Segregation project 2017

Casper Barendrecht, Guanyu Jin, Stijn Moerman, Nand Snijder

?? April 2017

1 Introduction

In 1978, Thomas C Schelling developed his tipping model by placing pennies and dimes on a chess bord and moved them according to various rules. By viewing the pennies and dimes as two types of people, the rule of moving as a preference for the individuals, and the chess bord as a city, he soon discovered that segragation is formed on the bord, even when the preference of the individuals is very subtle.

In order to gain more insight in the pattern formation of a population when each individuals are having the same motives of moving, we first built a basic model based on Schelling's idea, and extended it by increasing the size of the population, bord and number of types,etc. In this project, we investigated how the size of the bord, populations and amount of types affects the segregation pattern, when certain rule of moving, which is referred to as the 'happiness rule', is applied. To formulate the research question more formally, the following definitions are made:
1.**Neighbouhrhood**:Given a person on the m x n bord. The neighbours of a person are the people
2.**Happiness rule**: A person is happy if a fraction(which is 1/3 in the basic model) of his/her neighbourhood is of the same type as him/her.
3.**Generation**: A population is said to reach a next generation if every person has
4.**Equilibrium**: The population is said to reach equilibrium if no person is moved after a generation.