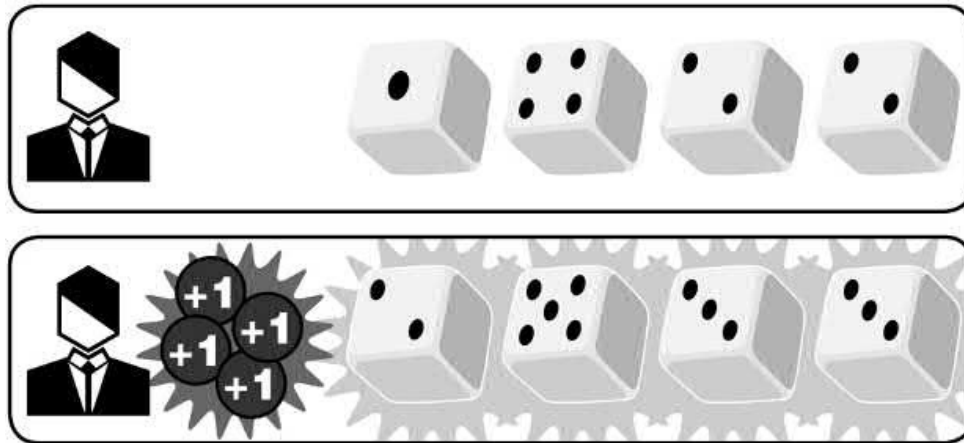


UNC-09 Probability Management



Description

A mechanism which allows players to influence the probabilities of certain outcomes but not directly determine them.

Discussion

Probability Management is intrinsic to all dice and card games. At its most direct, players can gain dice modifier tokens that allow them to add or subtract from the value of a die, as in *Kingsburg* or *Sagrada*. More obliquely, in *Backgammon*, players can move their blots (the name given to the checkers) into positions that minimize the probabilities of good rolls for their opponents and maximize those probabilities themselves.

Betting games allow players to assign stakes to probabilistic events like dice rolls or card deals. However, the type of Probability Management we'll cover here is exemplified by deck-building games. In a deck-building game, such as the progenitor of the genre, *Dominion*, players draw a hand of cards from a private deck each turn and play those cards to acquire other, more powerful cards, usually from a central market. Players try to acquire more powerful cards, and cards that synergize together. By keeping the deck tuned so that draws consistently surface those cards, players seek to increase the average output of their deck, in whatever terms—currency at the start of a game, and victory point later is a typical framework. We'll discuss Deck-Building in depth in its own section (CAR-05) (Illustration 6.1).

Some games offer probability manipulation at rarified skill levels. In *Twilight Struggle*, some cards leave the game after being played for their events. High-level players are careful not to trigger cards showing their own events, and to trigger, in as safe a manner as possible, their opponent's events. Over time, the weight of the deck shifts and forces the opponent into many difficult hand-management situations where they must trigger highly damaging events. In *Alhambra*, players can draw currency into their hands, either by taking a single card, or any number of cards adding up to no more than five. Players gain a bonus action when purchasing tiles with exact change, and a great deal of the skill in this game lies in managing a hand that can match many values. Failure to realize this aspect of gameplay results in a substantial loss of player agency.



Illustration 6.1 In *Kingsbridge*, players can earn +2 tokens, which allow them to modify future dice rolls. Here, a +2 token is used to place the 6/3 dice into the “11” space, where normally they would have to go in the “9” space.

Sample Games

Alhambra (Henn, 2003)

Backgammon (Unknown, 3000 BCE)

Dominion (Vaccarino, 2008)

Kingsburg (Chiarvesio and Iennaco, 2007)

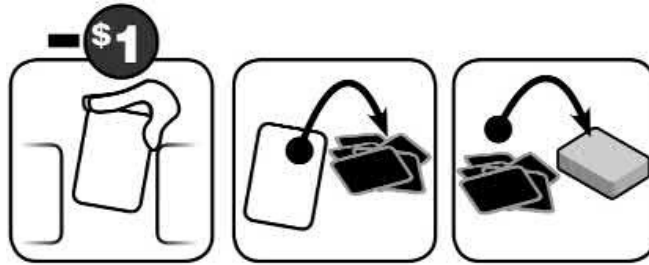
Orleans (Stockhausen, 2014)

Puzzle Strike (Sirlin, 2010)

Sagrada (Andrews, 2017)

Twilight Struggle (Gupta and Matthews, 2005)

CAR-05 Deck Building



Description

Players play cards out of individual decks, seeking to acquire new cards and to play through their decks iteratively, improving them over time through card acquisition.

Discussion

Deck Building isn't a single mechanism, and throughout this book, we discuss mechanisms that are also present in Deck-Building games. Nevertheless, a core structure has emerged in deck-building games that we'll consider here. Though Deck Building is a relatively new mechanism and genre, having appeared first in 2008's *Dominion*, follow-ups have often mimicked *Dominion's* basic structures. The basic idea is that cards can provide actions, currency for use only in the current turn, or victory points. In base *Dominion*, nearly all the cards provide only one of each of these uses, but many deck builders that followed combined these and offered players a choice for how to use each card. Some games have also expanded beyond these boundaries, like the bases that persist in players' tableaus until they are destroyed in *Star Realms*.

