

There arose two successful formalisations of the quantitative aspect of information over the course of the twentieth century: Shannon information and Kolmogorov complexity. Both afore mentioned definitions are rooted in mostly separate parts of mathematics. Shannon's information came to existence as an application of the elementary theory of probability and statistics. It is defined as a function in probability, with it being a lower bound on binary compression. Kolmogorov complexity, on the other hand, springs from formal logic and theory of computability. Kolmogorov defined it as the length of a minimal algorithmic description of a message. It is a beautiful result that when certain conditions do apply then those two functions behave asymptotically equivalently. My thesis is concerned with formally defining both measures of information, comparing their drawbacks, highlighting their similarities and differences and at last but not least proving their coveted asymptotic relationship.