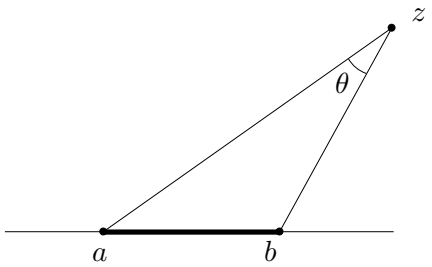


Figure I.1 The harmonic function $\theta(z)$.

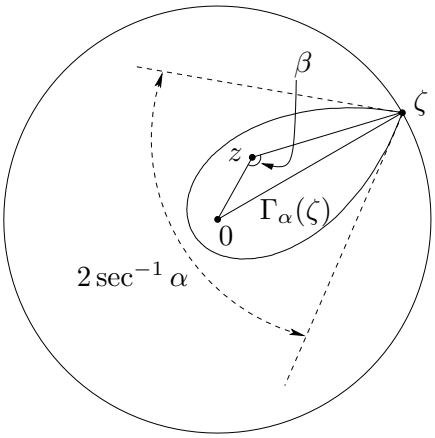


Figure I.2 The cone $\Gamma_\alpha(\zeta)$.

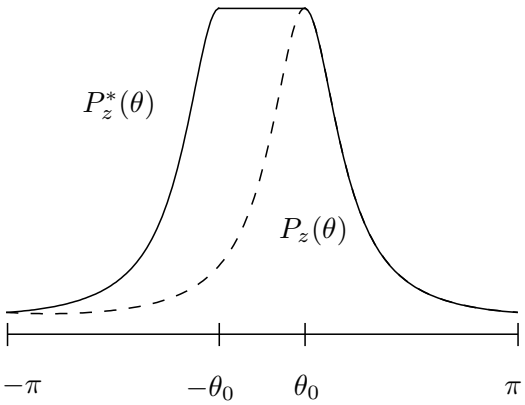


Figure I.3 The function P_z^*.

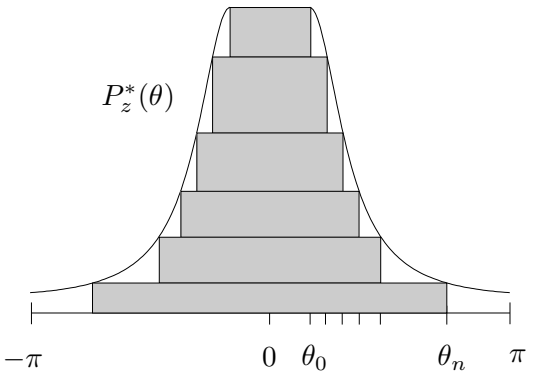


Figure I.4 Approximating P_z^* by a step function.

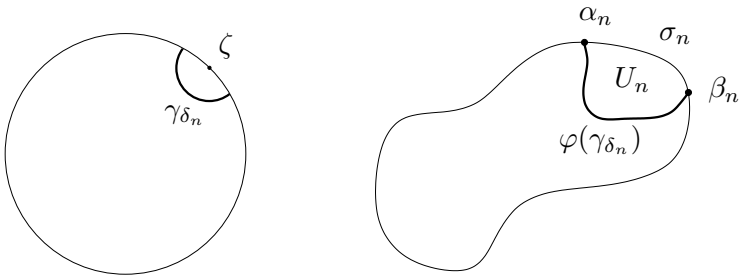


Figure I.5 The crosscuts γ_{δ_n} and $\varphi(\gamma_{\delta_n})$.

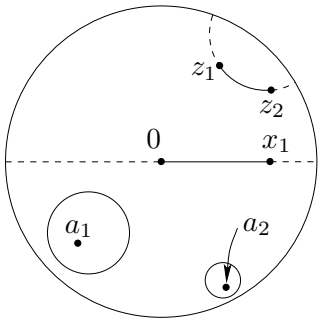


Figure I.6 Hyperbolic balls and geodesics.

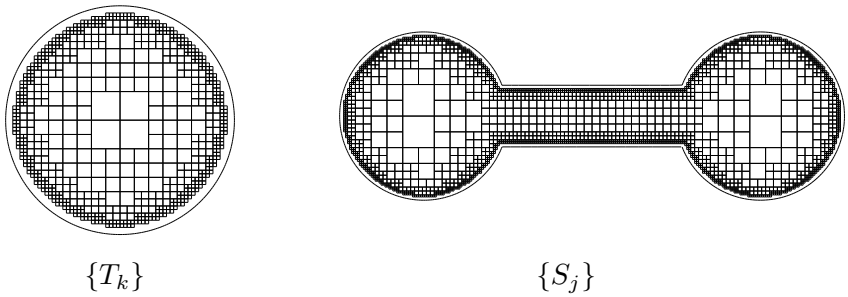


Figure I.7 Whitney squares in $\mathbb{D}$ and Ω.

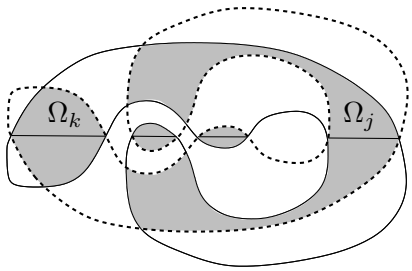


Figure I.8 The domains Ω_k are shaded.

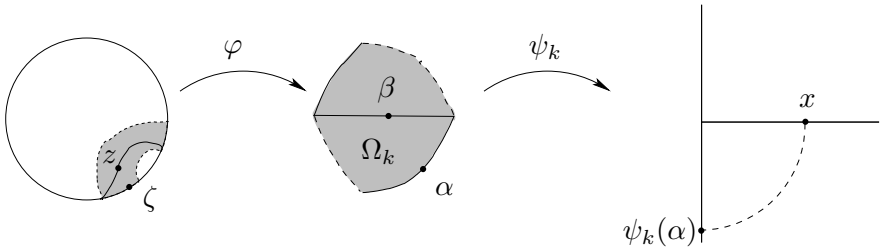


Figure I.9 The map $z = \Phi(\zeta)$

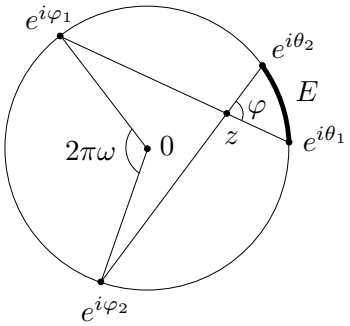


Figure I.10 Harmonic measure of an arc.

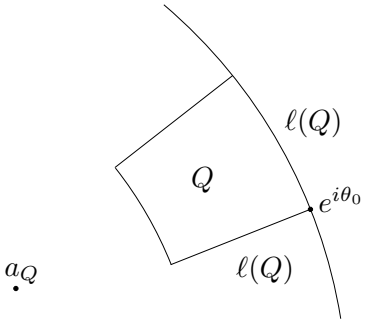


Figure I.11 A Carleson box.

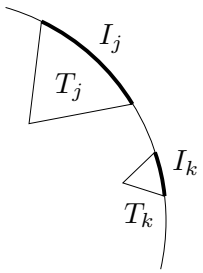


Figure I.12 Tents.

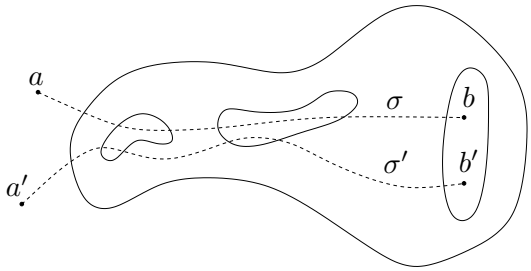


Figure II.1 The proof of Theorem 1.1.

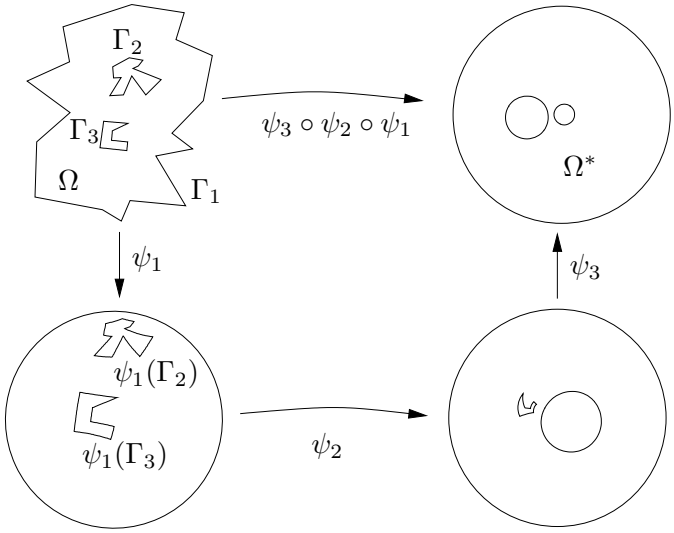


Figure II.2 The proof of Lemma 2.2.

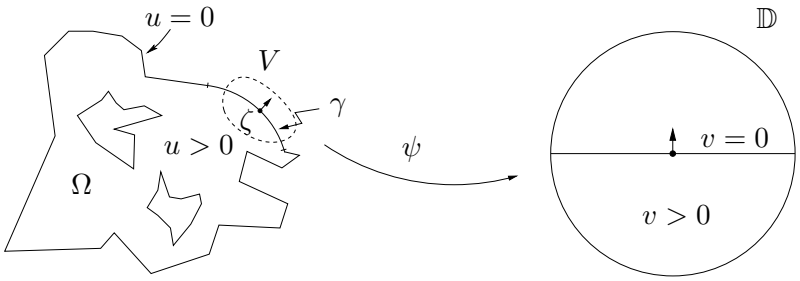


Figure II.3 Straightening an analytic arc in $\partial\Omega$.

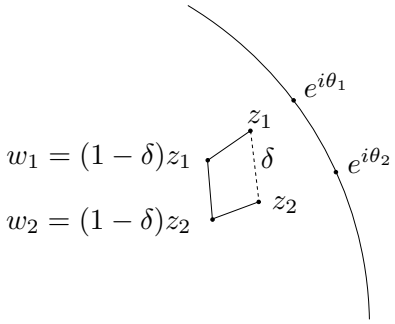


Figure II.4

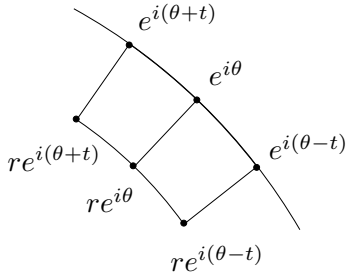


Figure II.5

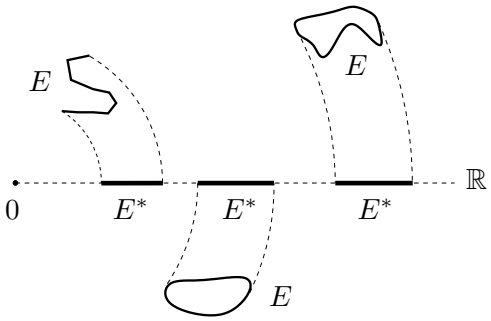


Figure III.1 Circular projection.

