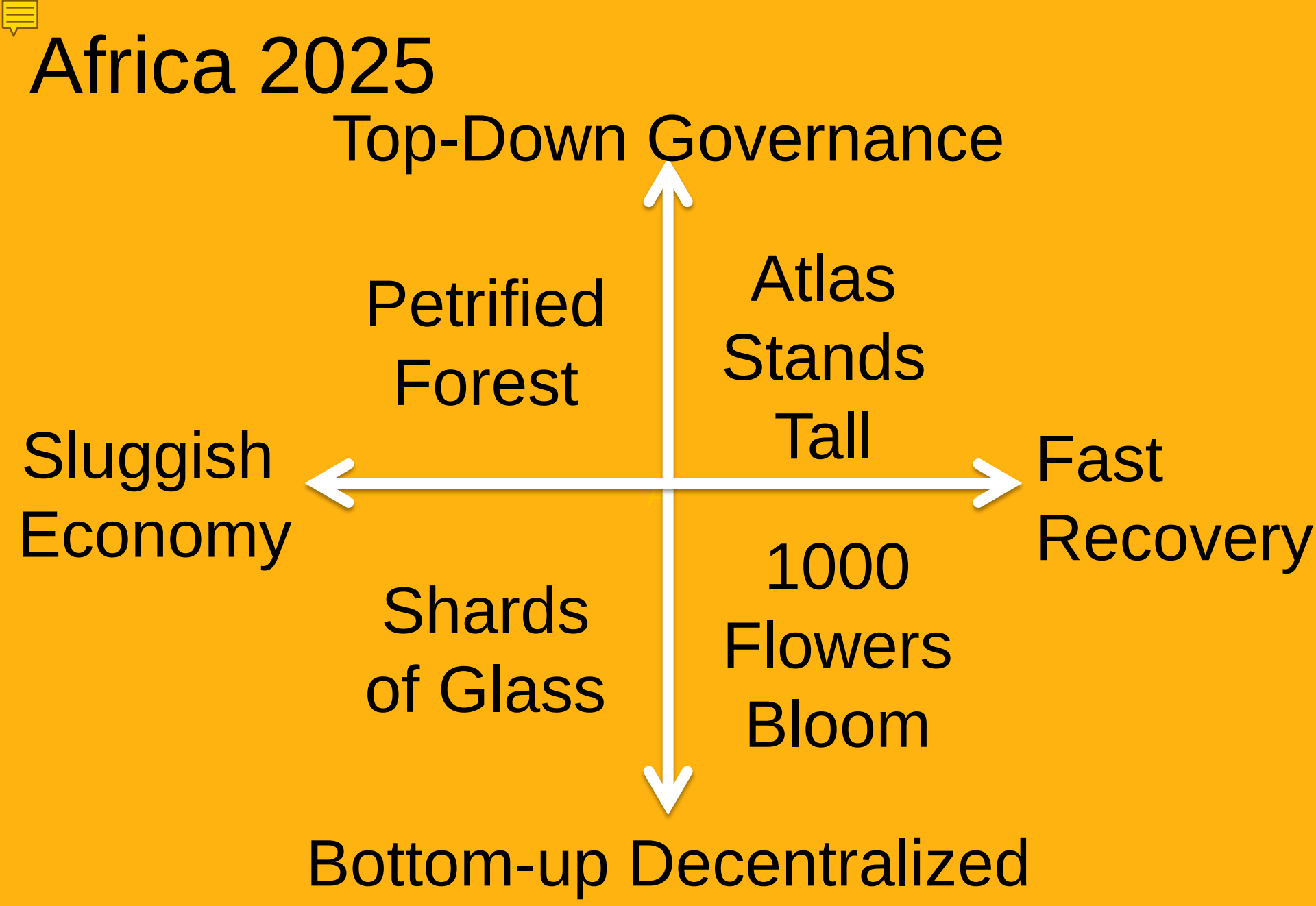
--Pierre Wack

Society
Technology
Economics
Environment
Policy

Predetermined Elements

Critical Uncertainties

Africa 2025


Top-Down Governance
Petrified Forest
Atlas Stands Tall
Sluggish Economy
Fast Recovery
Shards of Glass
1000 Flowers Bloom
Bottom-up Decentralized

