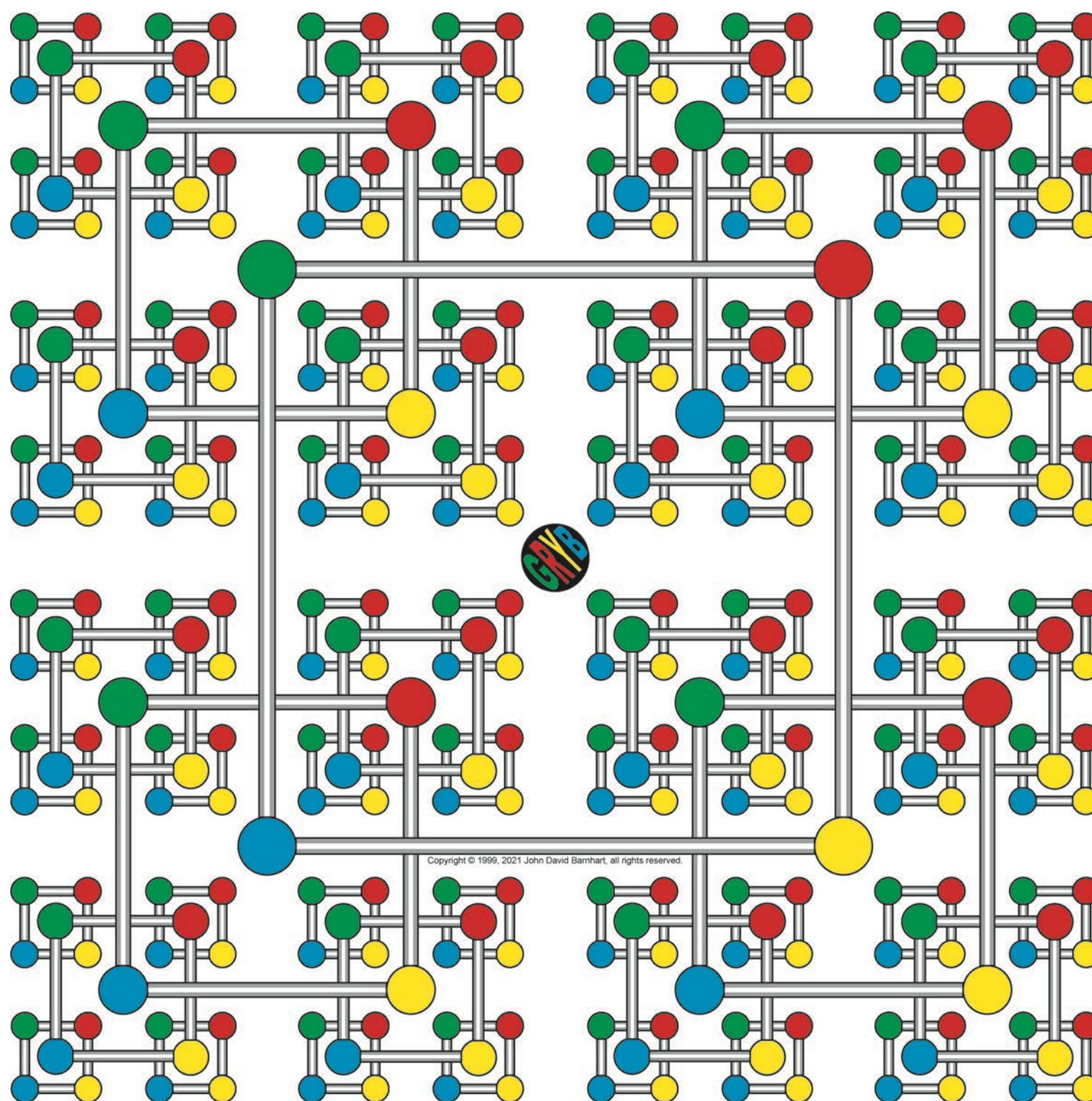*Abstract Strategy*

GRYB Game System

By John David Barnhart

Play an easy GRYB game <u>here</u> now if you wish, and refer back to this material.

Game Space

Game Space Structure

The GRYB Game Space is built on an upside-down tree-like structure. Each **node** (colored spot) "branches" to four nodes beneath it. The four nodes on every **quadrangle** (square arrangement of linked nodes) have the same replicated sequence of colors; Green, Red, Yellow, and Blue.

The quadrangle surrounding a node is directly beneath that node. The zero level on the game board is the head node in the middle (root of the tree). The bottom level nodes on the game board have no quadrangles around them (leaves on the tree).

The layered quadrangles help distinguish the levels.

Refer to the GRYB game board on the cover page for reference throughout this manual.

Levels	Number of nodes in level
Head Node (zero level)	1
Top Level (top quadrangle)	4
Second Level (4 quadrangles)	16
Third Level (16 quadrangles)	64
Fourth (bottom) Level (64 quadrangles)	256
$\sum_{i=0}^{4} 4^i$ = **Total number of nodes** =	**341**

Nodes are the playing spaces for players' game pieces. Nodes in this document are represented in **BOLD CAPITAL** letters.

Game Space Notation

Node Naming uses CAPITAL letters representing the colors of the nodes in a path from the Head Node to the named node. The node name is also the **coordinate**. Top level nodes are: **G**, **R**, **Y**, and **B**. Second level nodes under the top-level red node are: **RG**, **RR**, **RY**, and **RB**. Refer to each component of the coordinate as a "**locus**." Bottom level coordinates have four *loci* as components. Loci are in order of the path from the top node down to the node itself, eg. **GGBY** or **RYY**. The end locus is the "**focus**." It is the color that the game piece sits on. Notate the head node as **0**. The color of the head node is arbitrary. You may incorporate it as any color you wish.

GRYB Functions

Another way to describe a GRYB is with a node and a function. Very useful to know if you are playing with Integrated GRYBs. This is the definitive way to determine the sequential validity of an <u>integrated GRYB</u>.

If you take two consecutive nodes of an integrated GRYB, say **GRG**, and **RGR** from [**GRG**, **RGR**, **YBY**, **BYB**]. You can say whether each locus of the node **increases (goes clockwise)**, **decreases (goes counterclockwise), or remains unchanged**. So a function linking the two nodes would be **(increase, decrease, increase)** or in short form: $f(+, -, +)$. You could look at the GRYB from last node to first. Then the function is inverted: $f(-, +, -)$. With a function and any one node of the GRYB, you can describe the same GRYB.

GRYB [**GRG**, **RRR**, **YRY**, **BRB**] would have the function $f(+, 0, +)$, the center element remains constant. From each node in the GRYB, each sequential node is calculable with the function. The GRYB could be described: $f(+, 0, +)$ **GRG**. From the last node to the first node, the function is inverted; $f(-, 0, -)$ **BRB**. An integrated GRYB on the bottom level would have four-locus nodes and a four-element function. The bottom level of a four-game-board Super GRYB would have five-element functions and five-locus nodes.

