Envy-free division
in the presence of a dragon

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Following a novel approach, where the emphasis is on configuration spaces and equivariant topology, we prove several results addressing the envy-free division problem in the presence of an unpredictable (secretive, non-cooperative) player, called *the dragon*. There are two basic scenarios.

1. There are $r - 1$ players and a dragon. Once the "cake" is divided into r parts, the dragon makes his choice and grabs one of the pieces. After that the players should be able to share the remaining pieces in an envy-free fashion.

2. There are $r + 1$ players who divide the cake into r pieces. A ferocious dragon comes and swallows one of the players. The players need to cut the cake in advance in such a way that no matter who is the unlucky player swallowed by the dragon, the remaining players can share the tiles in an envy-free manner.

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