Deviant Go

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Periodically, we receive inquiries about what one correspondent called "deviant go"—go played on non-standard boards or by non-standard rules. To some serious go players, such lucubrations are anathema; to others, they are a garnish adding flavor to the banquet of go.

Some variants are well known, and popular wherever go players gather. Others are less familiar, but possibly worthy of attention. In this column, I'll review a few of the more interesting variations.

Big Board Go

One of the least radical deviations from classical go is go on a bigger board. I had the opportunity to observe Ron Snyder 6-dan play a game on a jury-rigged 23x23 board at the Third U.S. Go Congress in Massachusetts. The only comment I remember he had on the game was that you have to "play like Takemiya—the center is the game!" Play on such a board may be a good test of the extent to which a player's knowledge of the opening is based on an understanding of principles, not rote memorization of joseki.

Non-standard Standards

Ever popular at Congresses and post-tournament gatherings is "Team Go," in which two or three players to a side alternate in making their moves, generally without consultation. Such games are often more interesting when there's a noticeable difference in strength among the players on the team. Post-game commentary can be illuminating for kyu players with nerves strong enough to stand up to being paired with dan players.

Another "non-standard" is "Zen Go," in which three players take turns, each alternating in playing Black and White. The same name is sometimes applied to Colorblind Go, in which both players use stones of the same color (a great test of memory and board visualization).

And last but not least among the non-standards is "Rengo Kriegspiel," or Blindfold Team Go—a variant with two teams of two and a referee in which the players know only the locations of their own stones, whether their moves are legal, illegal, or "own stone," and whatever additional information they can deduce. (Players are allowed to keep trying until they make a legal move, and are then told the result in terms of any captures and/or ataris. Any stones on players' boards which are captured are duly removed by the referee.) What is astonishing is how much information players can eventually deduce, and how reasonable (if tortured) such games can sometimes appear. I had the distinction of losing my first game by filling my team's own eyespace, but a year later won a game by stealing my opponents' eye!

Two-for-One Go

This variant involves a change to one of the basic rules of go: the players are allowed to make "two moves at a time." This has some obvious corollaries—a living group must have three eyes, for example, and two stones can place a single stone in *atari*. In some ways even more interesting is the variant in which only White is allowed to make two moves at a time. In return, Black is given a handicap—of 40, 50 or 60 stones or more. Depending on the arrangement of the handicap stones, Black may still lose—he may even have a hard time living!

Topological Go

Most mathematicians who play go have at one stage or another speculated on various topological variants, most commonly "toroidal go", in which opposite edges of the board are viewed as adjacent by "wrapping around," so that the board is a 19x19 doughnut shape (the topologist's torus), with no corners or sides. Here, truly, "the center is the game!"

Another interesting topological variant is "Skew-go," played on a board made up of triangles, squares and hexagons arranged in what mathematicians know as the (3,4,6) tesselation of the plane—a regular pattern which can be extended indefinitely in which, as on the traditional go board, every intersection is identical with every other, and has exactly four neighboring intersections. Apart from the traditional square lattice, this is the only tesselation of the plane with these properties, and thus seems closest to the flavor of standard go. I have been trying for a couple of years to get one of my friends who is skilled at woodworking to produce a Skew-go board, so far without success!

European Excursions

Deviant Go is no stranger to Europe; several of the above variants are played actively at tournaments and Congresses, and the Europeans have come up with at least a few truly bizarre variants themselves. Two such were recently shown to me by a visitor from Germany. In one, which apparently has no name (might be called "Cellular Go"), the board is divided into four 9 x 9 quadrants, with the separating lines initially left vacant. The players take turns playing in each of the quadrants, but out of phase, so that they are in effect playing four simultaneous 9 x 9 games. BUT—if a player manages to play stones of the same color in two adjacent quadrants which are separated by a single vacancy, THEN he or she is free to play on the separating line, thus connecting the groups (and the quadrants)! In the second variant, known as "1000 Volt Go", stones have the property of attracting any opponent's stone on the same horizontal or vertical line. Any such stones are moved next to the most recently played stone, while stones of the same color on the horizontal and vertical lines are repelled—pushed as far away as possible, until they abut another stone or end up on the first line. Thus, it is possible to play in such a way as to attract four opposing stones, *atari* and sacrifice one's own stone!