Game Space Traversal

Some possible ways to move a game piece on the board are below. Games may use methods from among this list, or employ other ways to move.

Vertical Moves

Down

Move from a node to one of the nodes on the quadrangle surrounding it. Four different moves are possible. Each move down adds a locus to a coordinate. Examples are: **R** to **RG**, **RG** to **RGB**, and **YGR** to **YGRR**.

Up

Move from a node on the quadrangle surrounding the node you are moving to. Each move up loses the focus of the coordinate, and the penultimate locus becomes the focus. Examples are the opposite moves of the down examples above: **YGRR** to **YGR**, **RGB** to **RG**, **RG** to **R**.

Interjection

A move by interjection is a move down by inserting a locus somewhere before the focus in the coordinate. An example is **G** to **RG**. Another way is **RG** to **RYG**, or perhaps from **RYG** to **BRYG**, or to **RBYG**.

Limited Interjection

Limit Interjection by only interjecting the **penultimate** (next to last) locus in a coordinate. Some examples are: **BGY** to **BGRY**, **RG** to **RYG**, and **Y** to **BY**.

Excision

A move by excision is a move up by deleting a locus somewhere before the focus. Some examples are: **RBYY** to **BYY**, **GBYR** to **GBR** or to **GYR**. Interjection and excision moves are not readily apparent to the eye.

Limited Excision

Limit excision by only excising the penultimate locus in a coordinate. Examples here are the reverse moves of limited interjection moves above: **BGRY** to **BGY**, **RYG** to **RG**, and **BY** to **Y**.

Lateral Moves

Sideways

A sideways move is a basic lateral move from one node to a node one length away, on the same quadrangle. These moves are readily apparent to the eye. Examples: From **G** to **R** or **G** to **B**. From **BGRY** to **BGRR**.

NOT **G** to **Y** or **BGRB** to **BGRR**! These moves are two lengths away.

Hyperspace

This is a lateral move where an upper locus (not the focus) of a node is moved to the side. (The deviation can only be in one locus, one move away as in a sideways move above.) Example: from **RGYY** to **YGYY**. Or move from **RRGB** to **RRBB**. As well, a move from **GY** to **BY**. At the top level this becomes a sideways move. Hyperspace moves are not readily apparent to the eye.

Limited Hyperspace

Limit hyperspace by only varying the penultimate locus in a coordinate. Examples are: **YGBR** to **YGGR**, **RGGG** to **RGRG**, and **GBY** to either **GGY** or **GYY**.

Periodic Game Space

Ordinarily the head node and bottom level are the vertical limits of the game space. The game space is referred to as **periodic** if the the game piece can move "up" from a node on the top level to a node on the bottom level (256 different possibilities), and/or "down" from a node on the bottom level to a node on the top level. Examples: from **BGRY** "down" to **G**; another is from **R** "up" to **BGRY**. Treat the bottom-level node as synonymous with the head node.

Conduits

Expand **non-periodic** game space. This uses additional game boards. Use a conduit marker to mark a node on one game board, and a similar marker on the head node of the

next game board. The first node becomes **_simultaneous_** with the head node in the second GRYB game board and vice versa. You could expand vertical space an additional four levels in this way.

Use conduits between nodes on different game boards to create simultaneous game space. An example is between the node **G** on your game board and the head node on your opponent's game board. Then a game space of your node **GYBR** is simultaneous with your opponent's node **YBR**.

Game Creation

This unique game space design lends itself to various ways to approach game play. Part of the fun of the GRYB Game System is the creation of your own games. All games have two elements in common. The goal or winning move is one, and the mechanism of play, or simply the rules of the game is the other. The suggestions below for goals and rules are not the only way you can create games.

Find other players' games and share your own games at www.jdbgames.com.

Goal/Objective

Decide if you want the game to end after one game or a series of games. Whether you are playing for points or not. Do you capture your opponent's game pieces or get to an arrangement of nodes first? Some ideas are below.

Get a GRYB

When a player gets all the nodes of a quadrangle covered with their game pieces, that is called a "GRYB."

Score points for each GRYB. You may wish to devise your own scoring method. An easy effective way to score a GRYB uses double the number of points for each successive level down. Use a binary scoring method:

Top-level GRYB	1 point
2nd level GRYB	2 points
3rd level GRYB	4 points
Bottom level GRYB	8 points

Get an Integrated GRYB

To get an Integrated GRYB you must have a GRYB formed in multiple levels. An example is (**GG**, **RR**, **YY**, **BB**). Another example is (**RGY**, **RRB**, **RYG**, **RBR**). Another is (**BYRG**, **GBGB**, **RGBY**, **YRYR**). The sequence is important.

The locus at each integrated level must contain a **G-R-Y-B sequence**. That is having all the colors in the order of G-R-Y-B forward or backward, last-to-first or first-to-last. For example the first loci of the last example above are B-G-R-Y which satisfies the condition. The foci have G-B-Y-R which also satisfies the condition. Check the GRYB sequence with a <u>function</u>.

Any loci incorporated must either have the G-R-Y-B sequence or remain unchanged, as in the example (**RGY**, **RRB**, **RYG**, **RBR**). An integrated GRYB is not readily apparent to the eye. Examples of integrated GRYBs are in the <u>Appendix</u> at the end of the manual.

Scoring an integrated GRYB is straightforward. Add the point scores for each level incorporated. Using the above examples; [**GG**, **RR**, **YY**, **BB**] integrates the first two levels. 1 point for level one, and 2 points for level two equals 3 points. In the set [**BYRG**, **GBGB**, **RGBY**, **YRYR**] all levels contain a GRYB. Adding the points for each level equals 15 points. In the example [**RGY**, **RRB**, **RYG**, **RBR**] the first level keeps the loci at R. Second and third levels constitute an integrated GRYB for 2 + 4 points = 6 points.

Capture

Capture (remove and replace) all or most of your opponents game pieces to win.

Corner

Arrange your game pieces to provide no means of escape for an opponent's game piece.

Vacate

Be first to remove all of you own game pieces.

Race

Be the first to the top or bottom of the game space with a game piece or arrangement of game pieces.

Be the first to reach a particular node on the game board with one of your game pieces.

Surround

Surround your opponent's game pieces or shapes with yours.

Arrangement

Be the first to get a particular arrangement of game pieces.

Mechanisms/Rules of Play/Parameters

Number of players

Usually GRYB is a two-player strategy game platform. Make it a game with three players. Additional players over the number of three or four may want to play in teams.