Scenarios are stories

…but they’re bad stories

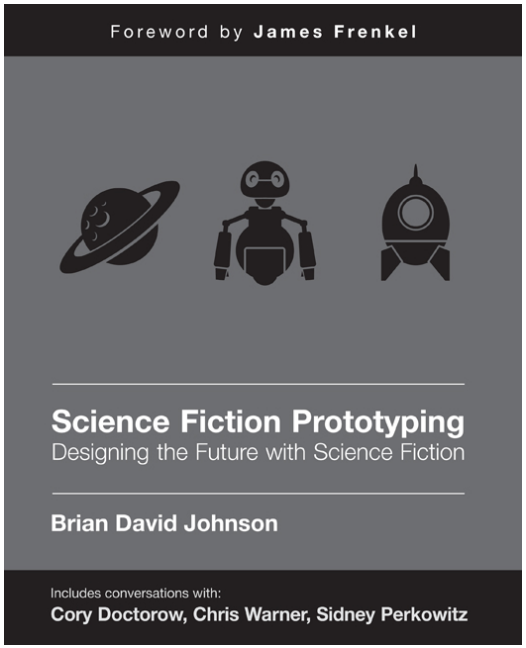
Narrative matters for scenarios

People know how stories work

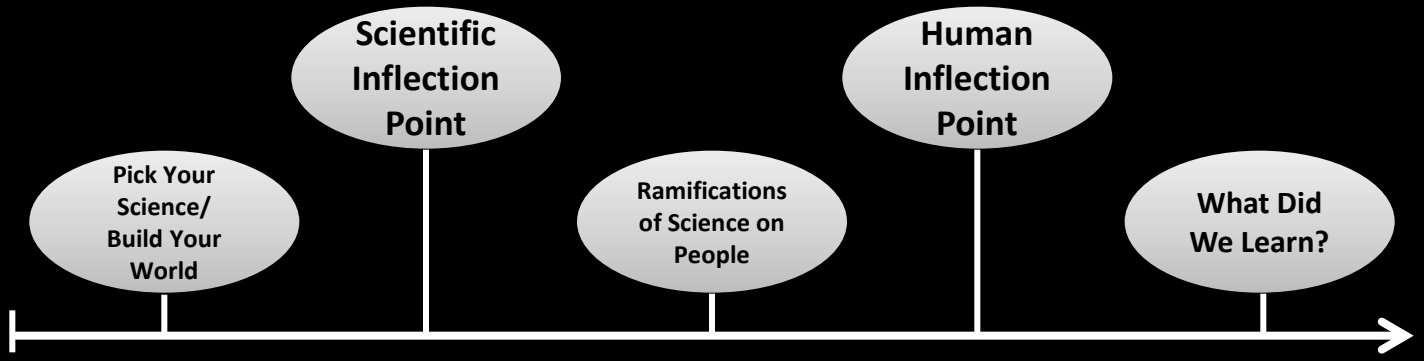
Narrative qualities influence how believable scenarios are

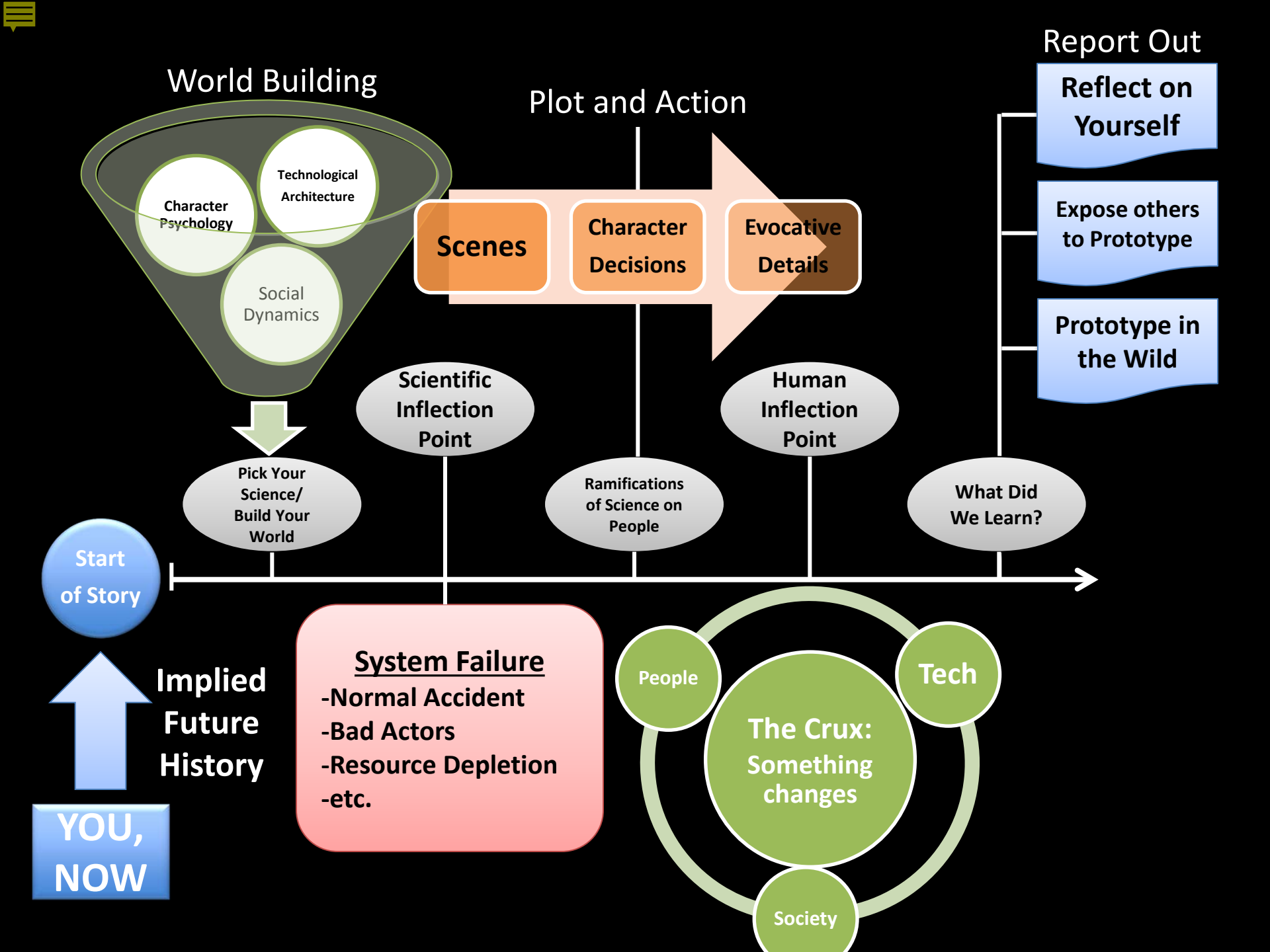
Scenarios are a “process method”