Etudes

Some variants of Go are less complete games than exercises to teach or test certain principles of the game; one such consists of a board on which Black has stones on all the edge points (minus the corners, giving him eyes!); White is to play and live. It is not at all trivial. A similar game can be played on a 9 x 9 quadrant of the board, marked off by walls of stones running out from the center point to two adjacent sides. Even with the two outer edges to play toward, life is not easy for White! In another variant, the first player to lose a stone loses; if neither player loses a stone, the game is scored normally. (This teaches caution in attacking and invading.) In yet another variant, prisoners are ignored, and only the area and territory occupied by a player's largest group are counted at the end—staying connected is everything!

Literary Fancies

Deviant go has even found a place in literature; Iain Watson's novel *Walking on Glass* is organized into chapters around bizarre games, one of which is "open-plan Go", which is played on an INFINITE board! Two recent fantasy novels set in China, *Silk Road*, by Jeanne Larsen, and *Chung Kuo*, by David Wingrove, each have a place for Go; *in Silk Road*, the game is played with black and iridescent pearls on a board of inlaid rhinoceros horn. And in one of his early poems, Gary Snyder referred to the scattering of lakes, trees and boulders in the High Sierra using the metaphor of "a four-dimensional game of go."

So What?

What is to be gained from experimenting with such "deviant" forms of go? Apart from their sheer novelty and amusement, it can be instructive to see just how much of the know-how and intuition of stronger players carries over into the variant forms of Go. (Generally, a surprising amount does; that is, the stronger player remains almost equally stronger in many of these variants, taking advantage of the persistence of certain tactical and strategic principles—the importance of center vs. sides, the difficulty of making life under certain conditions, and the need to develop intuitions about shape and direction of play.) And even independent of any light these variants may shed on the "one, true" game of go, they can at times provide a refreshing diversion for our imaginations, and an opportunity for us to meet each other in a fresh way over the Go board.

Go Worm

The game of Go Worm is played as follows: the two players start with a single stone each in opposite corners of the board. This is the player's *worm*. On a player's turn, he or she must *add* two stones (on adjacent empty intersections) to the " nose " of his or her worm and then *remove* the last stone from the worm's " tail. "   After each such move, the worm must be *legal*, which means that it must form a connected group and that each stone in the worm be adjacent to no more than two stones of its own color.

Many variants are possible, including different starting points, multiple worms, rules about worms " biting " or " eating " each other, etc. But the basic game has its attractions. In particular, we ask the following two questions:

With *cooperative* play by the two players, what are the most moves a game of Go Worm can last?

What is the longest legal worm on a go board? On an N x N " super-go board? "

Go Away

In Go Away, players alternate in playing stones onto the board so that there are no three stones in any row, column *or diagonal* The first player unable to play loses.

An interesting variant is to require that there can be *no three stones in a line*, including " skew " lines (knight's moves, etc.), although this can be difficult to check visually. (It's easier on small boards.)

Grim

Grim is a variant of Nim, played with Go stones. Players lay out one or more " grimlines, " which are lines of Black and White stones. A " move " consists of one of the following transformations of one of the grimlines:

Remove: remove any number of *contiguous stones of the same color*. (The remaining stones in the grimline are then rearranged to eliminate the gap, always preserving order.)

Convert: convert any White stone adjacent to a Black stone into ÃÃas many contiguous Black stones as you please.ÄÄ Rearrange the line as necessary.

Roll: if the stones at both ends of a line are the same color, remove ÃÃallÄÄ the contiguous stones of that color from one end and replace them with as many stones of that color on the other end as you please. (If the grimline consists of one contiguous block of stones of the same color, this move is unavailable for that line.)

As is usual in Nim games, we say that the player who takes the last stone *loses* (although a version in which the last to take wins is also possible).

Turnabout

Turnabout is a solitaire game; arrange a connected group of Black stones on the board in any shape you please. The objective is to convert all the stones to White in as few moves as possible. A " move " consists in changing the color of any one stone *and all stones immediately adjacent to it.*

Note that you may have to change a stone (or its neighbors) back from White to Black, sometimes a couple of times, before finally achieving the Great White Dango. What is perhaps a little surprising is that the game *can always* be won, and in no more moves than there are stones in the group. But finding the *minimal* number of moves required can be quite hard!

Og

For the purists for whom Go is the " only " game, here is a variant much more closely related to classical Go; in fact, it makes an instructive Go exercise!

Lay out a completed go game ending in jigo -- that is, even on the board, taking into account any prisoners. The players then alternate in *taking back* one move at a time, always leaving a legal go position. If at any point, a player believes that he or she could *win* the game playing from that point forward, he or she says " forward! " and plays out the game from that point; achieving another jigo counts as a loss, of course