Use chance operations

A four-color GRYB die is operable on the JDB Games website. It returns green, red, yellow, or blue. To randomly select a node on the bottom level use the GRYB dice, instead.

Game piece introduction or beginning arrangement

The number of game pieces to begin with and whether or not you begin with a particular arrangement of game pieces is all variable. Decide what kind of beginning moves you can or can't make.

Number of moves per turn

Usually one or two moves per turn are used. Experiment with more. Make the number of moves variable for certain game pieces or for shapes containing variable numbers of nodes.

Legal moves

The way you traverse the game board from Game Space Traversal above. Simple to play games may just use up, down, and sideways moves. More complex games use hyperspace, interjection, or excision moves.

Chain moves

Chain moves only build on an uninterrupted sequence of contiguous game pieces. An interruption in the chain requires re-building or repair.

Hopping moves

Moves might hop over game pieces. Hop opponent's game pieces, or your own game pieces or both. Perhaps capture the hopped game piece as in checkers.

Stymie moves

A stymie is where a game piece on a node prevents an opponent from moving to that node.

Encounters between opposing game pieces

Define what happens when you land on the same node as your opponent. Does it stymie you, or do you capture it? Do you flip a coin to see who gets the node? Maybe you hop over it or bump it over to another node, or send it to the head node.

One suggestion is to **hold court**:

Roll the GRYB die and if you:

- roll the color of the occupied node; you remove your opponent's game piece and replace it with your own,

- roll a color to the side; you bump your opponent to the color rolled and take the space they were in,

- roll the opposite color; you move there, and leave your opponent unchanged.

Using Lines

Two game pieces on contiguous nodes (up, down, or to either side) may form a line. Use lines to form GRYBs or shapes, etc. Examples of lines are: [**G**, **R**], [**Y**, **YB**], [**G**, **GY**], or [**RGRG**, **RGRR**]. Move and change lines, combine lines and so forth.

Moving Lines

Lines may be moved in formation by <u>interjection</u>, <u>excision</u>, or via <u>hyperspace</u>. The foci in a line do not change. Example: move [**BRY**, **BRR**] to [**BGY**, **BGR**] via hyperspace. Move by excision: [**BRY**, **BRR**] to [**RY**, **RR**], or by interjection: [**BRY**, **BRR**] to [**BRGY**, **BRGR**] or from [**R**, **RG**] to [**BR**, **BRG**].

Changing Lines

To change a line, move one endpoint to any other node contiguous to the other endpoint. An example is from [YB, YBY] to [YB, YBG]. Another is from [G, GR] to [GR, GRB].

Using Shapes

Define three or more contiguous game pieces (an arrangement of laterally and/or vertically consecutive nodes) as a shape. Name shapes, move shapes, change shapes, and combine shapes to form a GRYB or some other customized winning arrangement.

Notation for a shape is like a set with square brackets. An example is the shape [**G**, **B**, **Y**]. Simply three nodes, laterally contiguous, on the top quadrangle. Another example is [**GY**, **GYR**, **GYRR**]. These are vertically contiguous nodes. Another is [**YBR**, **YBY**, **YBYG**]. This is comprised of a laterally contiguous node and a vertically contiguous node. Use the head node, notated as **0**; as in [**0**, **B**, **BR**] or [**0**, **B**, **BY**].

Moving Shapes

- As a block, move a shape through interjection, excision, or hyperspace. This does not change the foci or the arrangement of the shape. An example is moving the shape [**GR**, **GRY**, **GRYY**] to [**R**, **RY**, **RYY**] through excision. Another is a move via hyperspace: [**YBR**, **YBRR**, **YBRG**] to [**YGR**, **YGRR**, **YGRG**]. The head node can be any color. For example the shape [**0**, **G**, **R**] could move down to [**G**, **G**, **R**] or [**R**, **G**, **R**] or interject **Y** or **B** as the first locus.

- Hop a game piece from one end of a shape to a node past the other end of the shape, vertically or laterally. This move changes the shape. An example is from [**R**, **Y**, **YG**] to [**Y**, **YG**, **YB**]. Another example is from [**0**, **R**, **G**] to [**R**, **G**, **GB**] or to [**R**, **G**, **B**]. Moving a node up a level only offers one choice, to a lateral node offers two choices, and going down offers

four choices. Hopping over the head node could be possible, or hop into <u>periodic</u> game space.

Changing Shapes

Change shapes by keeping the center node stationary, and moving either end node to another node linked laterally or vertically to the middle node. Examples of this are: [**YG**, **YGR**, **YGRB**] to [**YG**, **YGR**, **YGY**] and [**YG**, **YGR**, **YGRB**] to [**YGG**, **YGR**, **YGRB**]. These moves only move one of the end nodes. Some shapes have an arrangement of nodes such that it may have either of two nodes as the middle and the other as the end, giving more flexibility in shape changing. An example is [**B**, **BG**, **BR**]. Either **BG** or **BR** might be considered the center. Moves could be to [**B**, **BG**, **BGY**] or [**B**, **BR**, **BRY**].

Game Piece Variety

Attribute different abilities to different game pieces. Have a variety of different game pieces which have different ways in which they move, capture abilities, and so forth. Use Chess pieces to create a Chess variant. <u>Looney Pyramids</u> have been used in GRYB games. Mentioned in this manual is a <u>conduit marker</u> to expand vertical game space.

Giant GRYB and Super Giant GRYB

Integrate GRYB further. Combine four game boards to create a 1365-node, five-level monster version of the game space for Giant GRYB. Game boards should all be oriented the same. Add the appropriate color node over the head node in each game, and put the new head node in the center of the four games. Conceivably, you could construct a Super Giant GRYB game space with 16 GRYB game spaces in a four Giant GRYB format with a center node, and space between four-game sets to access it all. Number of nodes for each is below.

$$\sum_{i=0}^{5} 4^i = 1365 \text{ nodes with 5 loci bottom level} \qquad \sum_{i=0}^{6} 4^i = 5461 \text{ nodes and 6 loci bottom}$$

Example Games

EZ GRYB

Goal

The goal is to cover all four nodes (colored spots) on any <u>quadrangle</u> (a square with four colored nodes on the corners) to win. This is called <u>getting a GRYB</u>. Deeper level GRYBs are worth double the number of points of the level directly above.

Top level GRYBs are worth one point, next level—two points, next level—four points, and bottom level—eight points.

Play for highest number of points out of five games, or first to reach 21 points to decide a series.

To Play

Two players alternate turns rolling the <u>GRYB die</u> and making one move (defined below) onto a node of the same color rolled. Each move you must either place a new game piece, move a game piece down, or move a game piece sideways if you can. If you are not able to move, you must pass your turn.