Science Fiction Prototyping



Brian David Johnson, Intel Futurist
The Tomorrow Project


Pick Your Science/ Build Your World
Scientific Inflection Point
Ramifications of Science on People
Human Inflection Point
What Did We Learn?

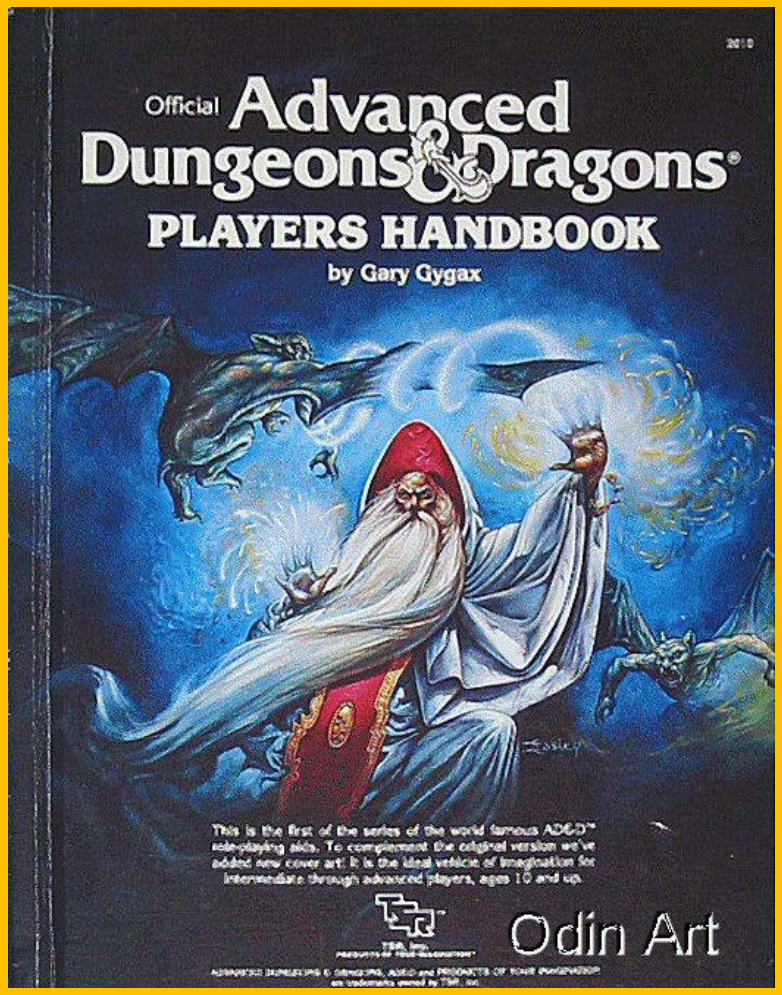

World Building
Character Psychology
Technological Architecture
Social Dynamics
Plot and Action
Scenes
Character Decisions
Evocative Details
Report Out
Reflect on Yourself
Expose others to Prototype
Prototype in the Wild
Scientific Inflection Point
Human Inflection Point
Pick Your Science/ Build Your World
Ramifications of Science on People
What Did We Learn?
Start of Story
Implied Future History
YOU, NOW
System Failure
-Normal Accident
-Bad Actors
-Resource Depletion
-etc.
People
Tech
The Crux: Something changes
Society

