

Table of Contents

<u>Introduction</u>	1
<u>I. The Vectorfield Model of Population Genetics</u>	3
1. The Equations of Selection, Recombination and Mutation.	5
2. Multivariate Analysis and Types of Epistasis.	11
3. Euclidean Vector Spaces and Riemannian Manifolds.	17
4. The Shahshahani Metric.	37
5. The Product Theorems and Epistasis.	43
6. The Selection Field.	51
7. The Recombination Field.	58
8. The Mutation Field.	64
9. The Combined Field.	67
<u>II. The Geometry of Epistasis</u>	80
1. Orthogonal Decompositions.	80
2. The Product Model.	91
<u>III. Selection, Recombination and Mutation</u>	119
1. Selection and Epistasis.	119
2. Recombination and Entropy.	134
3. Recombination and Epistasis.	145
4. Position Effects.	153
5. Mutation.	160
<u>IV. The Hopf Bifurcation</u>	173
1. The Hessian.	173
2. The Wright Conjecture.	181

<u>Appendix</u>	191
1. Proper Mappings.	191
2. Partially Defined Distributions.	194
3. Game Dynamics	197
<u>Bibliography</u>	201
<u>Index</u>	204