Moves are described as follows:

New moves

A new move is to introduce a new game piece into the game. After the die roll, you may move to an unoccupied node of the same color rolled, on the top quadrangle. New moves must start only at the top level.

Moves down

A move <u>down</u> is from a node to an unoccupied node the next level down on the quadrangle surrounding the node you are moving from. The color of node you move to must be the same as the one just rolled on the dice at the beginning of the turn. There are no more downward moves past a node on a bottom level quadrangle.

Sideways moves

Sideways moves are made only on the same quadrangle and **only to capture an opponent's game piece**. A sideways move may be to a node to either side, on the same quadrangle. Again, the color of node you move to must be the same as the one you roll on the die. Your opponent's game piece must be on the node you are moving to, the game piece is removed and replaced by yours.

Squirrel Race

Two squirrels race to gather nuts.

Goal

Be the player (squirrel) to gather the most game pieces (nuts) and get the most points.

To Play

Phase One

Take turns rolling the GRYB dice and putting a game piece on the fourth-level node rolled. Place 60 game pieces. These are nuts. Make the different colored nuts worth different points. Nuts of your color ring are worth two points and the others one point.

Phase Two

Players use squirrel tokens (a marker with a colored ring around it). One squirrel per player with a different colored ring on their marker to tell them apart. Squirrels all stay on the third level. Roll the GRYB die to choose a color. Move your squirrel to a third-level node of the color rolled. You choose which node. If there are nuts under the squirrel on the fourth-level, gather them up and put them in your nut pile. You gather both colors of nuts. Your color nuts are two points and the other color one point.

Then, alternate turns moving the squirrel and gathering nuts on the fourth level beneath. Moves may only be sideways or via hyperspace. Try to gather the most nuts in the fewest turns. Once all the nuts have been gathered count the points to determine who wins.

Drangles

Short for Quadrangles, Drangles is basic GRYB.

Goal

The object of each game is to get four of your game pieces covering all four nodes of any one quadrangle. Different numbers of points are awarded for different level quadrangles. See Get a GRYB for more information. Play a series of games for high score, or first to reach a specific score.

To Play

Players alternate turns making two moves per turn. Move one game piece twice or two game pieces once. Game pieces may only be introduced through the head node as the first move. Subsequent moves for any game pieces on the game surface must either be downward to an unoccupied node, or sideways to an unoccupied node. You may move through an occupied node if there is an open node after it to land on with your second move.

Hyper Drangles

Goal

The goal is the same as in the game Drangles– to get a GRYB. More points are awarded for deeper level GRYBs.

To Play

As in the game Drangles, two players alternate turns moving one game piece twice or two game pieces once. Game pieces must be introduced through the head node. Game pieces cannot occupy the same node, but may move through occupied nodes.

The difference between Drangles and this game is that this game allows hyperspace moves as well as downward and sideways moves.

Sumo Drangles

This game is like <u>Drangles</u> except that in this game, players may also use <u>integrated GRYBs</u> as the goal.

The Fourth Level

Goal

Get a GRYB on the <u>fourth level</u>.

To Play

Players begin with eight game pieces each, distinguishable from each other's. The game is played in two phases.

In phase one, players alternate turns rolling the <u>GRYB dice</u> and placing a game piece on the node rolled. All these nodes are on the fourth level. Once all sixteen game pieces have been placed, begin phase two.

In phase two, players continue to alternate turns moving a game piece each turn. Moves must be <u>sideways</u> or <u>hyperspace</u> moves. Game pieces never leave the fourth level.

Interrupt

This game was devised by my daughter at 8 years of age.

Goal

Play to <u>get a GRYB</u>. Play a series of games for high score, or first to reach a specific number of points.

To Play

Two players take turns rolling the die, and placing a game piece on the rolled color each turn. Moves must start at the top level, and subsequent moves must build on an uninterrupted chain of your own game pieces <u>downward</u> from a node in the chain. Building

may continue as long as there is a chain all the way to the top level. Sideways moves may only be used to capture an opponent's game piece, thereby interrupting the chain and preventing further building on that chain. After a player's chain has been interrupted, the player may begin a new chain or reclaim the lost space in the former chain by using a sideways capture-move if possible. When a player gets a GRYB, score the GRYB, and begin a new game.

Smack Down

This is a variant of Interrupt above.

• If your opponent's game piece is sitting on the top level on the color you rolled, you push his game piece down to the next level to your choice of color and replace it with your game piece. If there is an opposing game piece on the next level, then you may push down that same piece similarly, and so forth. A game piece on the bottom layer gets pushed off the board.

• Sideways moves are not permitted on the top level.

Connection

Goal

Be first to establish a connection between two extreme opposite points. A connection is a sequence of nodes which are contiguous through up, down, sideways, and limited hyperspace moves.

To Play

The first player chooses which endpoints to connect and covers them with game pieces. The second player covers the other two. The choices are either **GGGG** and **YYYY**, or **RRRR** and **BBBB**.

Then, players alternate turns rolling the die and moving to a node of the color rolled. Moves are either to introduce new game pieces or move ones already on the game board.

You can only get on the game board through the top level. Move onto the color rolled if possible. Opponent's game pieces may block your move.

Subsequent moves may be down, up, sideways, and limited hyperspace to an unoccupied node of the color rolled.

Blobs

Goal

This GRYB game has nothing to do with getting a GRYB. The object of the game is to devour your opponent's smaller blobs with your larger blobs. A ***blob*** is formed by connecting four or more nodes, linked <u>sideways</u>, <u>up</u>, or <u>down</u>.

Once a player has dominated the board such that his opponent cannot win, the victory is decisive.   A draw may occur if two opponents are mutually unable to gobble one another up, usually because they only have one blob each and they are the same size.

To Play

Take turns rolling the <u>GRYB Dice II</u> (randomly selects one node from the entire game board) on the JDB Games website. Each player places a game piece on the node rolled. If the node is occupied, roll again.

After 15 pieces each have been placed, take turns moving the pieces to form blobs to consume opponent's game pieces.

Individual pieces, <u>lines</u> (two connected nodes), or <u>shapes</u> (three connected nodes) move up, down, sideways, via <u>hyperspace</u>, <u>interjection</u>, or <u>excision</u>. They cannot devour game pieces.

Blobs move one node at a time, taking a piece from some edge of the blob and moving it to the desired node, like leap-frogging one piece at a time. Moves may be up, down, or sideways. No more hyperspace, interjection or excision. We call it ***oozing***. They can devour smaller blobs and other game pieces one game piece at a time per turn.

Once a blob is formed it stays a blob, you cannot break it into smaller pieces. But you may grow blobs by connecting more of your pieces and other blobs.