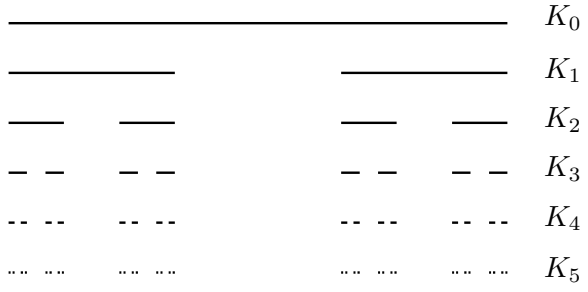


Figure III.2 The Cantor set.

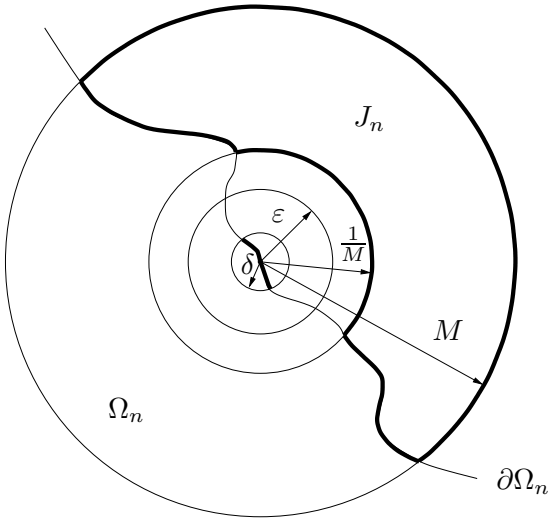


Figure III.3 Proof of Proposition 5.2.

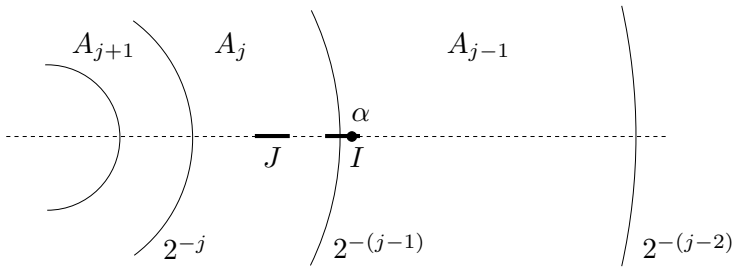


Figure III.4 Annuli and the Cantor set.

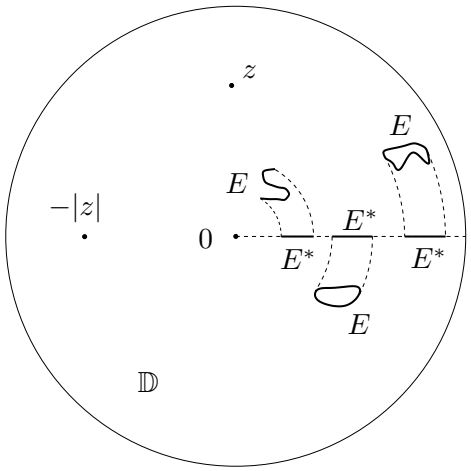


Figure III.5 Circular Projection in $\mathbb{D}$.

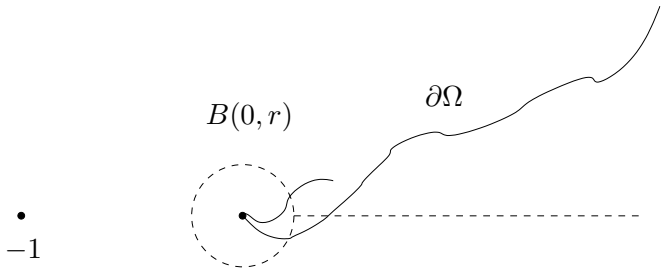


Figure III.6 The proof of Corollary 9.3.

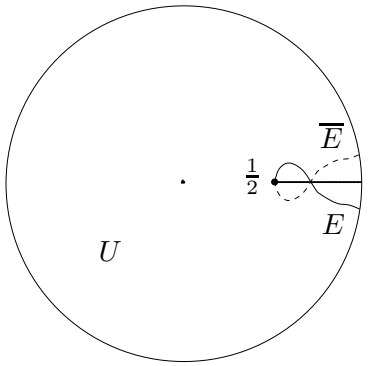


Figure III.7 Lower bound via reflection.

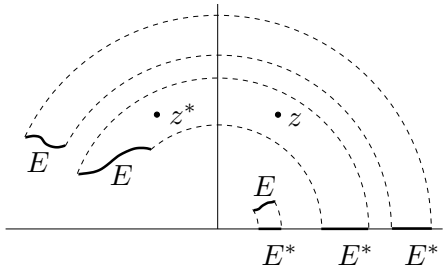


Figure III.8 Hall's lemma.

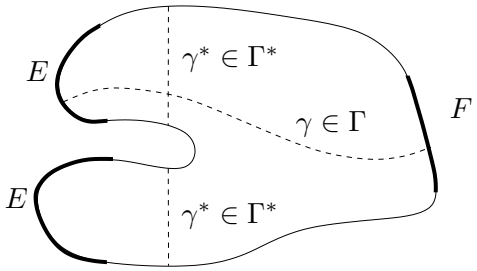


Figure IV.1 Connecting and separating curves.

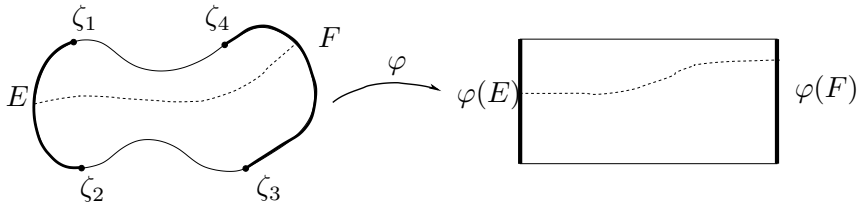


Figure IV.2 Extremal distance in a quadrilateral.

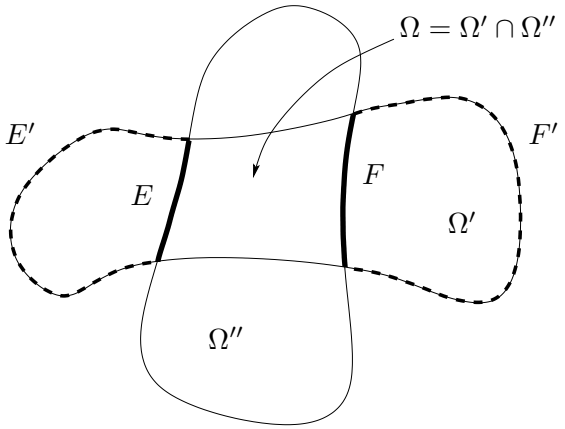


Figure IV.3 Extension rule.

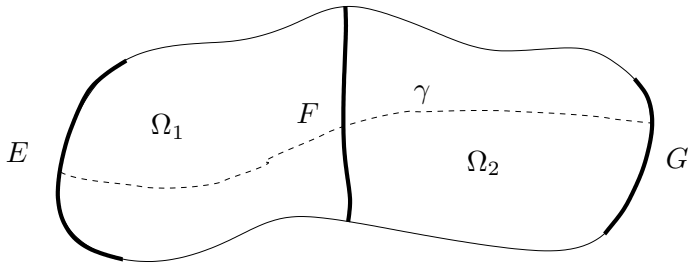


Figure IV.4 Serial rule.

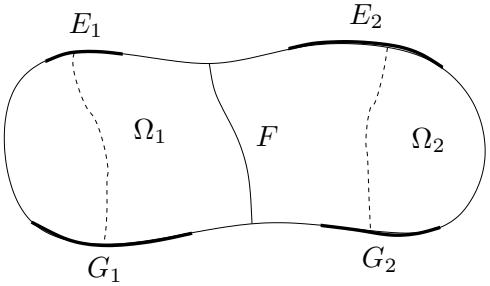


Figure IV.5 Parallel rule.

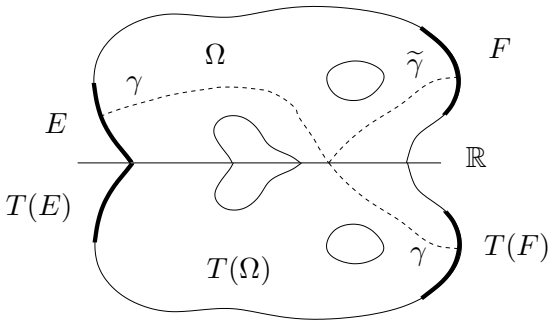


Figure IV.6 Symmetry rule.

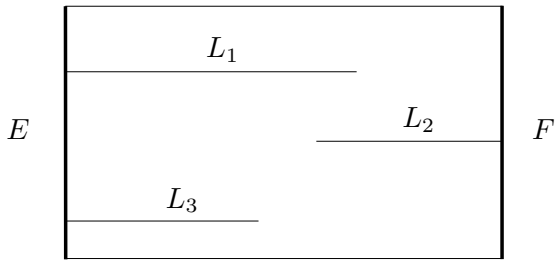


Figure IV.7 Slit rectangle.

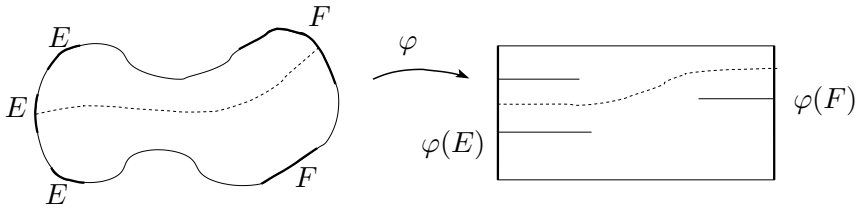


Figure IV.8 Extremal distance and slit rectangles.

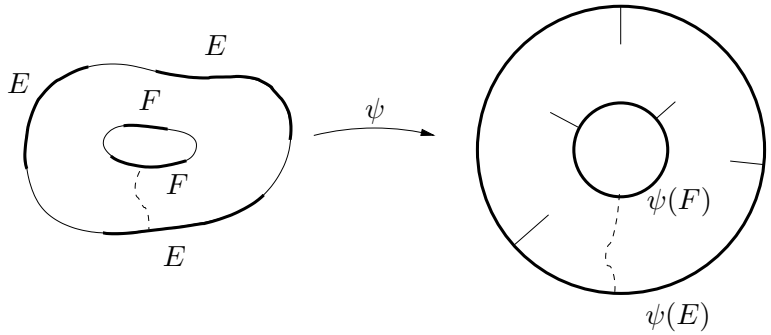


Figure IV.9 Extremal distance and slit annuli.