In many deck builders, players will dispose of their whole hand of cards each turn. Commonly, players have a limit on the number of cards they can play as actions, but no limit on the cards that can be played as money, though not all cards will have a money value. While *Dominion* limits the number of buy actions that players can take, most follow-ups limit players to what they can afford. Some cards allow players to draw, and then play, even more cards. At the conclusion of their turn, players will draw back to the full hand, usually five cards. While *Dominion* provided for a static, open market for cards,

later deck builders like *Ascension: Deckbuilding Game* and *Star Realms* offer players a market row that is replenished from a randomized deck.

Acquisition methods are a good place to evoke a theme, while also addressing the inherent variability of laying out cards for purchase at random. *Valley of the Kings* has a pyramidal market that allows players to buy only the three cards at the base, after which higher-level cards will drop down into lower levels as the pyramid crumbles. This mechanism gives players foresight, and a bit of control, over which cards will be available to their opponents. In *Eminent Domain*, basic cards are acquired at no cost from a central display, but powerful tech cards are acquired by being able to play the requisite number of technology icons. Though there are no dependencies and prerequisites as in an actual Tech Tree (ACT-16), the effect of making players show a greater number of technology icons for the more powerful cards offers a similar scaling effect. The synergies of certain combinations of cards create more viable and powerful branches through this tiered collection of technologies.

For readers interested in fully exploring Deck-Building mechanisms, *Dominion's* expansions are an instructive journey. *Intrigue* introduces negative player interactions like forced discards. *Alchemy* introduces a second currency type, and cards which can only be purchased with that currency. *Seaside* introduces the ability to carry over cards from turn to turn. *Prosperity* adds treasures, a new kind of resource that can be spent to trigger abilities without using up actions. *Dark Ages* focuses on interactions with the discard pile, while *Adventures* adds persistent cards that can be played in a future hand. *Cornucopia* rewards players for collecting varieties of cards, while *Guilds* introduces persistent money and reasons to spend it.

Dominion represents one approach to Deck Building, which is part of a larger category called pool building, which includes pools built from items other than cards. This can be entirely isomorphic to Deck Building, as in *Puzzle Strike*, in which cards are replaced with custom *Poker* chips that are drawn from a bag. The *Poker* chip component is easier to shuffle as often as deck builders require and is more durable when subjected to frequent shuffling. *Orléans*, on the other hand, has players drawing workers out of a bag, who can then be assigned to a variety of actions on a player's board.

Andy Parks, the designer of the deck builder *Core Worlds*, describes the distinction between these games as being between drafting verbs, that is, actions, as in most deck builders, and drafting nouns, as in *Orléans*. In a deck builder like *Dominion*, most cards represent an action that players can take simply by playing the card, which is what Parks means by drafting verbs. In *Orléans*, players pull workers out of a bag and assign them to different

actions. However, actions require some specific combination of worker types in order to trigger—a kind of Set Collection (Chapter 12)—rather than each worker type having a specific type of action associated with it. Parks refers to this as drafting nouns. His own *Assault of the Giants* game features drafting adjectives—modifiers that provide bonuses and additional abilities, but that must attach to existing cards and characters—out of the pool, presenting yet another possible way to construct a pool builder.

Pools work well as resolution mechanisms, where they're called chit-pull systems. There are also games that don't have true pool-building mechanisms but come very close.

In *Machi Koro*, players purchase numbered cards whose abilities are triggered based on die rolls. Players can buy cards, representing the pool, and they can buy cards that trigger on the same numbers, to increase the payouts of specific numbers. However, players have a limited impact on the overall probability of numbers being rolled. They can choose to roll one die or two dice, but that's all. In a deck builder, players can assure themselves of a zero probability of not drawing certain cards, simply by not acquiring them. *Machi Koro* doesn't provide quite that level of control to players.

Going farther out on this mechanical limb, we can consider the placement of settlements in *Catan* as a pool-building-adjacent mechanism. Even the selection of runners in *Can't Stop* shares something of this flavor. In *Roll for the Galaxy*, players acquire worker dice that have different faces and different values as goods. Players may shape their overall pool both based on which dice they acquire and which dice they place back into their pool each turn. As deck builders and collectible card games show, there is an enormous amount of design space outlined by cards and some tokens. In addition to the games discussed above, cooperative deck builders like *Shadowrun: Crossfire*, *Gloomhaven*, and *Pathfinder Adventure Card Game* continue to blur the line between card, board, and role-playing games. There are also variants like no-shuffle deck builders like *Aeon's End* and build-the-enemy's deck games like *Tiny Epic Defender*.

Sample Games

Aeon's End (Riley, 2016)

Ascension: Deckbuilding Game (Fiorillo and Gary, 2010)

Assault of the Giants (Parks, 2017)

Can't Stop (Sackson, 1980)

Catan (Teuber, 1995)

Core Worlds (Parks, 2011)

- Dominion* (Vaccarino, 2008)
Dominion and Expansions (Vaccarino, 2008)
Eminent Domain (Jaffee, 2011)
Gloomhaven (Childres, 2017)
Intrigue (Dorra, 1994)
Machi Koro (Suganuma, 2012)
Orléans (Stockhausen, 2014)
Pathfinder Adventure Card Game (Selinker, Brown, O'Connor, Peterson,
and Weidling, 2013)
Puzzle Strike (Sirlin, 2010)
Roll for the Galaxy (Huang and Lehmann, 2014)
Shadowrun: Crossfire (Elliot, Heinsoo, Lin, Marques, McCarthy,
Schneider, and Watkins, 2014)
Star Realms (Dougherty and Kastle, 2014)
Valley of the Kings (Clever, 2014)