If a blob moves to an opponent-occupied node, it devours that piece. Gobble it up a move at a time, unless your opponent can grow the blob bigger to defend itself, or move out of reach. A blob which has been gobbled to fewer than four nodes may move as such. It is no longer a blob.

The Borg

Goal

The object of the game is to turn all of your opponents game pieces into your game pieces. This is similar to the game Blobs above, but instead of devouring opponent's game pieces you **assimilate** them.

Once one player's **collective** has dominated the board, you may declare a win.

To Play

Two players start with fifteen game pieces each. Take turns rolling the GRYB Dice II to place each piece.

After all 30 game pieces have been placed, take turns moving individual pieces, lines, or shapes up, down, sideways, via interjection, excision, or hyperspace to create larger groups of four or more called **collectives**.

Collectives move one space at a time like blobs above. Take a game piece from one edge of the collective, and move it to the desired node. Only up, down, or sideways moves are permitted.

When you move a collective **next to** a piece or a smaller collective of your opponent, you assimilate (replace) your opponent's game piece with a new one of your own game pieces. If the spot you move to is next to multiple opponent game pieces, each of those is assimilated similarly. The overall number of game pieces does not vary, they just change color.

Square Deal

Goal

Get <u>GRYB</u>s to win. However, a GRYB may consist of **both** players game tokens. The player who completes the GRYB removes the GRYB to his capture pile. The level of GRYB is not important. The player with the most opponent's game pieces in his capture pile at the end of the game, wins. Play a series of games for high score.

To Play

Phase One

Players take turns rolling the <u>GRYB Dice II</u> to select starting positions for 20 game pieces each. If the node is occupied, roll again.

If a player completes a GRYB during this phase, he removes it to his capture pile. The removed game pieces are not returned to play. The entire GRYB is removed, both player's game pieces.

Phase Two

After all game pieces have been placed, players take turns moving one game piece, <u>line</u>, or <u>shape</u> per turn. Moves may be <u>up</u>, <u>down</u>, <u>sideways</u>, <u>hyperspace</u>, <u>interjection</u>, or <u>excision</u>. For an easier version, limit moves to up, down, sideways, and hyperspace. Moves should be to complete GRYBs containing the most opponent's game pieces. You may wish to complete and remove GRYBs of your own game pieces to prevent your opponent from capturing them.

The game is finished when there are not enough game pieces remaining to get a GRYB or the last few pieces are conceded as a cat's dilemma with no solution.

25 Men's GRYB

This game is a variant of the ancient game "Nine Men's Morris."

Goal

The object of the game is to reduce your opponents number of game pieces to three or fewer by forming <u>GRYBs</u> with your own game pieces, and removing his/her game pieces for each GRYB you form. Game pieces remain out of the game for the duration.

Different level GRYBs are worth different numbers of your opponents game pieces removed. A top level GRYB is worth 1 game piece removed, next level - 2 game pieces, the third level down - 3 game pieces, and the bottom level is worth 4 game pieces removed. You chose which game pieces to remove.

To Play

Two players start with 25 game pieces of opposite color, each. This game has two phases.

Phase One

Game pieces are introduced onto the game board but not moved. Game pieces may be placed on any node on the board to introduce them.

Phase Two

After all the 50 game pieces have been initially played, players move game pieces on the game board. Moves must only be to unoccupied nodes. Moves may only be <u>up</u>, <u>down</u>, <u>sideways</u>, or <u>hyperspace</u> moves.

At any time during both phases, a player can get a GRYB and remove the appropriate number of opposing game pieces permanently from the board. A GRYB may be repeated by simply moving a game piece out of and back into formation.

Shapes Morris

This game is a variant of <u>GRYB 25 Men's GRYB</u> which uses three-node <u>shapes</u>.

Goal

The goal is the same as in 25 Men's GRYB above. Reduce the number of your opponent's game pieces to three or fewer by forming GRYBs. One through four of your opponent's game pieces may be removed according to the level of GRYB formed. You choose which game pieces to remove.

To Play

This game has two phases. Getting a GRYB results in removing your opponent's game pieces in both phases of the game. Removed game pieces are not reintroduced into the game. You may have fewer than 25 game pieces in the game beginning phase two.

Phase One

Two players start with 25 game pieces of distinguishing colors, each. Alternate turns placing their game pieces on any unoccupied node on the board, but not moving game pieces. Try to create as many shapes as possible as well as get GRYBs. Once all the game pieces have been introduced begin phase two.

Phase Two

No more game pieces may be introduced into the game. Game pieces may only be moved as shapes. Game pieces not in a shape cannot be moved, but may be used with shapes to form a GRYB. Moves and shape changes may only involve unoccupied nodes. Shapes may be changed and moved as described above in "Shapes." Moves and shape changes involve moving one game piece except moves where you move the whole shape as a block.

If shapes form with other of your nodes or shapes to form contiguous strings longer than three nodes, any three nodes among them may be treated as a shape and changed or moved.

Lines Morris

Use the rules for Shapes Morris substituting lines for shapes.

Battlefield

Capture your opponent's army and liberate the Village of GRYBville from the oppressive evil enemy!

Goal

This game is played on the GRYB Game System. It uses a military theme. War has moved into the village of GRYBville. Two opposing Captains have an equal number of patriots scattered about. Form them into military, and capture the enemy military.

To Play

It begins with two players' game pieces randomly scattered about the bottom level of the game board (32 each). Use the GRYB dice to accomplish this. These are now patriots of one ilk or another depending upon which player's they are. They are as yet unaffiliated with the player's military.

Each player is a Captain of their army. They need to form patriots into a GRYB to create a Squad.

Squads are military, patriots are civilian. Once four patriots form a squad, place one game piece on the node above the GRYB of patriots, and remove the patriots. They are now enlisted under the new Sergeant.

Four Squads may form a GRYB and become a Platoon similar to the way they became a Squad. Place a game piece on the node above the GRYB, and remove the Sergeants, they are now a Platoon under the new Lieutenant. Squads and Platoons move through patriot areas at liberty, neither bothering nor being bothered by them, except for one caveat explained below.

Patriots are unaffected by warfare, but may affect it if they form a Squad right under an enemy Sergeant or Lieutenant that happens to be moving through. They capture the enemy Squad and replace that Sergeant with their Sergeant. If they form under a Platoon, they capture the one Squad, reducing the Platoon to a three-Squad group. The Lieutenant gets

demoted and three Sergeants appear on the un-captured Squads. A suicidal move, but it could help win the battle.

As you form military you begin to form groups (fourth-level lines and shapes). A larger group of military captures an enemy's smaller group. Two or three Sergeants linked by one sideways move are a group. They move and capture as a group. Groups the same size are safe from one another. You can group Squads with Platoons by moving the squad onto the Platoon GRYB space. They then move as a group and may capture a Platoon.

