Path Reference Class

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A path reference class is a system where an observer is among many other similar observers, where each choice the observer makes, leads to a new observer per choice.

```
                    1
                1       1
            1       2       1
        1       3       3       1
    1       4       6       4       1
1       5       10      10      5       1
    6       15      20      15      6       1
```

Starting at the top, the observer has a choice of going left or right. One observer experiences going left, and one observer experiences going right.

The second choice has two solutions for ending up in the middle state. Either one can go left and then right, or one can go right and then left. This means that two observers are in the middle state after two choices.

This pattern follows Pascal's triangle which numbers count the paths toward the state.

Here is another version, where the observer has 3 choices: Left, stand still, right.

```
                    1
                1   1   1
            1   2   3   2   1
        1   3   6   7   6   3   1
    1   4   10  16  19  16  10  4   1
```

One can also have bounded choices, for example when a choice is terminal for the observer:

```
                1
            1   1   0
```

When combining various path reference classes, the most likely history of an observer is one class where there are many choices.

If a choice is reversible over time, then the most likely state is non-trivial:

```
1
1       1
2       2       1
4       5       3       1
9       12      9       4       1
21      30      25      14      5       1
51      76      69      44      20      6       1
127     196     189     133     70      27      7       1
```