A short history of the dreidel (not serious research – just what came up on the Web)

Alan Shuchat, Dec. 13, 2008

The dreidel was known in Greek times as a gambling toy and so it's possible that it was known at the time of the Maccabees. One tradition says that Antiochus prohibited reading the Torah and that when soldiers came by during a Torah study the Jews would start playing dreidel to deceive them.

That seems fanciful since what has come down to us are that the letters on the dreidel stand for Yiddish words (Nun = nisht, Gimel = gants, Hey = halb, Shin = shtel), not Hebrew or Aramaic, and that dreidels are apparently not part of the Sephardic tradition.

The dreidel (from German & Yiddish drehen) was called a teetotum in Latin and later in English. Gambling with a teetotum was popular in England and Germany in the 1500's and one is shown in a Breugel painting. The sides were labeled with letters standing for words in Latin and various national languages. In Germany these were N (nichts), G (ganz), H (halb), S (stell), which correspond directly to the Yiddish words. So the dreidel is probably Ashkenazic in origin.

The phrase *Nes gadol haya sham* (a great miracle happened there) is formed from the dreidel letters. It's not mentioned in the 1906 Jewish Encyclopedia, where the dreidel is called a trendel, but does appear in a 1925 book of Jewish customs. In Israel the dreidel is called a sivivon and the Shin is changed to Peh, for *Nes gadol haya po* (a great miracle happened *here*.)

Dreidel has attracted the interest of mathematicians. The traditional rules say that when someone spins Gimel and takes the whole pot, everyone antes up and puts in a fixed amount of money or nuts, and this is the same amount someone puts in after spinning Shin. In 1976 a mathematician from the City University of New York (CUNY) proved that when there are more than two players the game is unfair in the sense that some players have a built-in advantage over others. The player who goes first tends to win the most, then the second player, etc.

In 1996 an MIT undergraduate found a way to change the rules to make the game fair. She proved that if the Shin amount is ½ the number of players (*N*) times the Gimel amount,

$$ \text{ש} = \frac{N}{2}\, \text{ג} $$

Shin = (N/2) * Gimel,

then no player has an advantage. For two players this means the Shin amount should be the same as the Gimel, for three it should be 1½ times the Gimel, for four -- twice the Gimel, etc.

Other mathematicians have analyzed how long a dreidel game is expected to last, based on the number of players and the initial stake each one has. Most of the mathematicians involved seem to be Jewish – no surprise!

Some sources:

http://judaism.about.com/od/chanukah/f/dreidel.htm

http://www.1911encyclopedia.org/Teetotum

http://www.faqs.org/faqs/judaism/FAQ/04-Observance/section-7.html

http://www.gamesmuseum.uwaterloo.ca/VirtualExhibits/Brueghel/teetotum.html

http://www.jewishencyclopedia.com/view.jsp?artid=59&letter=G

http://www.archive.org/stream/jewishceremonial00rose/jewishceremonial00rose_djvu.txt

Feinerman, Robert. 1976. An ancient unfair game. *American Mathematical Monthly* 83(October):623-625.

Trachtenberg, Felicia Moss. 1996. The game of dreidel made fair. *College Mathematics Journal* 27(September):278-281.

http://www.math.rutgers.edu/~zeilberg/mamarim/mamarimhtml/dreidel.html

http://arxiv.org/pdf/math/0403404v2