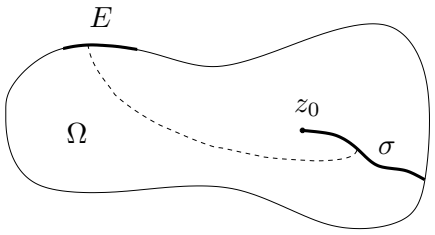


Figure IV.10 Distance from a point to an arc.

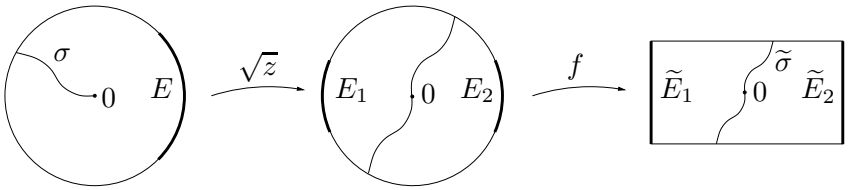


Figure IV.11 Proof of Theorem 5.2.

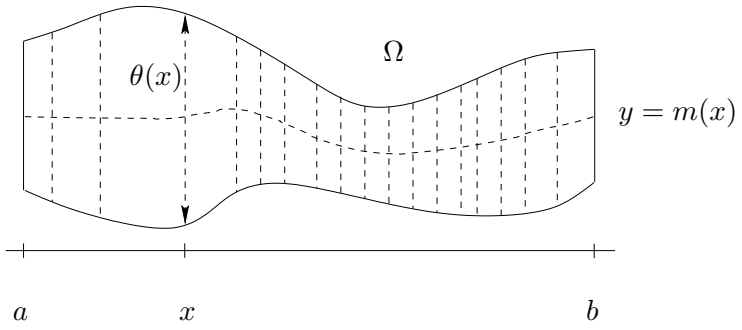


Figure IV.12 A strip domain.

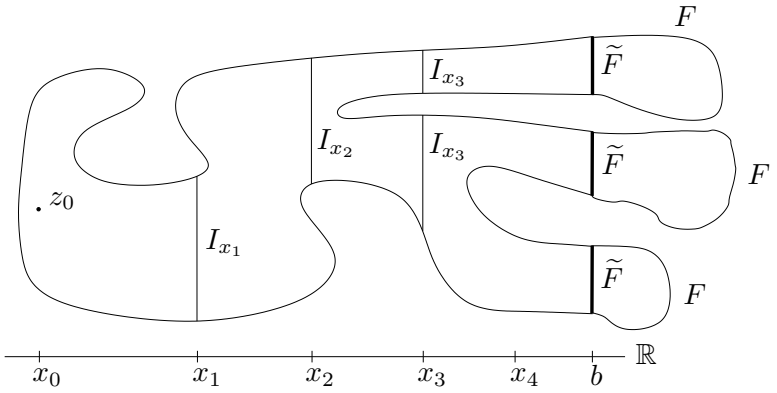


Figure IV.13 Crosscut estimate of harmonic measure.

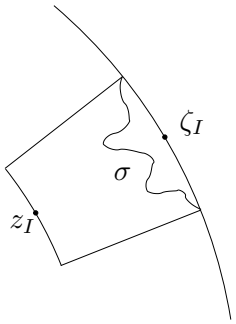


Figure IV.14

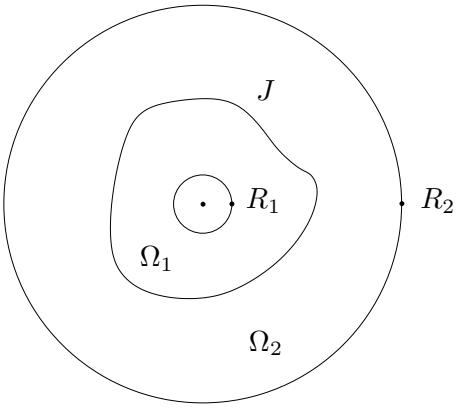


Figure V.1 Teichmüller's Modulsatz.

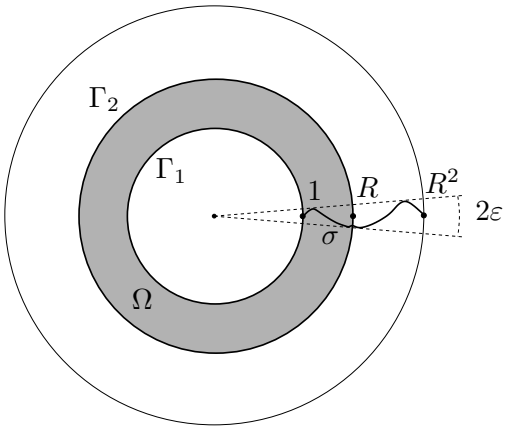


Figure V.2 Ω, σ and their reflection about $|z| = R$.

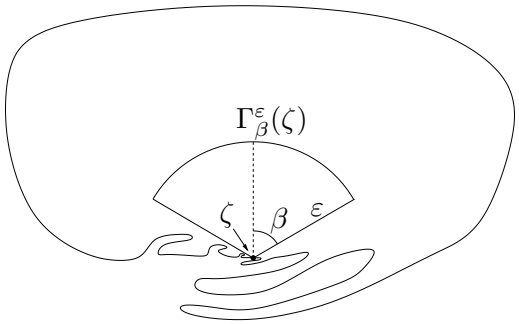


Figure V.3 Truncated cone at ζ.

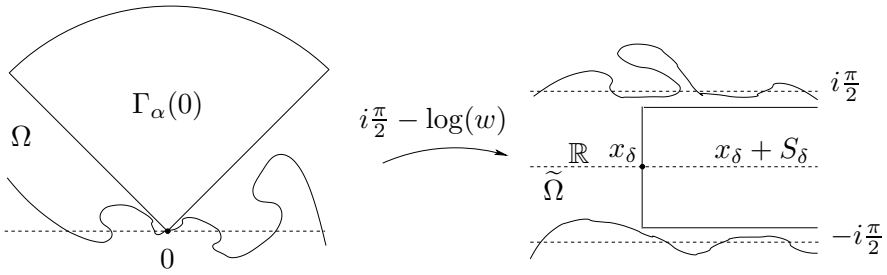


Figure V.4 Transforming the half-plane version to the strip version.

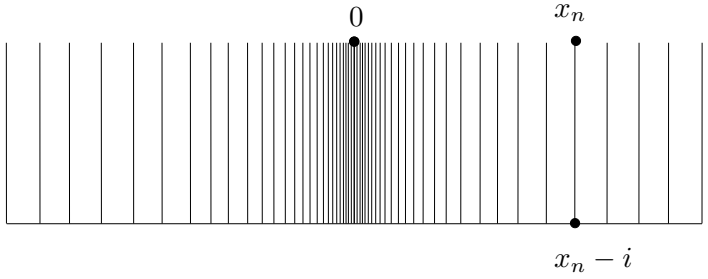


Figure V.5 A comb region.

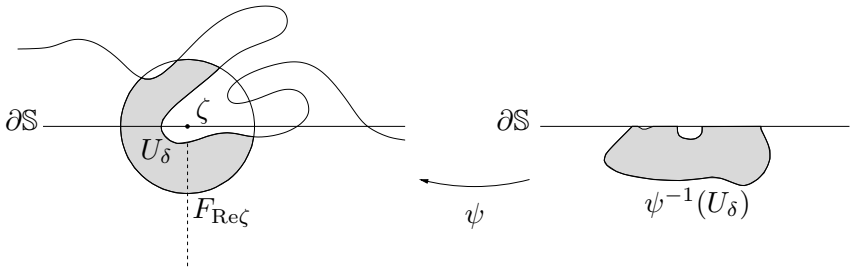


Figure V.6 Distortion near the ends of vertical crosscuts.

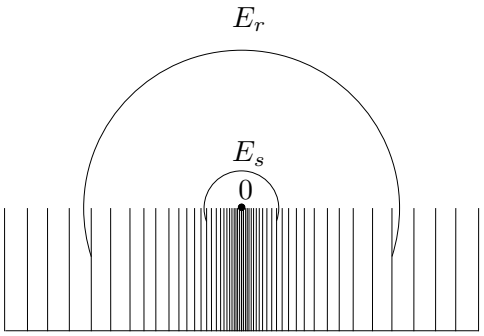


Figure V.7 Positive angular derivative at a tine.

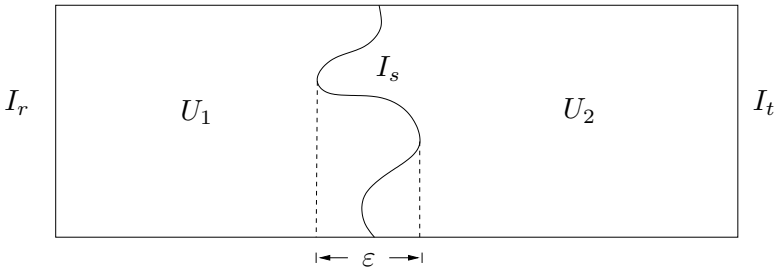


Figure V.8 Image of a vertical crosscut.

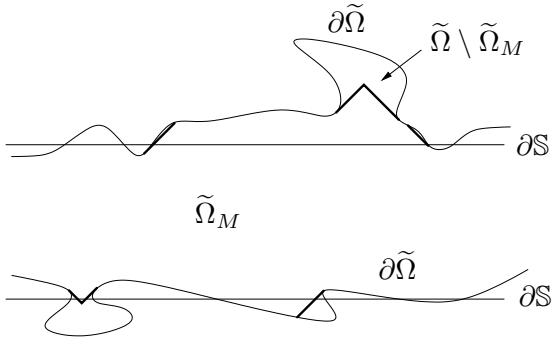


Figure V.9 M-Lipschitz subregion.

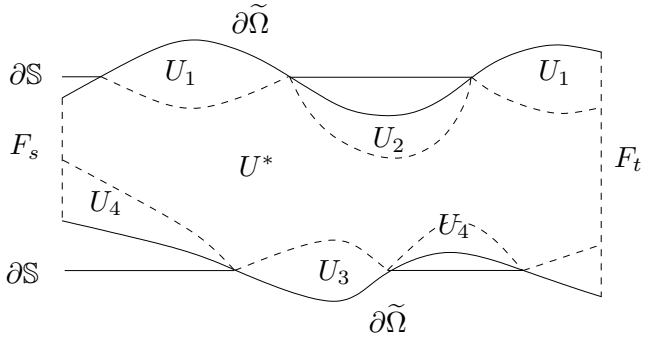


Figure V.10 Proof of Sastry's lemma.

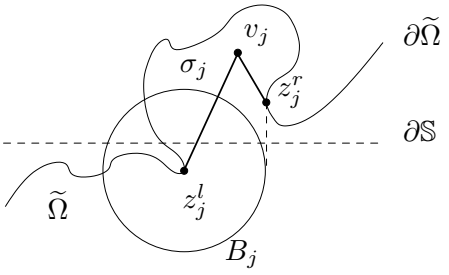


Figure V.11 Proof of Lemma 6.3.