The chances of getting two Lieutenants are slim. It takes all 32 of the player's patriots. If accomplished, you win automatically.

Moves are via hyperspace or sideways. Each turn players may move:

•   one patriot; two moves,
•   two single patriots; one move each,
•   a patriot group; one move, or
•   military single or grouped; one move.

As patriots or military become groups, they move as lines and shapes.

Larger military groups capture smaller enemy groups by moving onto them and removing the enemy group. If you land on a portion of the smaller enemy group you capture the whole group.

Optional ancillary rule: if your military unit or group lands on an area encompassing the GRYB node, they acquire a certain dubious Private Monkeybusiness among their ranks, and can be captured by enemy units or groups the same size.

Chess Variant

Hyper-Chess

Goal

Capture your opponent's King. (Checkmate)

To Play

Each player has ten chess pieces of opposite color. The pieces for each player are: 5 Pawns, 1 King, 1 Queen, 1 Knight, 1 Bishop, and 1 Rook.

Set up your pieces in opposite corners on opposite colors. For instance, one player on red and the other blue. The chart below shows starting positions.

Game Piece	Starting Player One	Starting Player Two
King	BBBB	RRRR
Queen	BBYB	RRGR
Knight	BBGB	RRYR
Rook	BYBB	RGRR
Bishop	BGBB	RYRR
Pawns	BBB, BBY, BBG, BYB, BGB	RRR, RRG, RRY, RGR, RYR

Chose who begins. Alternate moves, moving one of your pieces per turn.

All game pieces except Pawns may capture opponent's game pieces and be captured by opponent's game pieces. Pawns are the exception, they act as diplomats. They neither capture nor are captured by opponent's game pieces, but they block opponent's moves. Allowed moves are charted below:

Game Piece	Moves Allowed (limited hyperspace noted as LH)
King	One move like a Rook or a Bishop.
Queen	Moves are like a Rook or a Bishop. Two self-similar moves may be made in a row.
Bishop	One space up and one LH, or one LH and one up, or one down and one LH, or one LH and one down.
Knight	One space up and two sideways, or two spaces sideways and one down, or two spaces up and one sideways, or one space sideways and two spaces down. The order is important; it's either up & sideways, or sideways & down.
Rook	Moves are like a Pawn; one space up, or down, or sideways, or LH.
Pawns	One space up, down, sideways, or LH. Pawns do not capture, nor can be captured.

Castle

If your King is two moves from your Rook via one move limited excision/interjection and one move limited hyperspace, you may switch locations.

Multiverse

This game uses one GRYB game board per player. It uses conduit markers to establish links between players' game boards. Use one conduit marker with your color ring, on your head node and and one with the same color ring on your opponent's head node. This makes each game space coexist in the same space or **simultaneous** space. This game is in the brain-burner category of difficulty.

Goal

To eliminate your opponent's rings.

To Play

Phase One

Each player first put a conduit marker with one of his rings on it on the <u>head node</u> of his game board and the head node of each of the other player's game boards, then each player takes turns rolling the <u>GRYB Dice II</u> and placing a ring on the node rolled on his game board. Do this until all players have each placed 20 rings on their game boards. If you roll the same node you already occupy, roll again.

If during this phase you land on a node which is simultaneous with an opponent's occupied node, you may remove your opponent's ring and it does not return to play.

Phase Two

After players have placed all 20 rings each, players take turns rolling the <u>GRYB die</u> and making one of two different possible moves:

* move one of your rings to a node of the color rolled using a <u>sideways</u>, <u>up</u>, <u>down</u>, or <u>hyperspace</u> move.

* move your conduit marker to the top-level node of the color rolled. When you move your conduit marker, you may move to the color rolled whether it is one length away or not. The conduit marker on your opponent's game board always remains on the head node. Conduit markers are not captured and may coexist with rings on the same node.

If your move results in one or more opponent's rings sharing a simultaneous space with your ring(s), you remove your opponent's ring(s).

What this does is create simultaneous space between the top-level node on your game space and the head node of your opponents game space. So if you had your conduit marker on **R**, the quadrangle [**RG**, **RR**, **RY**, **RB**] on your game board is simultaneous with [**G**, **R**, **Y**, **B**] on your opponent's game board. Your game space at **RYGY** coexists with your opponent's game space at **YGY**. Whichever player moved to the simultaneous space subsequently, captures the first.

If the first player has his conduit marker on R and the second on B:

•   player one can reach the entire first three layers of player two's space, and vice versa.

•   player one can reach the fourth-level space of player two in his space under B, his conduit marker.

•   player two can reach the fourth-level space of player one in his space under R, his conduit marker.

•   fourth level space under other top-level nodes is unreachable.

If both players have conduit markers on the same respective top-level node, fourth-level space under the three other top-level nodes is unreachable by either player.

When a player moves a conduit marker, all opponent's rings occupying any simultaneous space as his rings are captured with that one move.

Add another player with different color game pieces. Then you each have a conduit to each other game board. Up to four players are able to play each with a game board, four conduit markers, and different colored rings.

GRYBU

This game is patterned after the game **SHŌBU™** by Smirk & Laughter Games. The four quadrants of the GRYB game board act as four individual game boards. Name each quadrant board after its top level <u>node</u>: **GQ**, **RQ**, **YQ**, and **BQ**.

One player has **RQ** and **GQ** as his home boards, and the other player has **BQ** and **YQ**. Then the "**dark**" boards are **BQ** and **GQ**, and the "**light**" boards are **RQ** and **YQ**.

Goal

"Push" or "pop" all four of your opponent's rings off of ONE OF THE FOUR boards to win.

To Play

First set up the game boards with each player placing 4 of his rings on each board, 16 rings total each. The initial placement of players' rings is on opposing bottom-level nodes on each quadrant:

- First player– Your home boards are **RQ** and **GQ**. Set your rings on bottom-level nodes **XGGG**, **XGRR**, **XRGG**, and **XRRR** where **X** is each top level node.

- Second player's– Your home boards are **BQ** and **YQ**. Similar to player one, your rings are on **XBBB**, **XBYY**, **XYBB**, and **XYYY**.

The player with the dark rings moves first. Each turn, a player makes two moves, a passive move and an accompanying aggressive move. Moves may be <u>up</u>, <u>down</u>, <u>sideways</u>, or <u>hyperspace</u>. Two self-similar moves may be made (eg, two up or two sideways, but not one of each). A player's rings never move between different boards, they remain on the same quadrant.

Passive Moves

Passive moves are made on one of a player's home boards, the light board or the dark board. Moves are only to unoccupied nodes. No pushing is involved.

