Designing Strategy: The Components

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January 9, 2003 - In last week's article, *Trials, Triumphs & Trivialities #101*, Strategic Introductions: Tabletop Games we embarked upon a new topic for this column: the design of strategic games. In that column we, hopefully, figured out some good definitions for strategic games, showcasing how they differed from roleplaying games, and what elements really made them their own genre.

Starting with these week's column I'm expanding on that introduction with a two-part series intended to dissect the main parts of a strategy game. This time I'm considering the components that go into making a strategy game, then next week I'm going to overview the gameplay elements.

Types of Components

As you might recall from last week's column I said that my definition of strategy games included not just standard board games, but also cards, Chinese checkers, Yahtzee, and any number of other weird variations. Thus, any definition of components in a strategy game has to include all of these possibilities.

Overall, components can be divided into two broad categories: tokens and environment. Tokens are primarily *dynamic* components; they're those things that you hold in your hand and move around the board. Environment, on the other hand, is that *static* thing which defines the place in which the game is played.

In a game like Monopoly, the distinction between tokens and environments is pretty clear. The board is an environment and your tokens include your little metal piece (e.g., a shoe, a thimble, an iron), your houses, and your hotels. Most games remain that simple, but sometimes the line between the two types of components becomes fuzzy or can be changed during the game, as we'll see...

Before I finish up I'll also mention a third broad category of components — markers. I don't believe they're very crucial to the design of games, but they're there, and so should at least be noted. We'll get to them too, in turn.

Types of Tokens

The core definition of a token is that it's dynamic. It might enter or exit play. It might move or choose to stay in place. It could change ownership. Etc. More concretely, tokens are most often plastic or wooden pieces that are placed on a much more static game board.

Here's some of the broad classifications used to describe tokens in strategy games:

Personal Tokens: Each player has one token that simply represents "him". In some variants, this token may be modified to portray different levels of achievement that the player has accomplished (as discussed in "modifier markers", below). *Examples:* Clue, The Game of Life, Trivial Pursuit.

Representative Tokens: Each player has many tokens that each represent ownership of some item in the game, usually an item that is useful for victory. In different games these tokens might be armies, cities, cities, roads, or settlers. *Examples:* Risk, The Settlers of Catan, Sid Meier's Civilization.

Randomized Tokens: Each player has many tokens whose value is frequently randomized in some manner. When I'm speaking of randomized tokens, I'm really talking about games where individual owners have at least temporary ownership over the tokens, and they're not used solely as a randomizing factor for other elements in the game. An alternative name for this category is "dice tokens", since that's how randomized tokens typically appear. *Examples:* Yahtzee.

Arbitrary Tokens: Each player has many tokens, each of which has a single, arbitrary value, but is typically drawn from a set pool of possibilities. An alternative name for this category is "card tokens", since that's how most arbitrary tokens typically appear. *Examples:* Bridge, Magic: The Gathering, Poker.

It should be noted that some games will feature either multiple types of tokens or tokens which incorporate the elements of multiple types of tokens. For example, Monopoly is a game which uses personal tokens (the race car, the scottie dog, etc.) and representative tokens (the hotels, the houses). Diceland is a game which includes representative tokens which are randomized (they are rolled to determine their value each turn).

Two definitions are core to environment: first, it's the place which tokens are placed upon or moved across; and second, it's largely set and unchangeable. I say largely, because there are possibilities for changes in an environment in a game (often via "markers", discussed below); those changes just tend to be of smaller scale and much more constrained than changes in tokens.

Here's some of the broad classifications for environments in a strategy game:

No Environment: There simply is no environment. Tokens interact with each other or with the game system, but without any required physicality. *Examples:* Bridge, Poker, Yahtzee.

Scoreboard Environment: Actually, a variant of no environment. There is a board of some type, but it's either a "play mat" or a "score board". It's solely used to keep track of scores and/or tokens. (To a certain extent, an "racetrack" game is a glorified scoreboard, but we'll keep the division, understanding that it's a somewhat arbitrary one.) *Examples:* Cribbage, Mystic War, Princes of Florence.

Abstract Environment: An environment does exist, but it's been abstracted to the point where it only defines interrelations between tokens. This is clearly a spectrum, and at some point an abstract environment becomes a set environment, discussed next. *Examples:* Backgammon, Boggle, Chess.

Representative Environment: At some point an abstract environment actually becomes representative of a "real" physicality. Even though a board is representative, it may be so at a very high level of abstraction (e.g., showing countries, worlds, businesses, etc.) *Examples:* Clue, Monopoly, Risk.

Randomized Environment: By default most environments fall into the category of being "set". They way they're laid out is actually an important part of gameplay. However, environments can also be randomized at game setup. This is traditionally done through "hexes" or "squares" which can be connected together in standard ways. These games also tend to be oriented more toward hardcore gamers, probably due to the increased complexity of setup. The number of elements randomized to create an environment can also vary greatly, from a couple to hundreds. *Examples:* The Settlers of Catan, Wizwar.

Evolving Environment: By default most environments are fully laid out beforehand, whether they be "set" or "randomized". However, some games also allow for environments to slowly grow during play. Sometimes this is the result of exploring into areas where the map is not yet set; in other cases the creation of new environment is actually a standard part of each game turn. Exploration games and "pipe" games tend to broadly fit into this category. *Examples:* Carcassonne, Illuminatus!, The Seafarers of Catan.

As before, the caveat applies that more complex games will combine multiple environmental categories. For example, randomized environments are almost always representative (e.g., The Settlers of Catan), but could theoretically be abstract. A fair fraction of randomized environments are also evolving (e.g., The Seafarers of Catan). There are other combinations that will work as well.