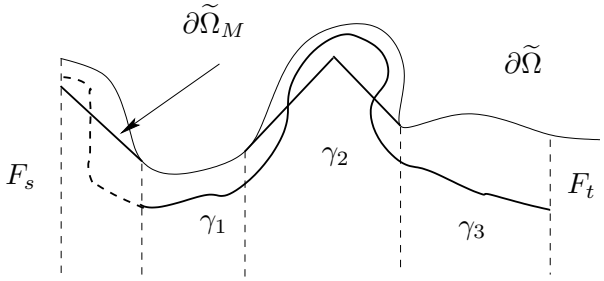


Figure V.12 Proof of Lemma 6.4.

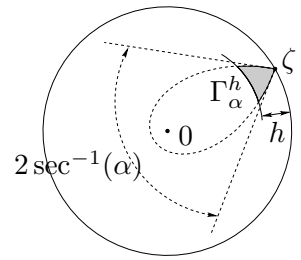


Figure VI.1 The truncated cone Γ_α^h.

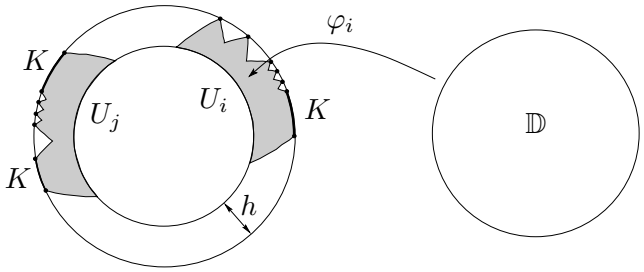


Figure VI.2 Cone domains U_i.

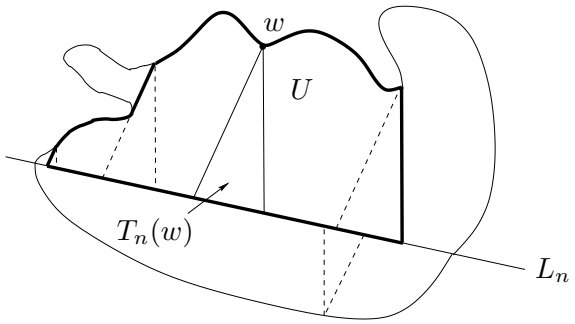


Figure VI.3 n-Lipschitz subregion.

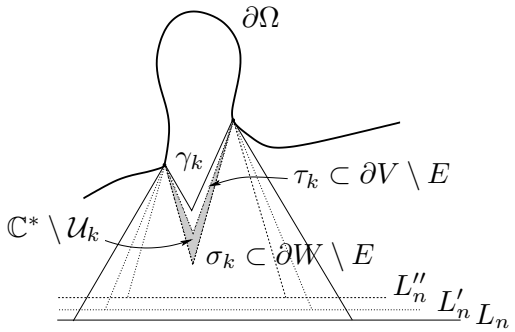


Figure VI.4 Nested regions in McMillan's theorem.

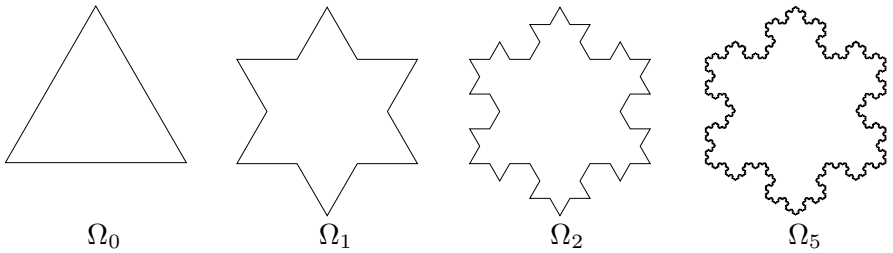


Figure VI.5 The von Koch snowflake.

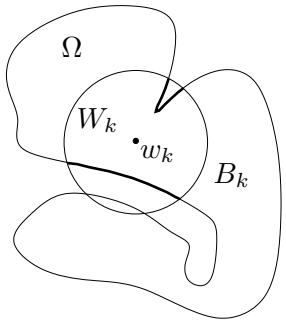


Figure VI.6 Proof of Lemma 5.3.

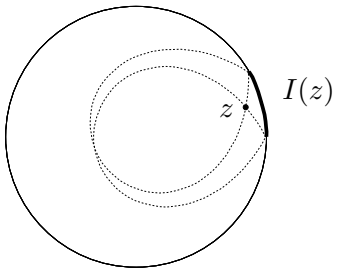


Figure VI.7 $I(z)$ consists of the base points of all cones Γ_2 containing z.

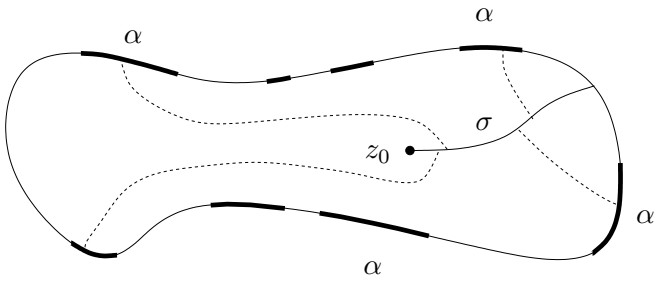


Figure VI.8 Extremal distance estimate of harmonic measure.

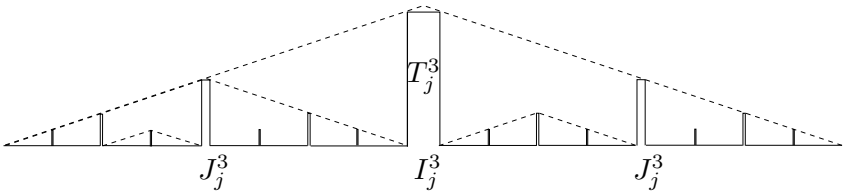


Figure VI.9 First generation towers.

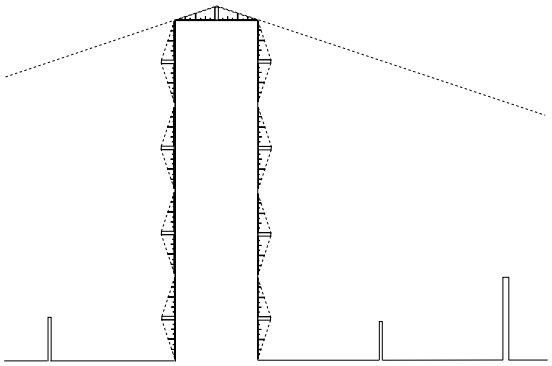


Figure VI.10 Second generation towers.

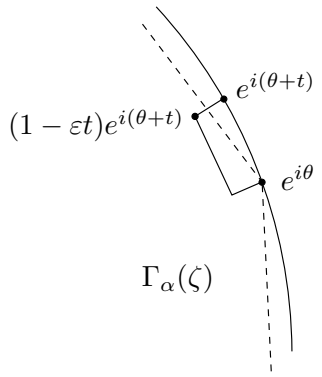


Figure VII.1

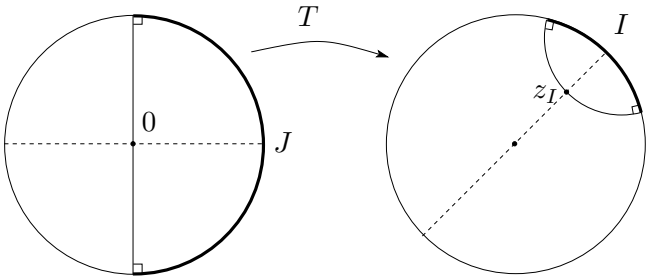


Figure VII.2

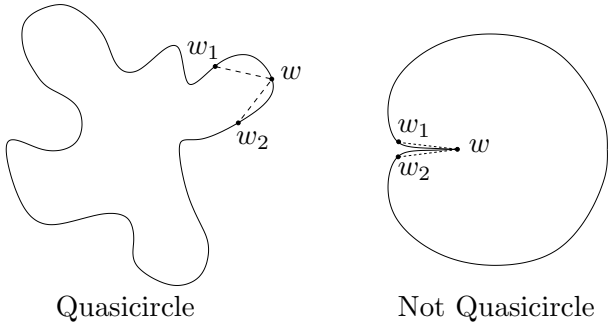


Figure VII.3

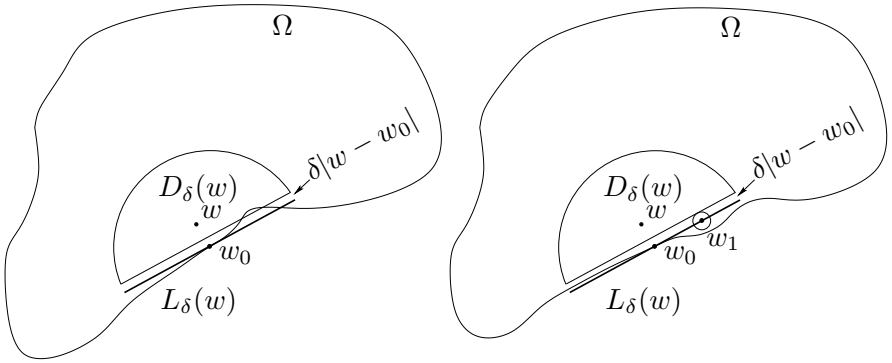


Figure VII.4 The two possibilities in Condition (c).

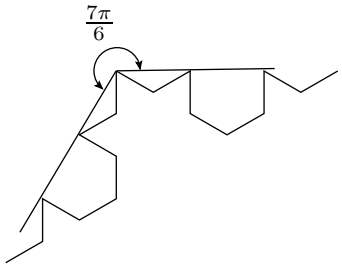


Figure VII.5 Exterior angle at a vertex.

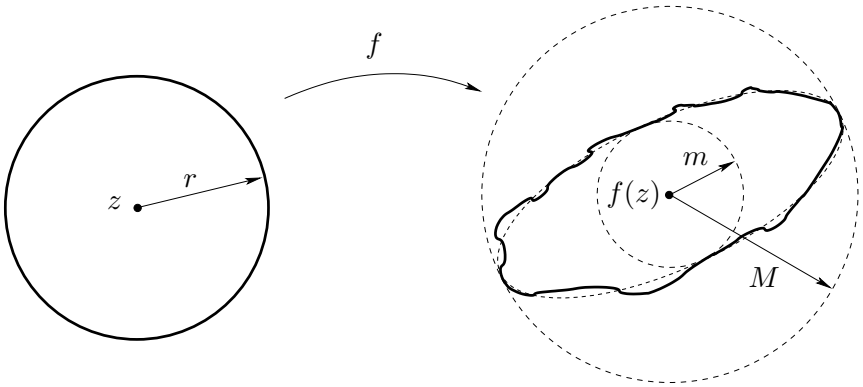


Figure VII.6 The quasiconformal image of a small circle.