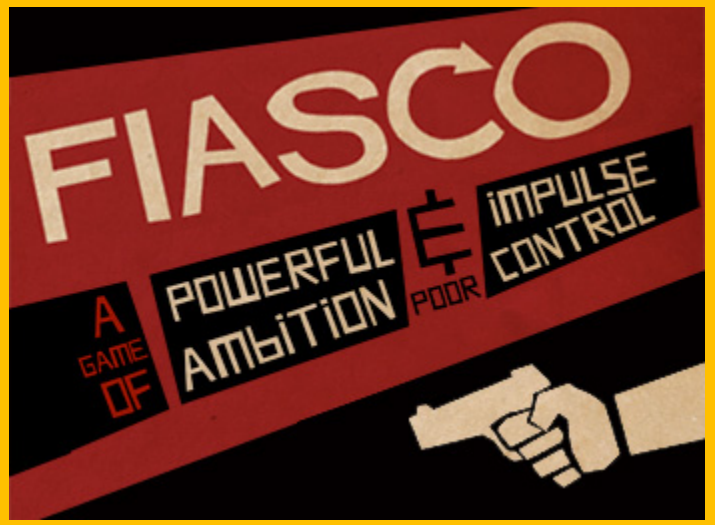
Problems with Science Fiction Prototyping

- Relies too heavily on intrinsic knowledge
- Insufficient consideration of alternatives
- Writing is slow and solitary
- No way to resolve disputes

EVENTUALITY

Collective Storytelling via Games





Game Design Principles

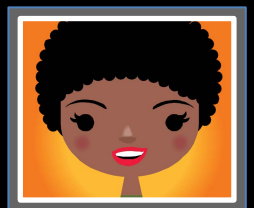
Generate Surprise and Conflicts

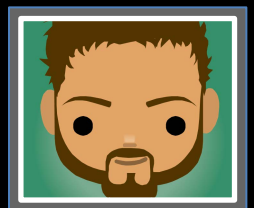
Cooperation & Competition

Structured Negotiations

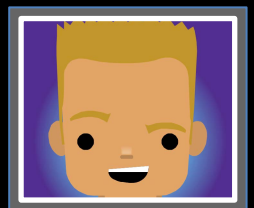
Language game/ Minimal mechanical complexity (Poker Hands)

