

The Ball Game / Het Dansspel

by Fred Horn

This is the first article in a series about interesting puzzles that appeared in the Dutch *Kinder Courant* (children's newspaper). This newspaper was first published in 1852 and was printed weekly until 1904. Filled with stories, but also with all kind of playthings the children had to make themselves. Among these a lot of puzzles, which are still fun in our own time.

The Ball Game – Het Dansspel

This is a puzzle game from the children's world of 150 years ago. It appeared in *Kinder Courant* issue 13, 1863-1864, week 1 as a sheet included with the newspaper. The instructions were printed inside on page 4 (see Figure 1). We have included a reproduction of the puzzle in CFF, see Figure 2. To make the puzzle, copy Figure 2, glue it onto some cardboard and cut out the pieces.

In the next issue of the *Kinder Courant*, one week later, the solution was published on page 5 (this solution will be re-published in the CFF issue 105).

Translation of the instructions

There was to be a great ball. Thirty ladies were invited and thirty gentlemen, but fifteen of the gentleman declined.

Thus fifteen gentlemen had to dance with thirty ladies. That was not to the liking of the ladies. Fifteen ladies from boarding school Dance Happy were strongly opposing and came up with an idea to exclude the fifteen others.

"Leave this to me", said the eldest of the ladies, and she invited all women to form a circle, which they did.

"Now we will, to make this fair, drop every ninth lady", said the Dance Happy lady and started counting with herself. When she had removed fifteen ladies, it turned out that all ladies from boarding school Dance Happy remained.

How did she do that?

Here is a large circle with thirty places and you have thirty discs, fifteen black and fifteen white. Pretend that the white disks are the ladies of Dance Happy, the black discs are the other ladies and arrange the discs so that every ninth will be black.

(If you fail, wait eight days, then we can supply you with the solution.)

You can neatly colour the sheet, glue it [onto card board] and make a box for the discs. Your toy chest will be enriched with another object.

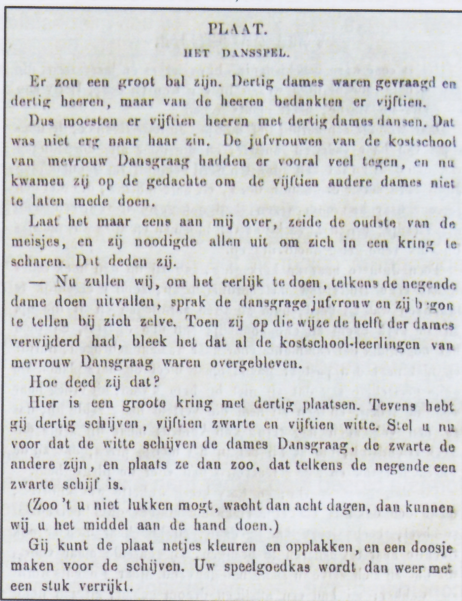


Figure 1. The instructions of *The Ball Game*



Figure 2. The board for *The Ball Game* from the archives of the Maatschappij der Nederlandse Letterkunde (MdNL), Leiden, the Netherlands

Solution of *The Ball Game*

by Fred Horn

In CFF 104 [1] I presented *The Ball Game* (*Het Dansspel*), see Figure 1, and I promised to publish the solution in CFF 105. Before presenting the solution first some additional information about *The Ball Game*.

After reading about *The Ball Game* David Frankel wrote the CFF editors explaining that *The Ball Game* is a particular example of the Josephus problem [2].

In the Josephus problem, the counted-out persons are killed and the procedure usually continues until only one person is left alive (not fifteen). Much more dramatic than the fate of the fifteen ladies that were not from boarding school Dance Happy.

The Ball Game uses the exact same numbers as the variant described in Wikipedia [3].

Figure 2 shows the solution of *The Ball Game* as it appeared in CFF 104.



Figure 1. *The Ball Game*

The Ball Game

Place the discs in this order:

- | | | |
|---------|---------|---------|
| 4 white | 1 black | 1 white |
| 5 black | 1 white | 2 black |
| 2 white | 2 black | 2 white |
| 1 black | 2 white | 1 black |
| 3 white | 3 black | |

To remember this easily, memorize the following sentence: "O zuster, als ik dans, dan weet ik van geen smart."

Then translate vowels into numbers:

- | | |
|-------|-------|
| a = 1 | o = 4 |
| e = 2 | u = 5 |
| i = 3 | |

Then you will get:

- 4 z 5 s t 2 r 1 l s 3 k d 1 n s d 1 n
w 2 2 t 3 k v 1 n g 2 2 n s m 1 r t.

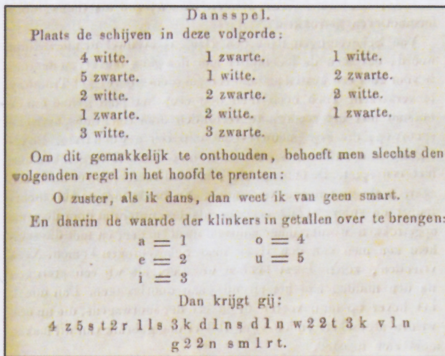


Figure 2. Solution of *The Ball Game*, reproduction (left), translation (right)

References

- [1] Fred Horn, *The Ball Game / Het Dansspel*, CFF 104, November 2017, pp 16-17.
- [2] Wikipedia editors, *Josephus problem*, https://en.wikipedia.org/wiki/Josephus_problem.
- [3] Wikipedia editors, *Josephus problem, Variants and generalizations*, https://en.wikipedia.org/w/index.php?title=Josephus_problem#Variants_and_generalizations.