Aggressive Moves

Aggressive moves are made on either one of the two opposite color boards from the passive move. An example is– if your passive move is on your light home board for instance **YQ**, the aggressive move can only be on either one of the dark boards **GQ** or **BQ**. Aggressive moves must be the same type of move (up, down, etc.) and the same number of moves, one or two. The color node you move to or from is irrelevant. The level is irrelevant so long as the move is possible.

Aggressive moves may push an opponent's ring unless there is another ring blocking it. You cannot push two rings. You can only push opponent's rings, not your own. If a ring is pushed down off the bottom level it is removed. As well, if a ring is pushed up off a top level node, it is "popped" off the top and removed. Removed rings are not returned to play.
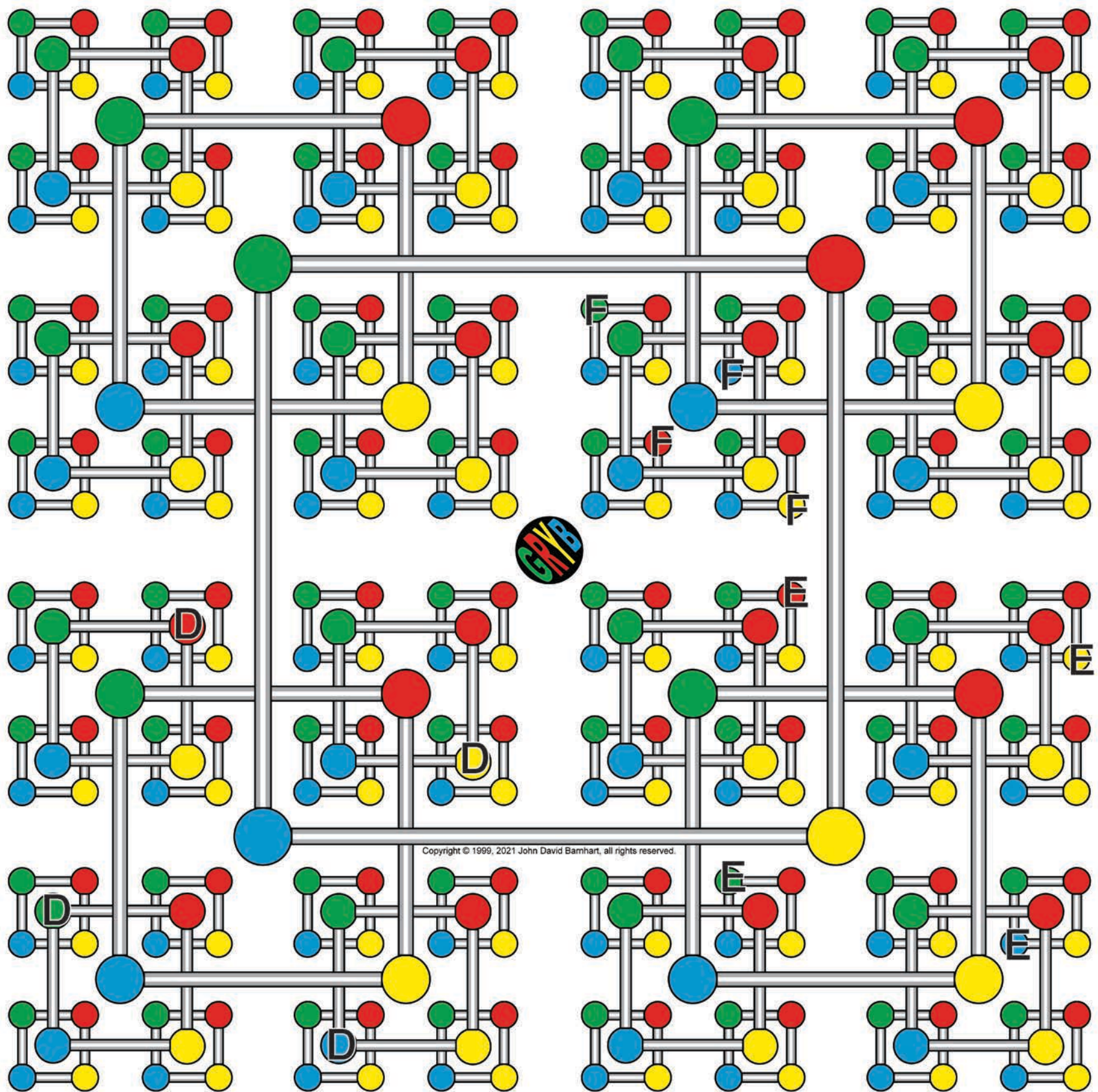
Appendix

Here is a catalog of integrated GRYB examples.