EVENTUALITY Demo


Alice


Bob

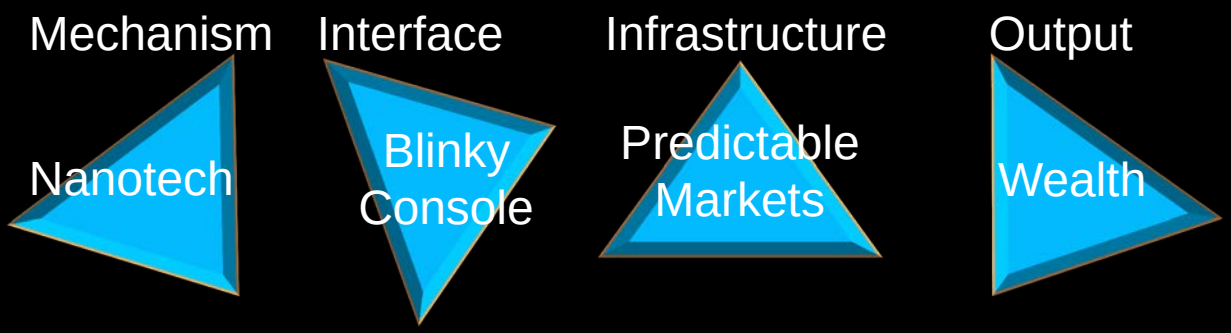
Carol


Dave

EVENTUALITY:
A Narrative
Foresight Engine

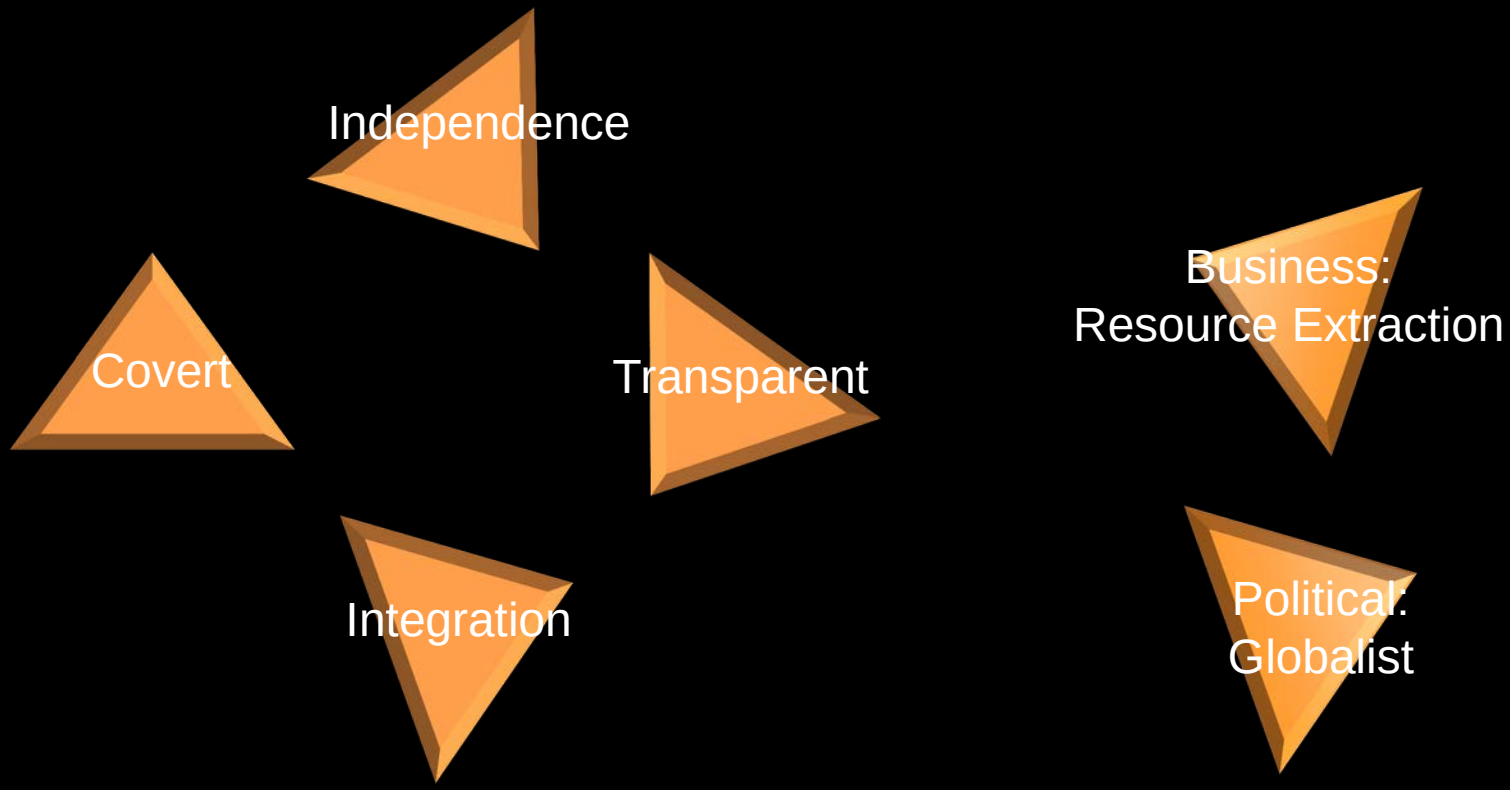