Going from Token to Environment

As I briefly mentioned earlier, in some games tokens and environments can change their state; most frequently this means that tokens can become environment when played.

Carcassonne is a tile/"pipe" game which shows this to good effect. Each turn a player draws a tile representing part of the city of Carcassonne (the tile is an arbitrary token). He then places that tile as a part of the existing board, and afterward it can't be moved or changed (it becomes environment at this point). He then places a token representing a person on his new tile (the is a representative token). Since that token can later be removed, this piece is still considered a token and does not become environment.

More commonly the idea of tokens becoming environment is seen in card games where players are trying to complete runs, books, sets, etc. For example in Rummy you are trying to form sets of the same card or runs of sequential cards. Cards can be drawn from your hand, discarded from your hand, or played to the table, and thus are arbitrary tokens at that point. However, once played to the table they become environment which other tokens may be placed upon.

You'll note that all of these token-to-environment examples also tend to lead to evolving environments, which is natural.

Putting it All Together

The whole goal of this exercise is, first of all, to provide a common language which we can use to define different ways that

value. (And, having written that, let me state that I'm certain there are actually fifteen other games out there which share this same mechanism, but the point is, it wasn't in the mainstream of game design thought.) Now, it's the core element of his Diceland game, and other game designers are thinking about it for their own designs. By listing out all the possibilities, we can that much easier figure out how they can go together in wacky and interesting ways.

The following chart shows a number of games, and how I think they lay out in a two-dimensional matrix of tokens versus environment. I've included some games which clearly fit into multiple categories here, in the location that's most crucial to understanding the game.

This chart both shows the possibilities and what people aren't generally doing right now:

	Personal Tokens	Representative Tokens	Randomized Tokens	Arbitrary Tokens
No Environment	?	?	?	Bridge
Scoreboard Environment	?	Mystic War	Yahtzee	Cribbage
Abstract Environment	Parcheesi[1]	Chess	Diceland	Scrabble
Representative Environment	Clue	Risk	?	?
Randomized Environment	WizWar	The Settlers of Catan	?	?
Evolving Environment	?	The Seafarers of Catan	?	Carcassonne

Markers: A Third Type of Components

Before I close up I want to mention a final, minor type of component: the marker. This is essentially a piece of plastic/wood/metal/cardboard which replaces a tic mark or note on a piece of paper. They generally are not placed on the board, and so are outside of the whole token/environment paradigm. Markers come in a number of general types:

Scoring Markers: These are markers that in some way are used to denote how well someone is doing in a game. It could be dollars, credits, Yen, or megabucks. It could be a pawn that's placed on a scoring track or play mat. The marker has no physical effect in the game. *Examples:* Carcassonne scoring track, Monopoly money.

Trading Markers: These are markers that are used to trade for some other commodity. In some games they might be traded for tokens; in other games they might be traded for scoring markers. *Examples:* Monopoly money, Settlers of Catan resource cards.

Power Markers: These are markers which show some "power" or "advantage" that you have in the game. They're often won for achieving some victory in game, holding some part of the environment, or capturing some token. Their only point is to remind you of the special rule that affects you. *Examples:* Comic Encounter alien powers, Settlers of Canaan Jerusalem trading port.

Modifier Markers: These are the only type of marker which does tend to interact with the tokens and environment. They're used to modify the way that either a token or an environment works. Often they're just glorified scoring markers (e.g., the archways you put on your metropolises in The Cities & Knights of Catan). Sometimes they're markers put upon the environment to note how it's changed (e.g., a marker for a hex getting better or worse in some way) and sometimes they're markers put upon a token to note how it's changed (e.g., if you put a special modifier marker on a token to note it was super-powerful or invisible or whatever). *Examples:* Game of Life spouse and children, Wizwar "destroyed wall" marker.

The Web Game Coda

As I push through this series, I'm sometimes going to be asking the question: *how does this apply to web games?*

Surprisingly, though the question of components deals with physicalities — which should change the most between web games and their computer brethren — I think my categories of environments, tokens, and markers remain really sound.

might not be plastic pieces and boards in the world of web games, the general categories still remain necessary. For example, Skotos' own space conquest game of Galactic Emperor: Hegemony is clearly a representative, randomized environment with representative tokens.

Other common web games types are:

- **No environments with representative tokens:** These are games like Archmage where you can interact with everyone in the game in whatever way you see fit.
- **Representative, randomized, evolving environments with representative tokens:** These tends to be space exploration games where you're traveling farther and farther afield in the hope of making new discoveries.

If anything is dramatically underrepresented in the world of web games it's probably the arbitrary and randomized token types that we met in the form of cards and dice. Sure, you don't need those physical elements (dice and cards) in your web game, but you could still use the standard types of gameplay which these tokens would induce.

And Onward...

Once again, before I close out, I need to offer some thanks to people who contributed a lot to this article. Saul Bottcher helped me clarify my original classifications of "board" and "token", and we chatted about how the twain could meet. Quigg sent me some fun notes on Parcheesi and also helped light a fire under my butt to get me thinking about "markers" as a third type of component.

And that's about as much as I have to say about the pieces that make up your game. Next time I'm going to look at the other core element to a strategy game: how the rules actually work, and how you win.

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1. **1/9/03.** I can't help but add a footnote about Parcheesi. Multiple sources claim that a version of Parcheesi was played in real-life by the Emperor Akbar I of India in the 16th century. Beautiful young woman would move about a marbled courtyard in the emperor's garden in accordance to the throws of cowrie shells. The "winner" got to sleep with the Emperor that night. Besides being an interesting historical footnote, this also shows how an abstract gameboard can be drawn from a representational one — in that Parcheesi boards are representative of the Emperor Akbar's courtyard. As I've said, any categorization is a blurry line.