# Table of Contents

**Foreword** ix

**Part I. Basic concepts** 1

1. The simplest examples 3
2. The classes \( \Sigma' \) 27
3. The quadratic differential of a map 60
4. The local algebra of a map and the Weierstrass preparation theorem 72
5. The local multiplicity of a holomorphic map 84
6. Stability and infinitesimal stability 115
7. The proof of the stability theorem 133
8. Versal deformations 145
9. The classification of stable germs by genotype 157
10. Review of further results 173

**Part II. Critical points of smooth functions** 183

11. A start to the classification of critical points 187
12. Quasihomogeneous and semiquasihomogeneous singularities 192
13. The classification of quasihomogeneous functions 217
14. Spectral sequences for the reduction to normal forms 231
15. Lists of singularities 242
16. The determinator of singularities 258
17. Real, symmetric and boundary singularities 272

**Part III. Singularities of caustics and wave fronts** 285

18. Lagrangian singularities 287
19. Generating families 298
20. Legendrian singularities 310
21. The classification of Lagrangian and Legendrian singularities 325
22. The bifurcation of caustics and wave fronts 346
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>References</td>
<td>360</td>
</tr>
<tr>
<td>Further references</td>
<td>371</td>
</tr>
<tr>
<td>Subject Index</td>
<td>375</td>
</tr>
</tbody>
</table>