Step 1.1: Generate Starting Facets

Gizmo



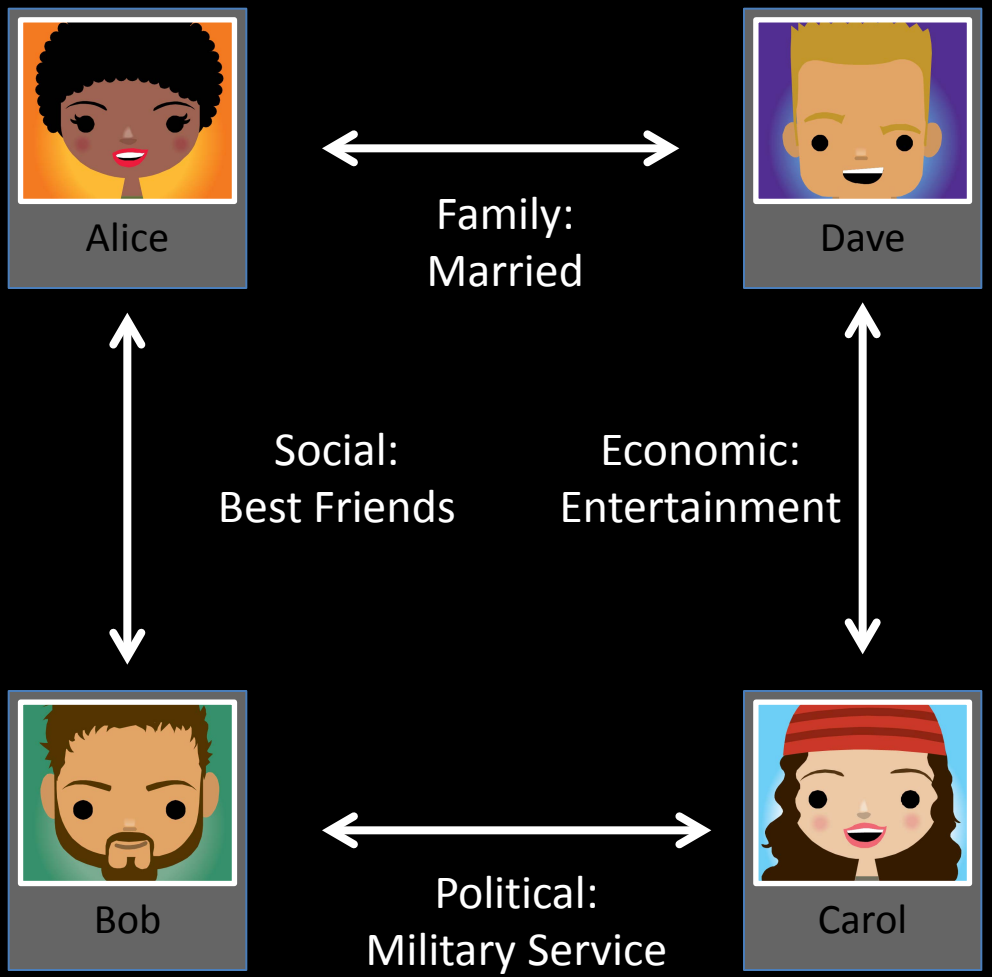
Step 1.2: Generate Starting Facets

Social

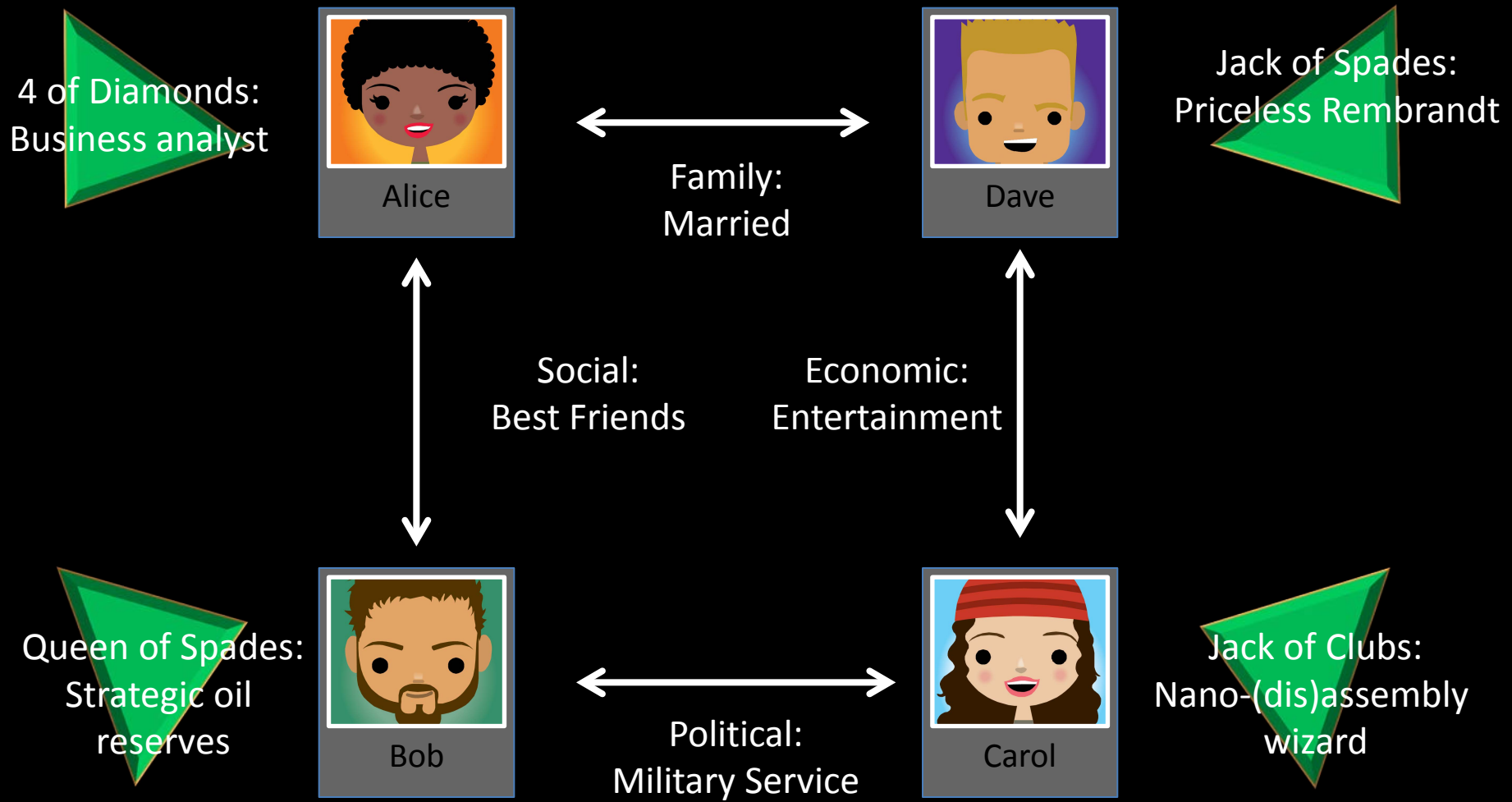