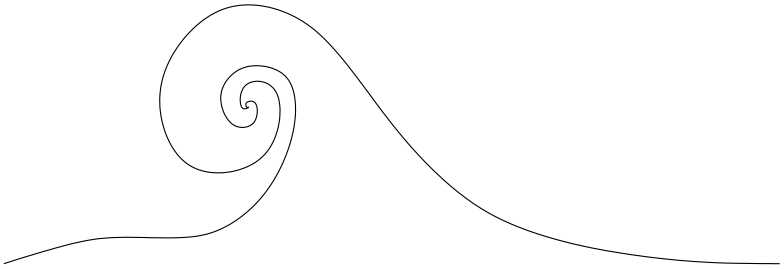


Figure VII.7 Chord-arc curve.

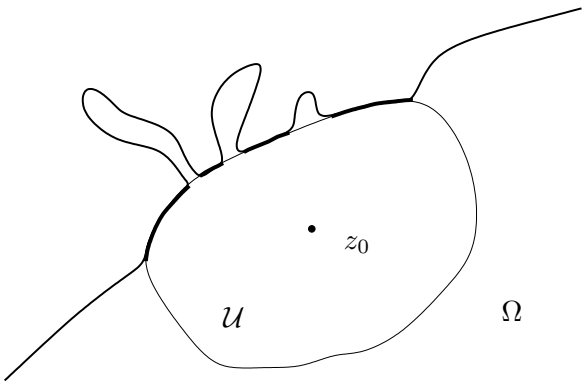


Figure VII.8 Chord-arc subdomain.

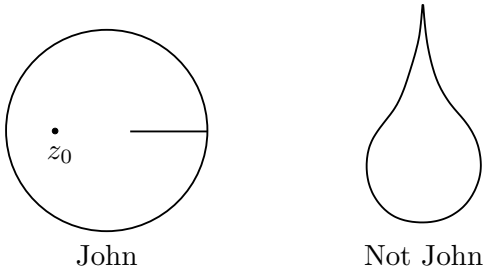


Figure VII.9

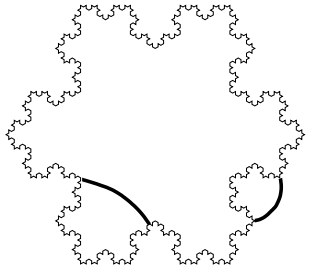


Figure VII.10 Both sides John.

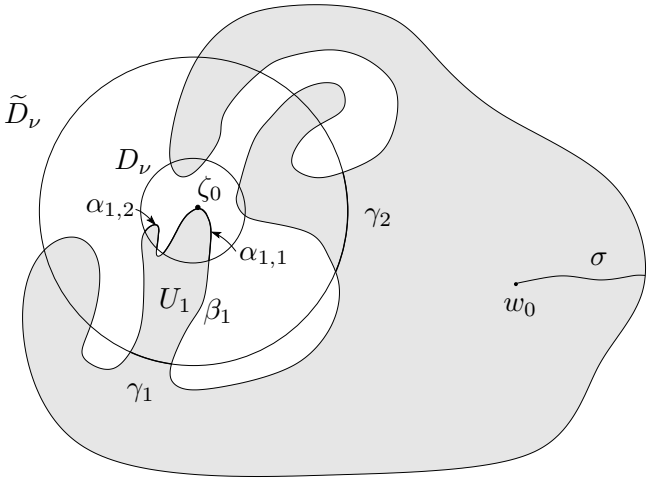


Figure VIII.1 Proof of Lemma 2.5.

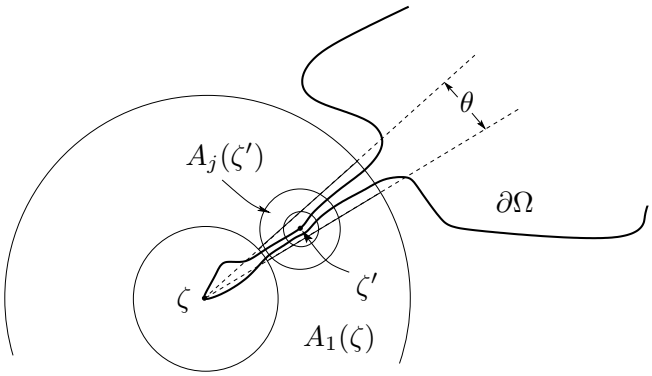


Figure VIII.2 Proof Lemma 3.3.

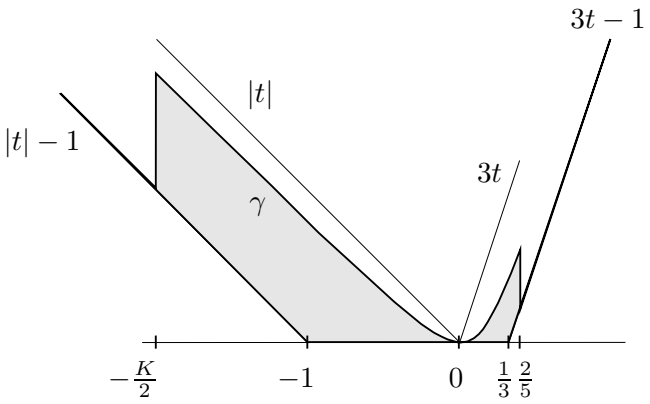


Figure VIII.3 Known bounds for $B(t)$.

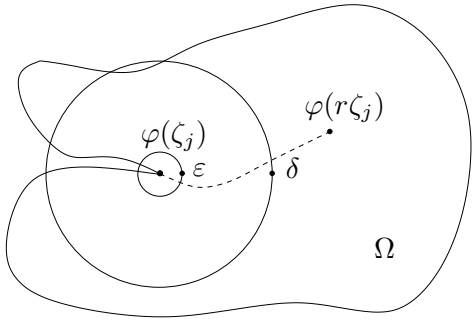


Figure VIII.4

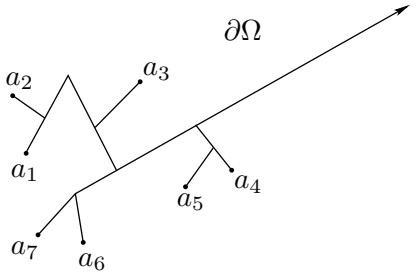


Figure VIII.5 Polygonal tree.

Figure VIII.6

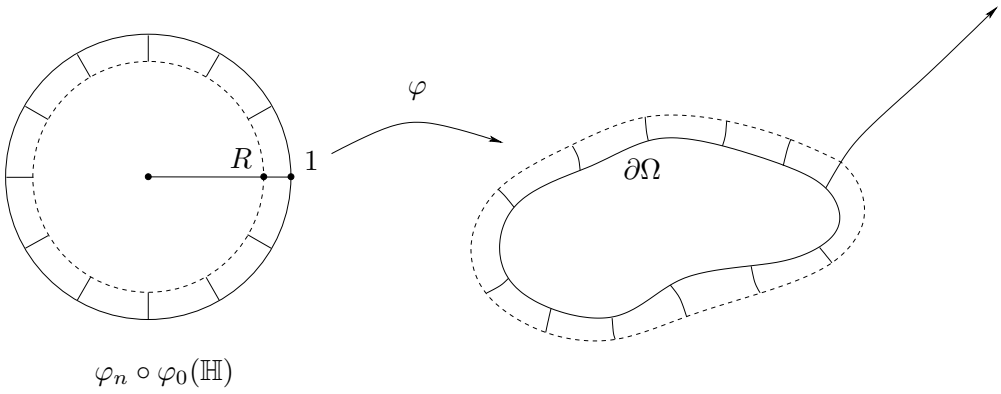


Figure VIII.7

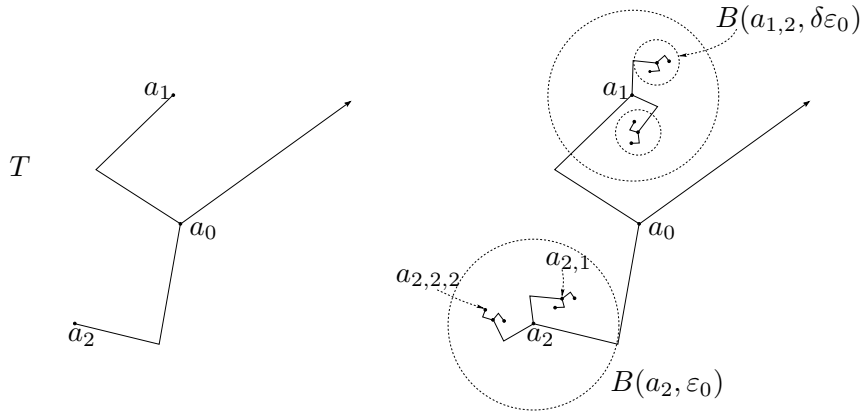


Figure VIII.8 Dandelion construction.

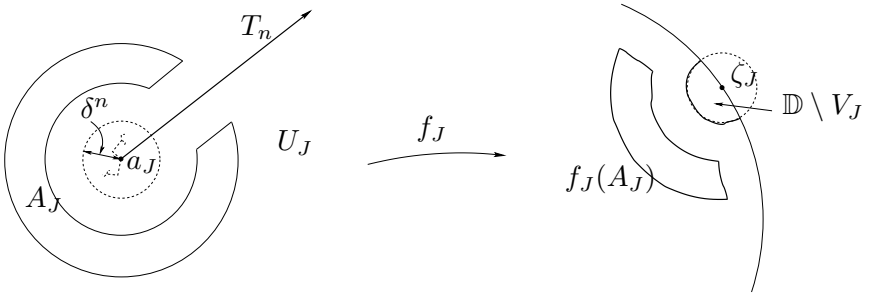


Figure VIII.9 The map f_J near a_J.