GRYB	Combination	Token Notation
A	1st & 2nd levels	GR, RY, YB, BG
B	1st & 3rd levels	GGY , RGR, YGG, BGB
C	1st & 4th levels	GYGG, RYGR, YYGY, BYGB
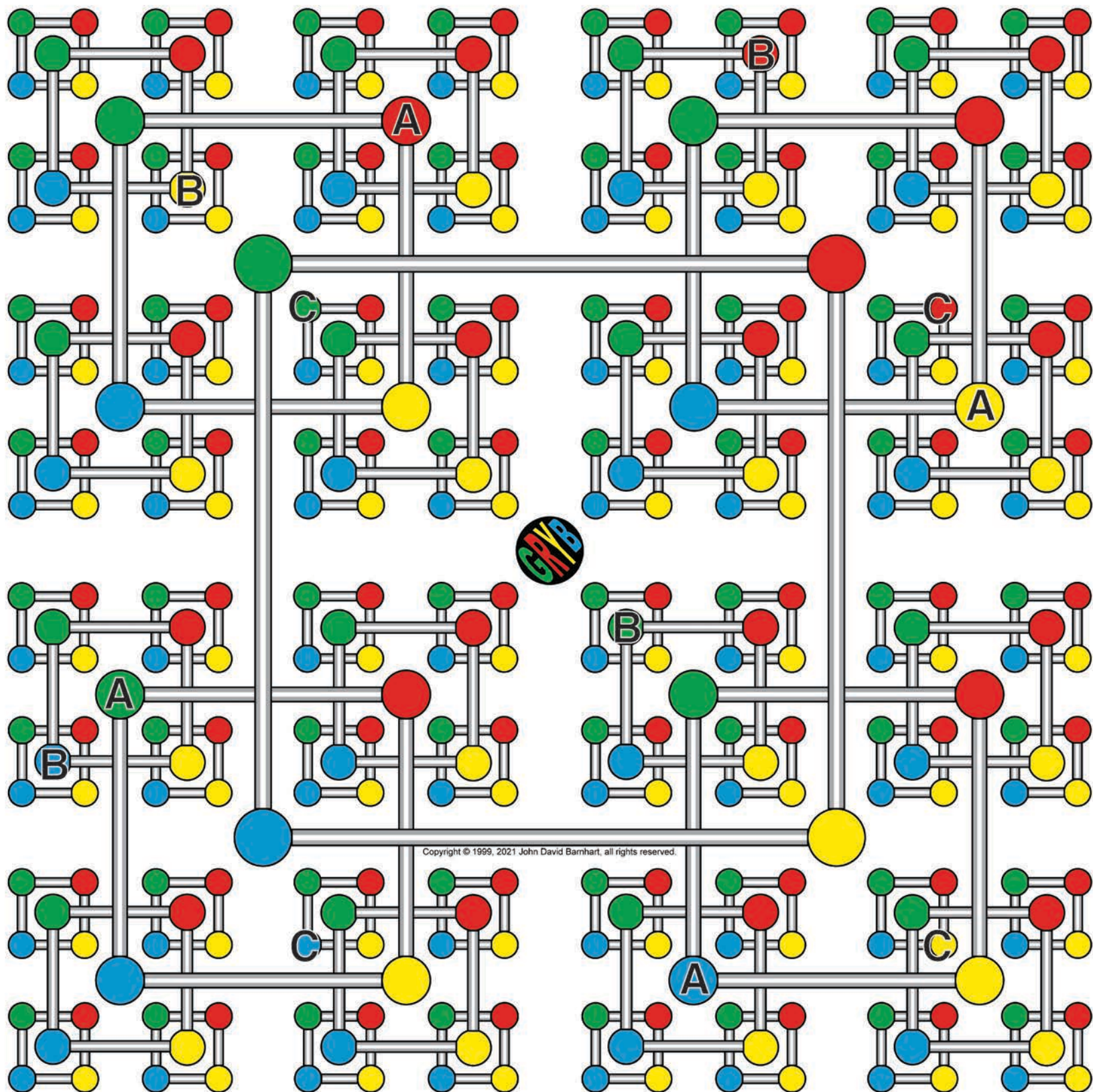
GRYB	Combination	Token Notation
D	2nd & 3rd levels	BGR, BRY, BYB, BBG
E	2nd & 4th levels	YGRR, YRRY, YYRB, YBRG
F	3rd & 4th levels	RBGG, RBRB, RBYY, RBBR

GRYB	Combination	Token Notation
G	1st, 2nd, & 3rd levels	GBR, RGG, YRB, BYY
H	2nd, 3rd, & 4th levels	GGGG, GRRR, GYYY, GBBB
I	1st, 2nd, & 4th levels	GGRB, RRRY, YYRR, BBRG
J	1st, 3rd, & 4th levels	GRGG, RRBB, YRYY, BRRR
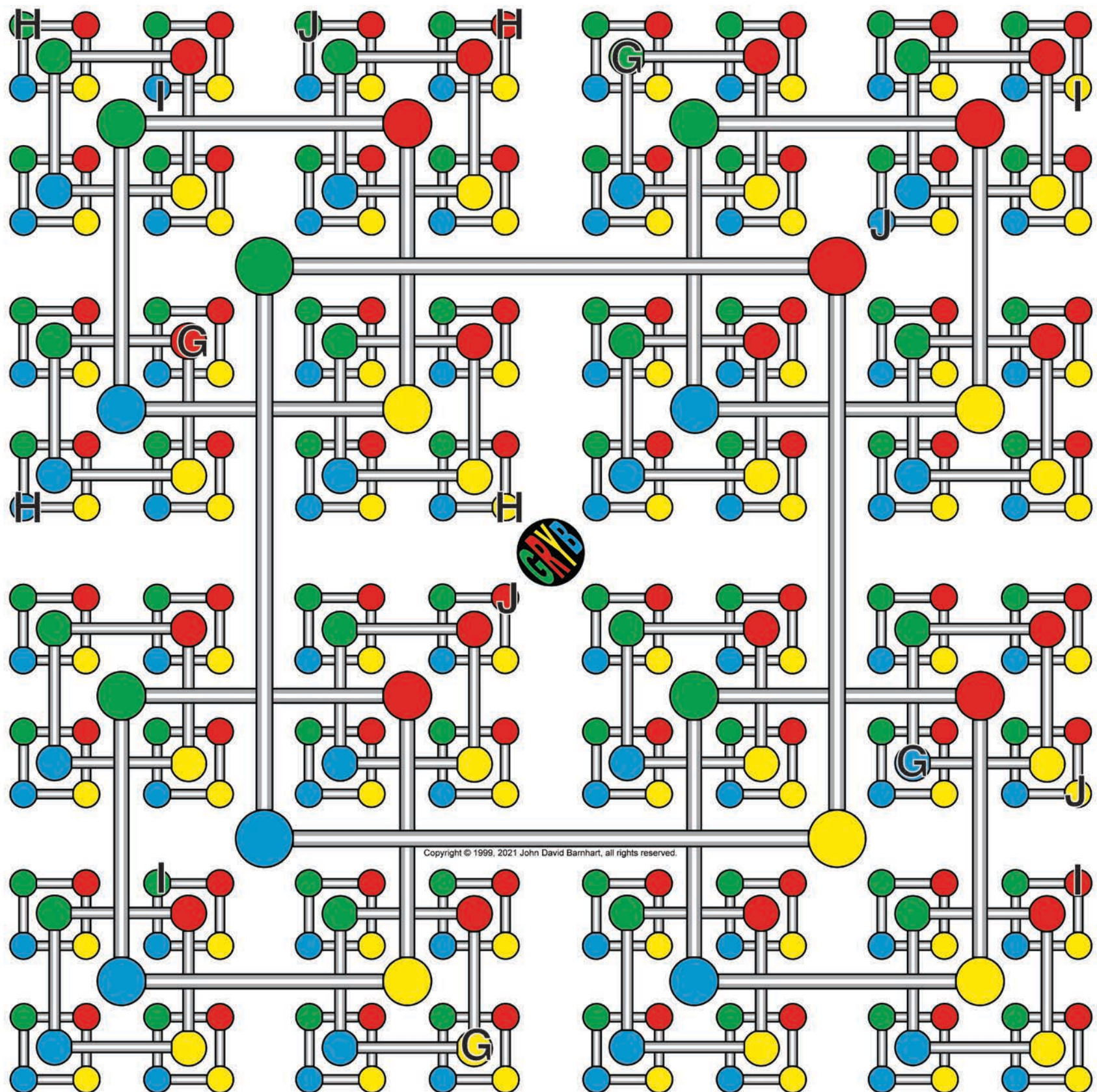
GRYB	Combination	Token Notation
K	All four levels	GRYR, RGBG, YBGB, BYRY
L	2ⁿᵈ level only	GGBR, GRBR, GYBR, GBBR