Step 1.3: Generate Starting Facets

Relationships



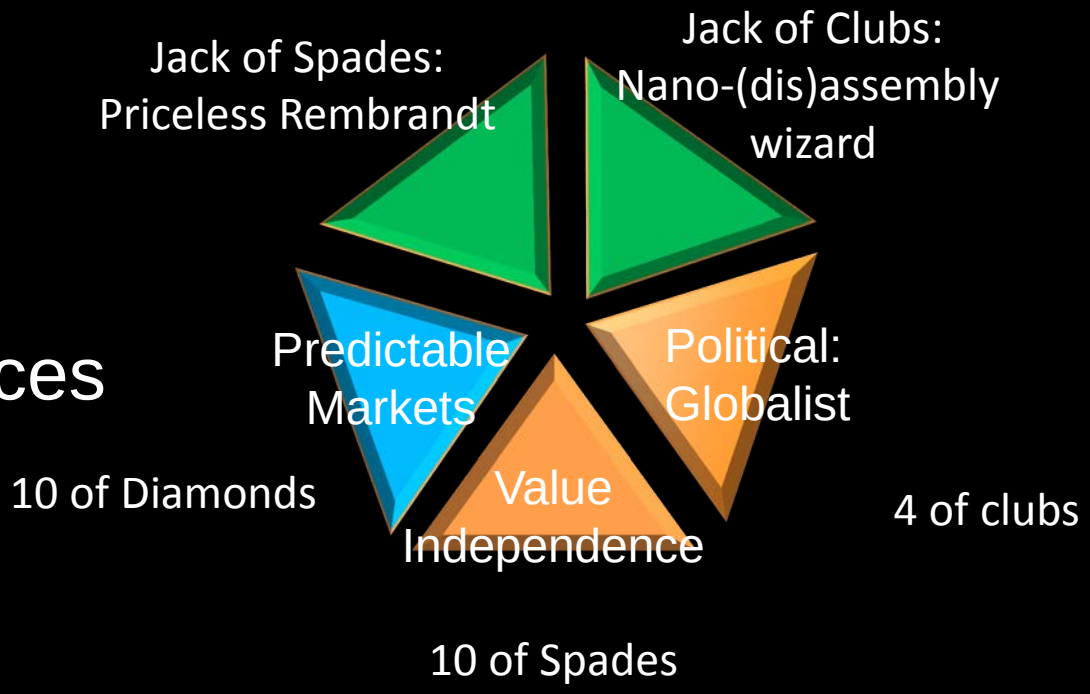
Step 1.3: Generate Starting Facets Relationships