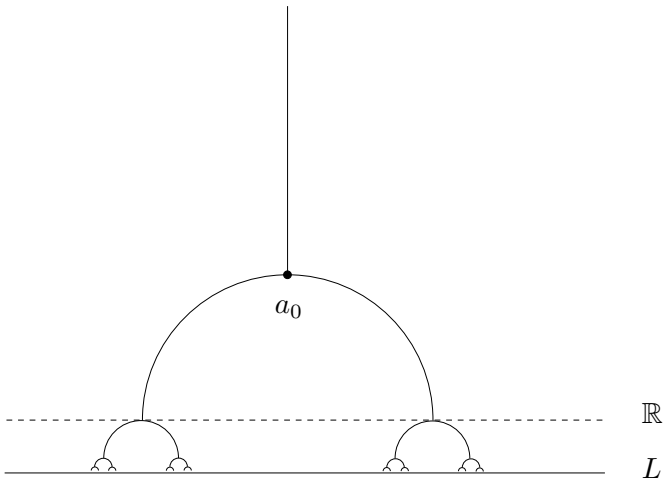


Figure VIII.10

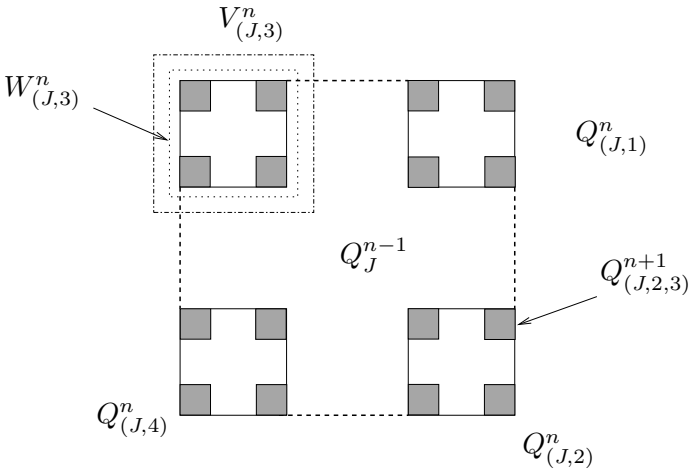


Figure IX.1

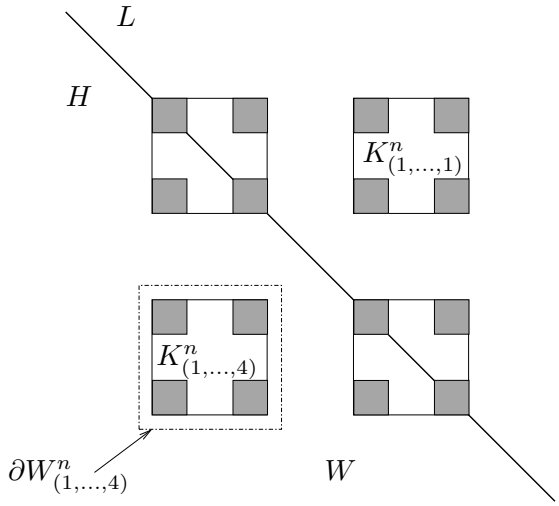
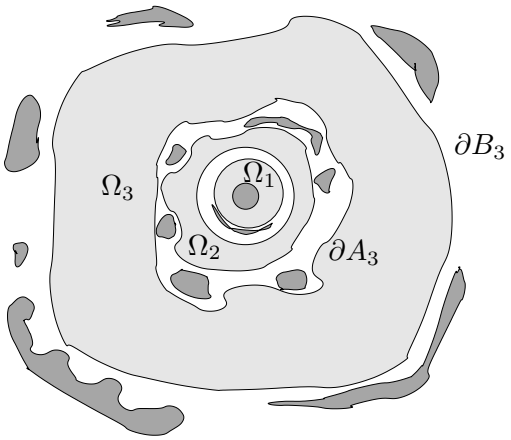


Figure IX.2 The proof of Lemma 1.3.



∞

Figure IX.3

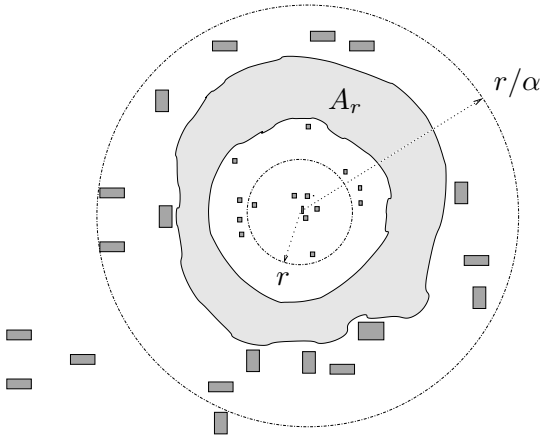


Figure IX.4

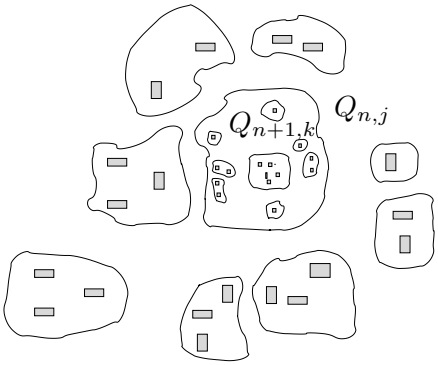


Figure IX.5

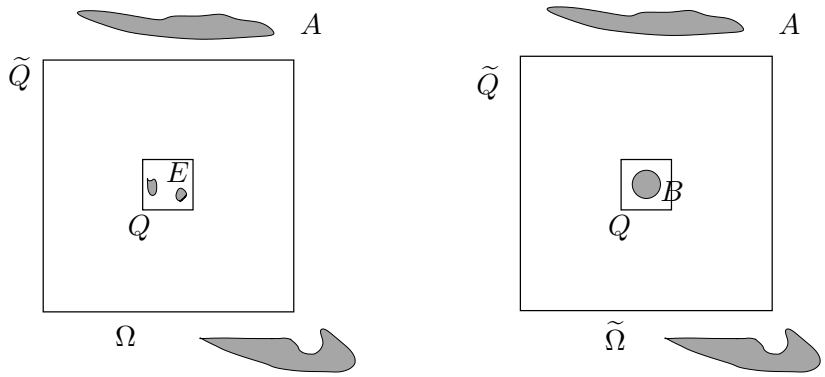


Figure IX.6

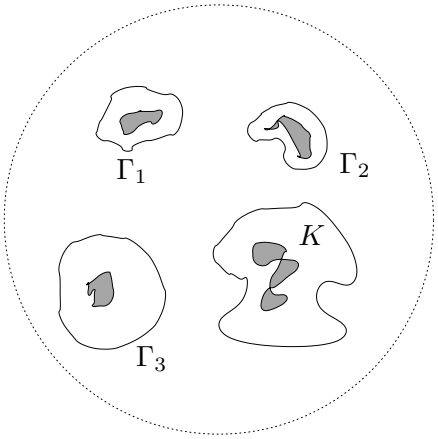


Figure IX.7

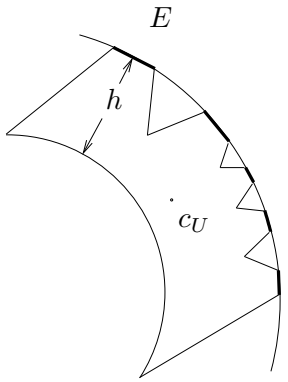


Figure X.1 The special cone domain $U = \bigcup_E \Gamma^h_\beta(\zeta)$.

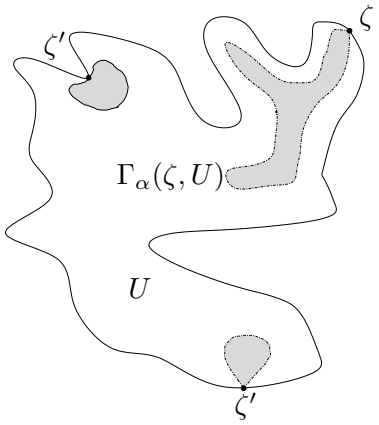


Figure X.2 $\Gamma_\alpha(\zeta, U)$ and $\Gamma\alpha(\zeta', U)$.

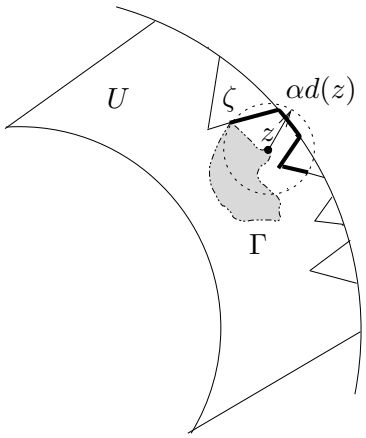


Figure X.3 $\Gamma = \Gamma_\alpha(\zeta, U)$ is shaded.

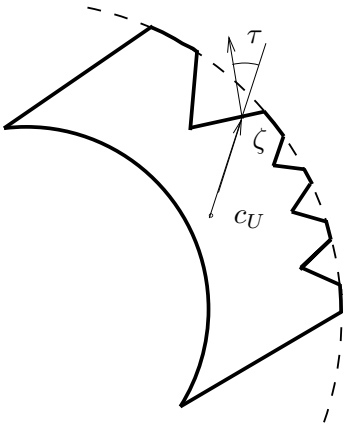


Figure X.4 The angle τ in (1.11).

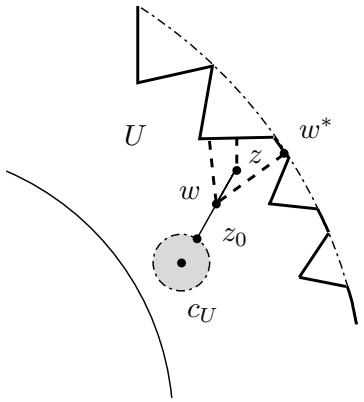


Figure X.5

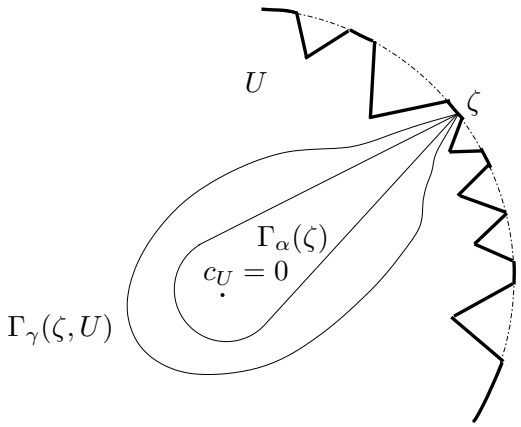


Figure X.6 Cones satisfying (1.13).

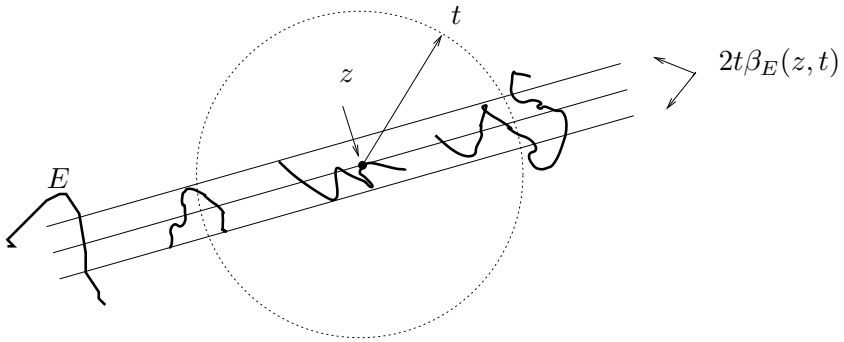


Figure X.7

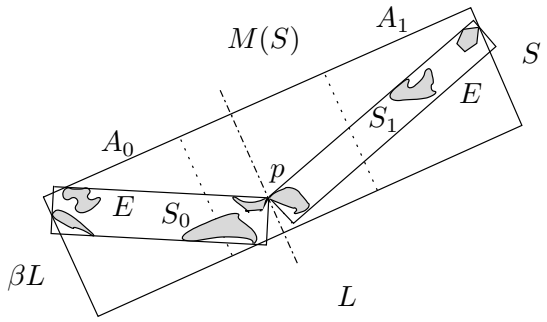


Figure X.8 Case 1.

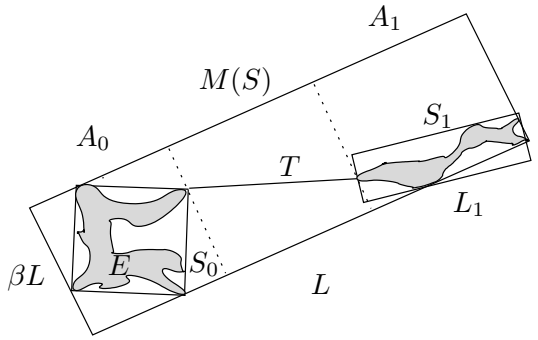


Figure X.9 Case 2.

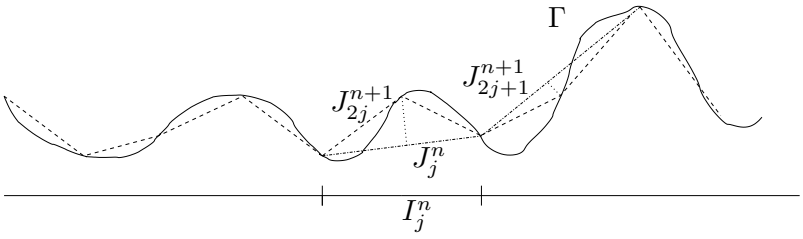


Figure X.10

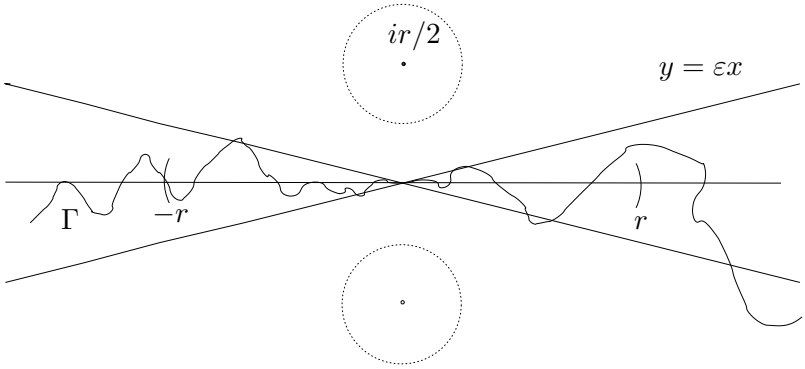


Figure X.11

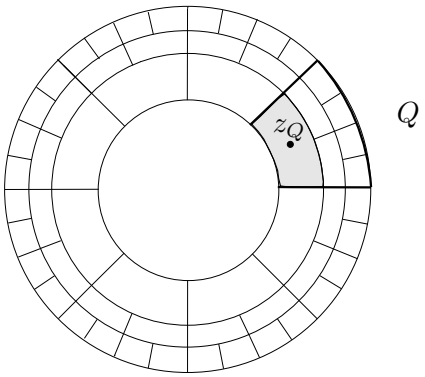


Figure X.12

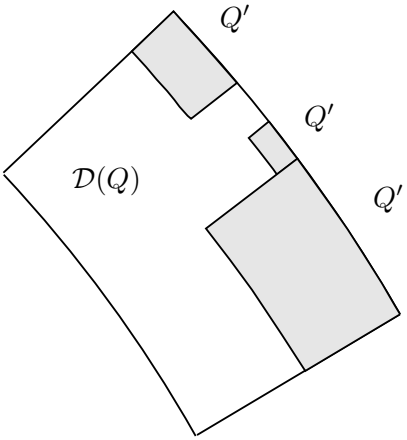


Figure X.13

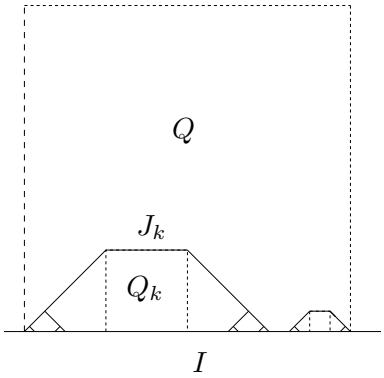


Figure X.14

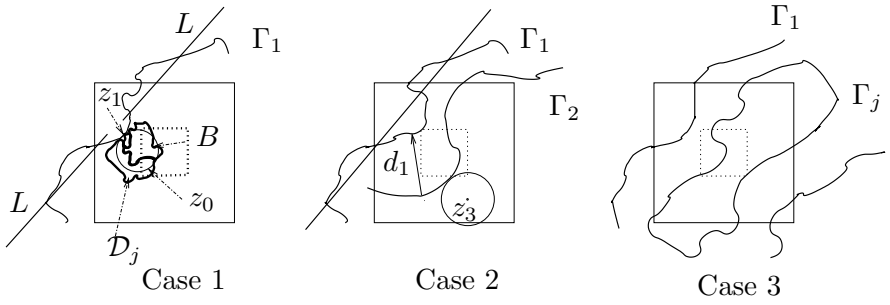


Figure X.15

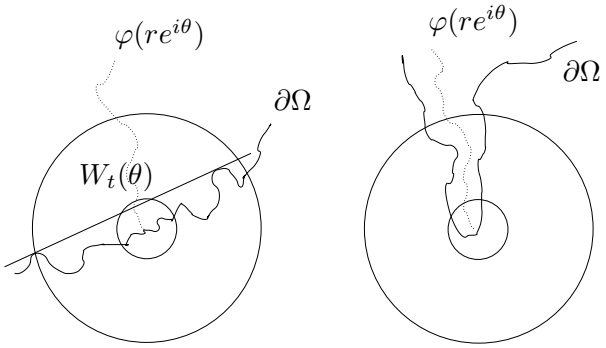


Figure X.16 On the left $\eta \sim \beta$; on the right $\eta = 1$ while β is small.

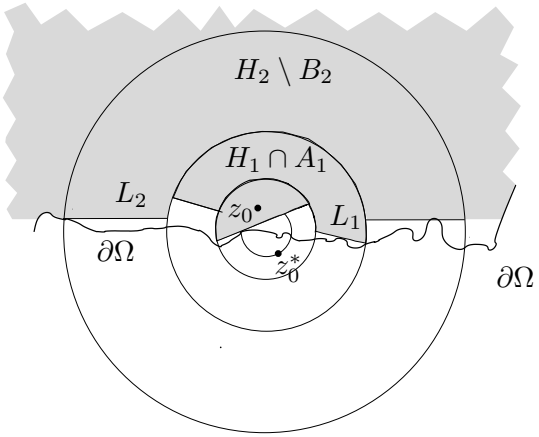


Figure X.17 The region V_2.

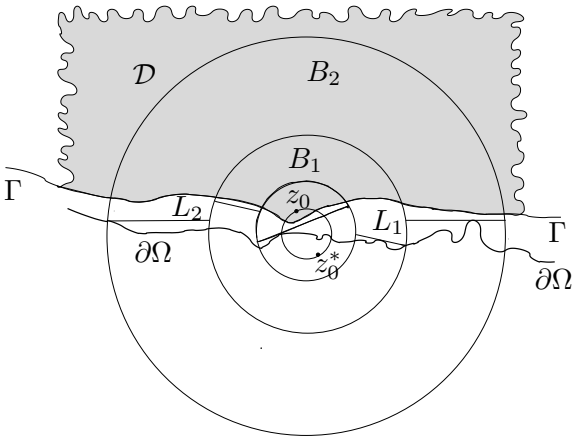


Figure X.18

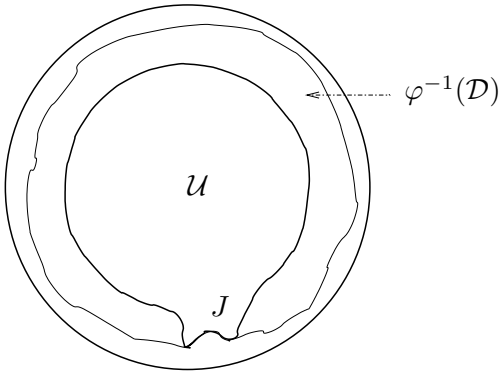


Figure X.19

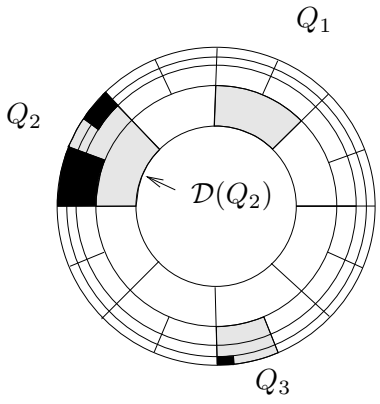


Figure X.20 $Q_1 \in \mathcal{L};\ Q_2, Q_3, \in \mathcal{M}$.

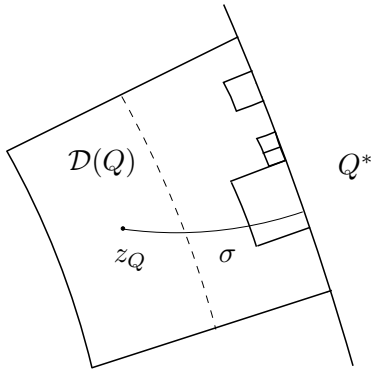


Figure X.21

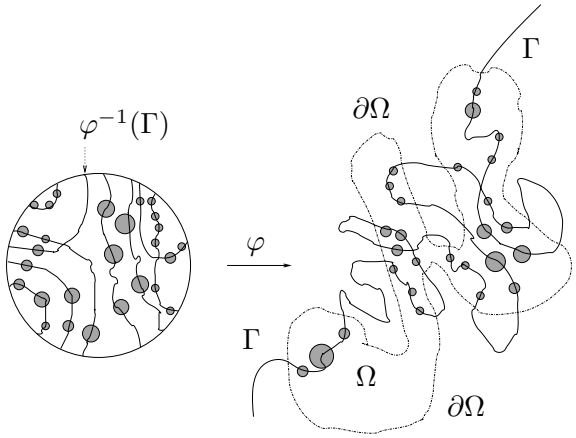


Figure X.22

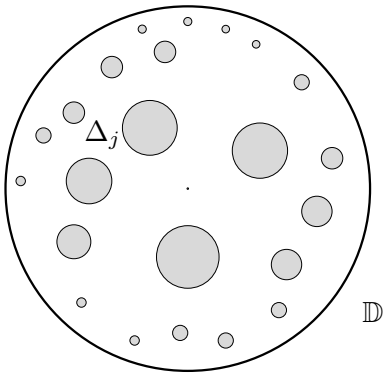


Figure X.23 The proof of (11.6).