Step 2: Scenes combine Facets to make Events

Directs:
invokes two facets
Assigns three valences

Result: 2 pairs



Valences

Hearts: Emotion
Love ←→ Hate

Diamonds: Rationality
Knowledge, Plans,
Ignorance, Confusion

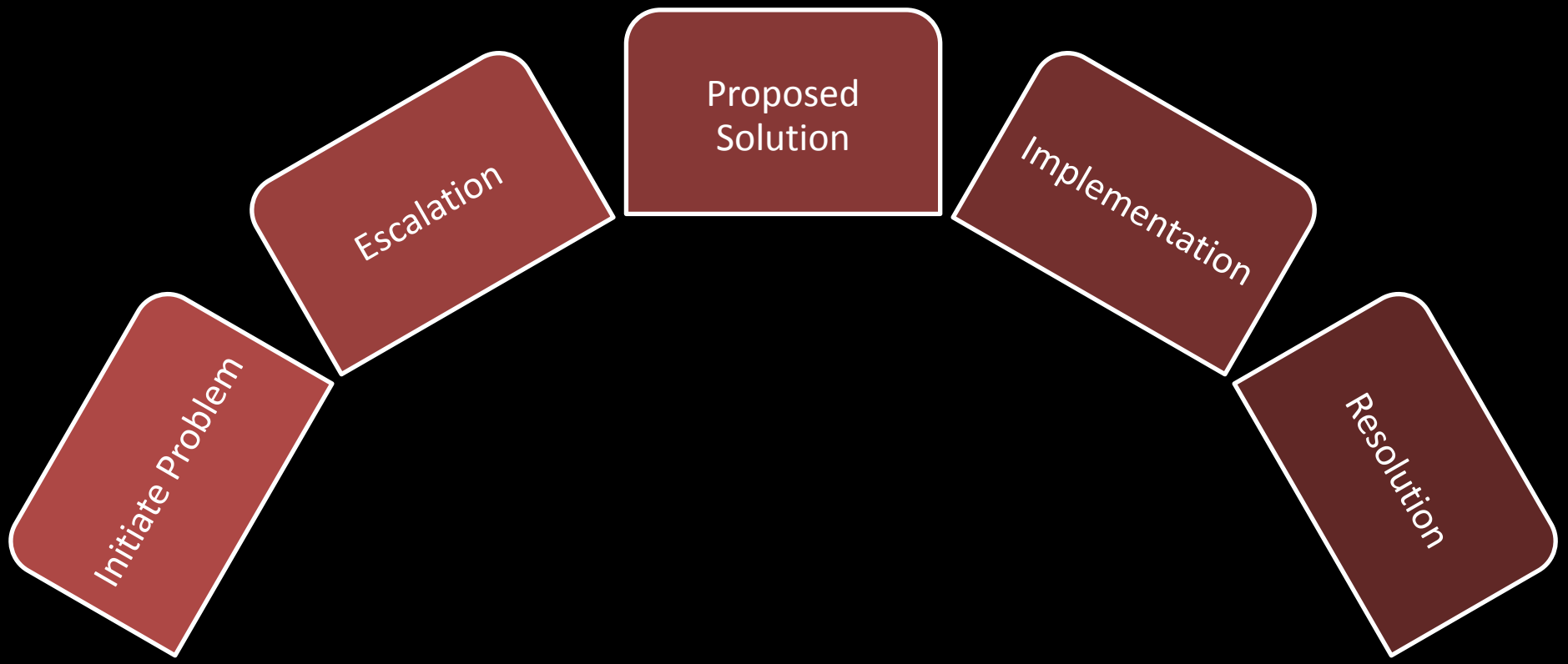
Clubs: Entropy
Change & Destruction

Spades: Coherence
Stability & Stasis

Moves

- Assign a Valence to a Facet
- Replace a Valence in play
- Discard and draw new cards
- Direct a Scene
- Construct Events
- Challenge Events

Scene Progression



Initiation

Carol: I'm going to use my nano skills to 'dupe' Dave's Rembrandt

Escalation

Alice: Disrupting the value of ‘authentic originals’ sends shockwaves through the global economy

Proposed Solution

Dave: Nano-assembly works better starting from basic hydrocarbons.

Counter-Solution

Bob: What if we tag nano-produced items so originals remain original?

Implementation

Bob and Carol: Settle duping dispute. Convince world to enact nano-tagging.

Implementation

Alice and Dave:
Destruction of old cultural wealth allows birth of new rational energy-matter economy

Resolution:

?

Gameplay Goals

Winning Events add permanent cards to your hand

Best hand at end of game determine final outcomes

‘Chaos’ deck of discarded cards can win—everybody loses

EVENTUALITY
Strengths

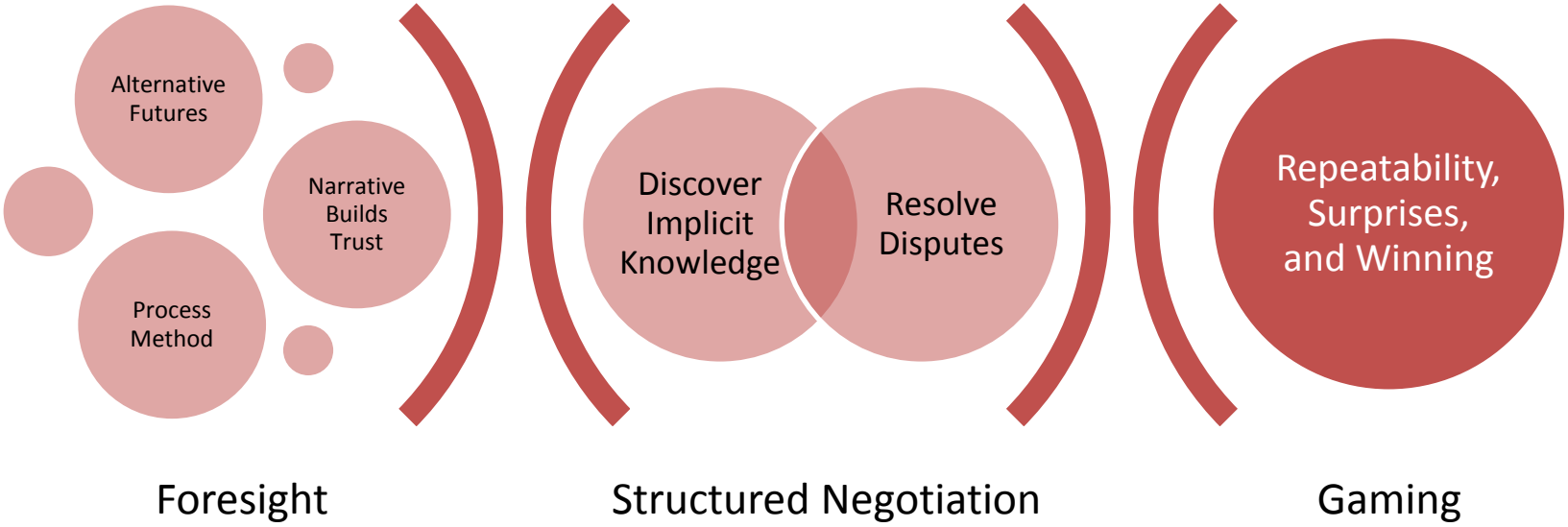
- Play time about 3 hours
- Facets can be easily customized to examine different types of futures
- Reflects what players know, not designer biases
- Generates interesting narratives

EVENTUALITY
Weaknesses

- Too involved for many public engagement projects
- Does not actually have an ‘educational’ component
- Framing of (problem → solution) may be too prescriptive
- “Soap opera” drama can overtake foresight
- Does the gameplay achieve objectives?

The only way to build Imaginative Capacities is to Practice Imagination

Conclusions



Thank You!

Michael Burnam-Fink mburnamf@asu.edu @mburnamfink