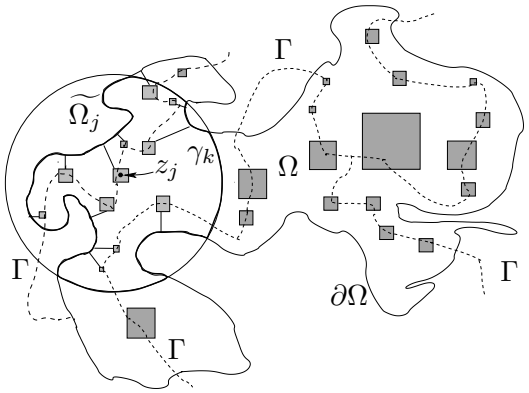


Figure X.24 The proof of Theorem 11.1.

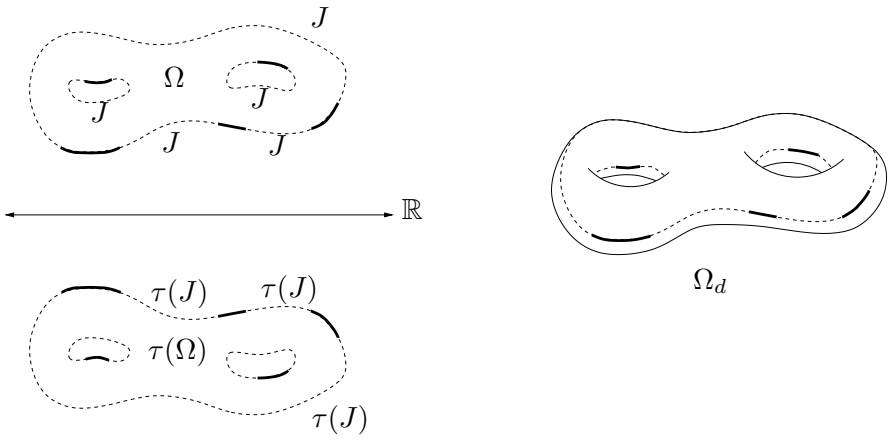


Figure B.1. The doubled Riemann surface Ω_d.

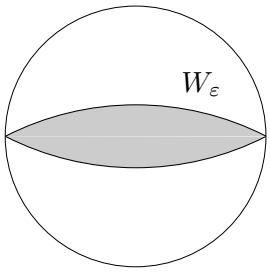


Figure C.1

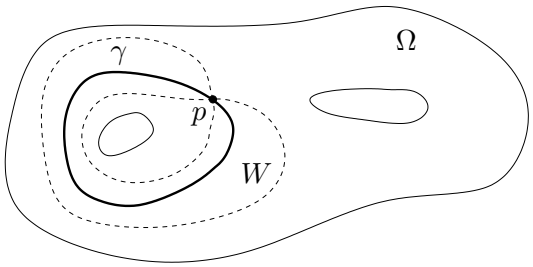


Figure C.2

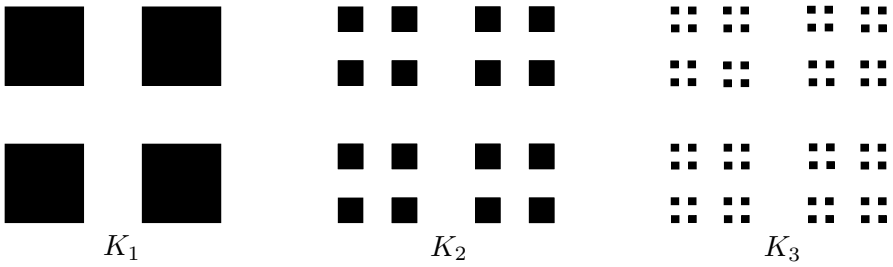


Figure D.1

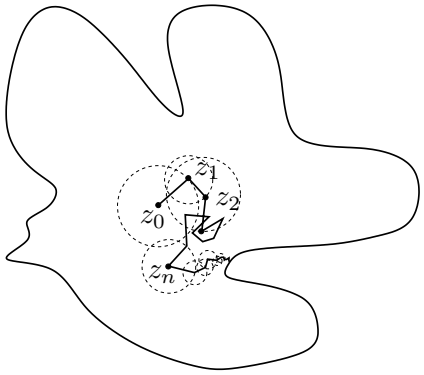


Figure F.1

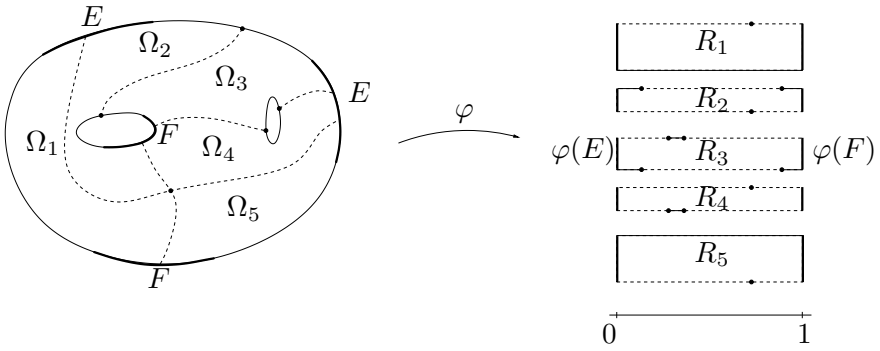


Figure H.1 $\varphi(\Omega_j) = R_j$.

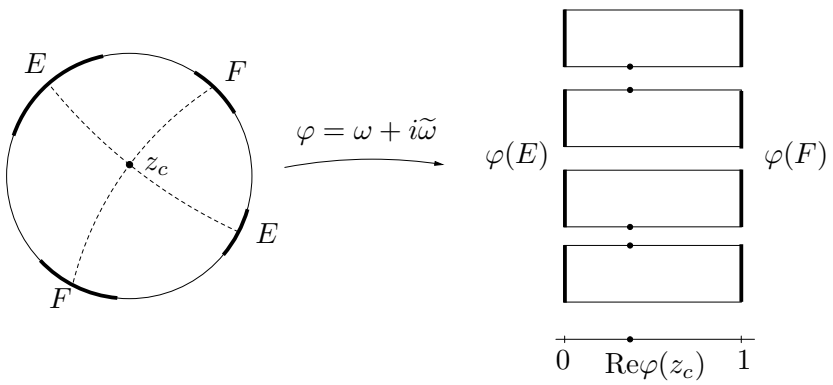


Figure H.2

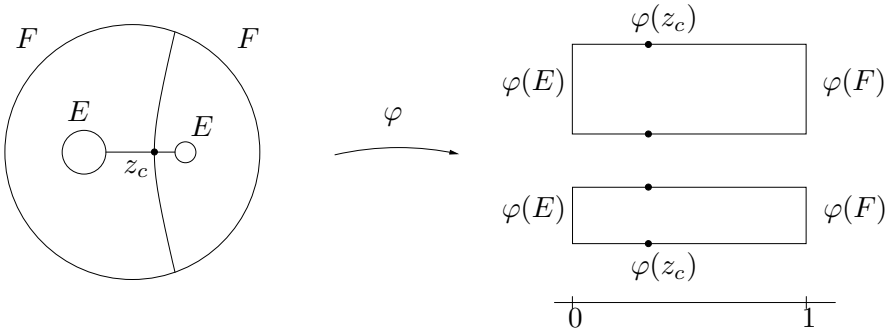


Figure H.3

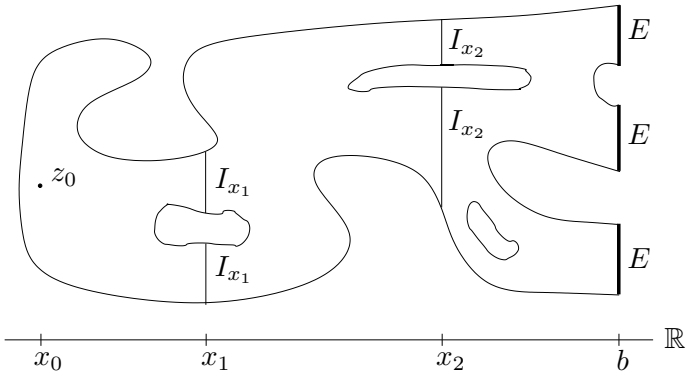


Figure H.4

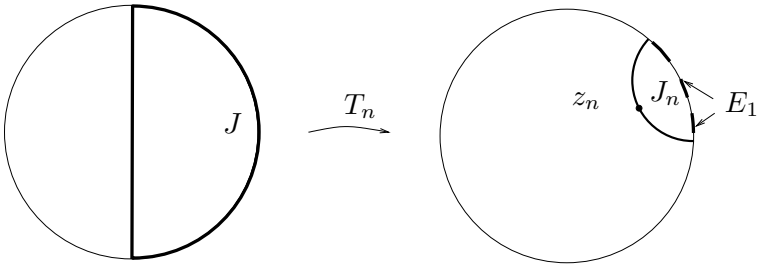


Figure I.1

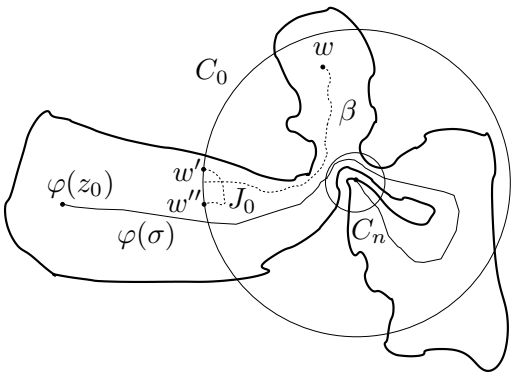


Figure I.2

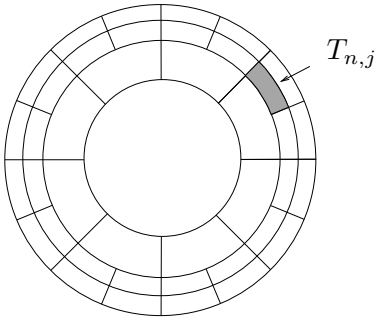


Figure J.1

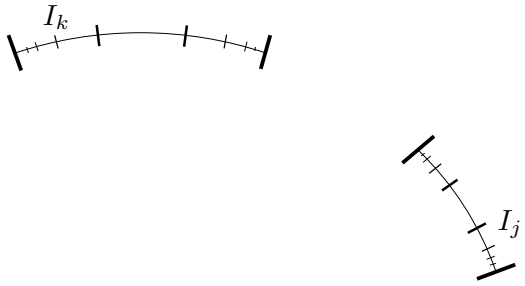


Figure M.1

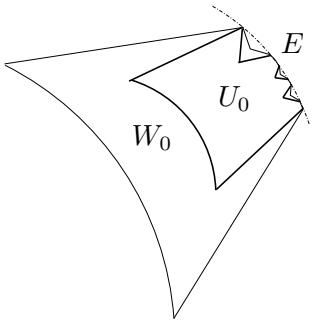


Figure M.2