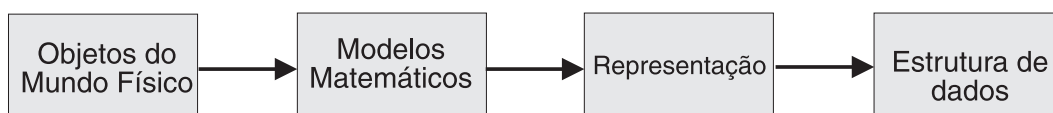
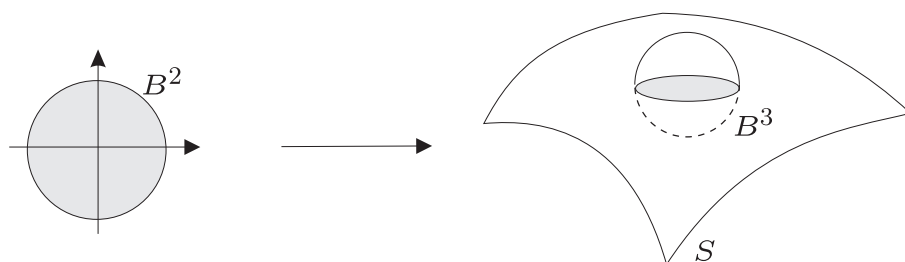


## Capítulo 8

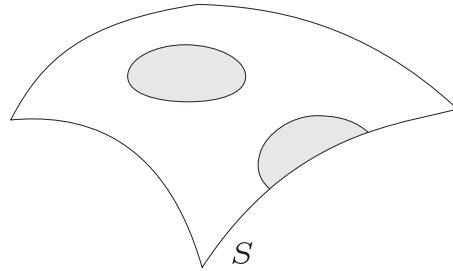
# Objetos Gráficos Espaciais



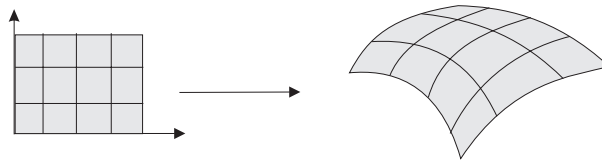
**Figura 8.1** Níveis de abstração em Modelagem Geométrica.



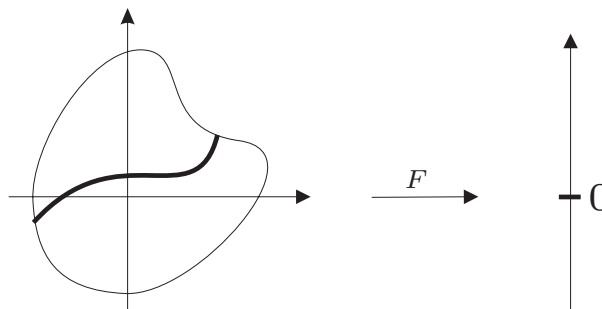
**Figura 8.2** Definição de uma superfície.



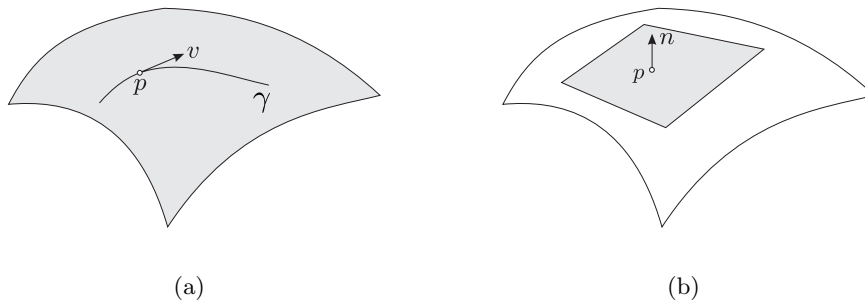
**Figura 8.3** Vizinhanças de uma superfície.



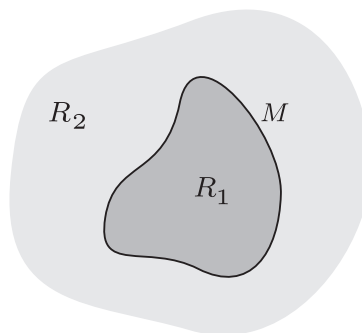
**Figura 8.4** Superfície paramétrica.



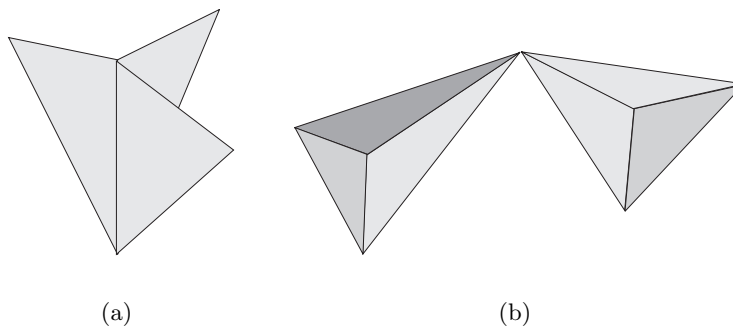
**Figura 8.5** Superfície implícita.



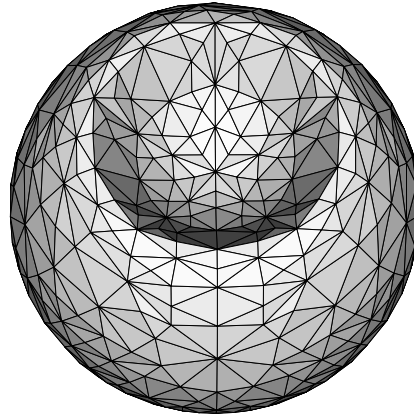
**Figura 8.6** (a) vetor tangente; (b) plano tangente.



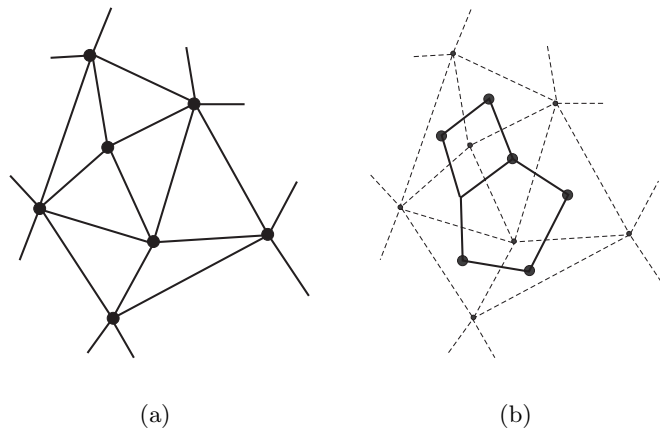
**Figura 8.7** Sólido limitado por uma superfície.



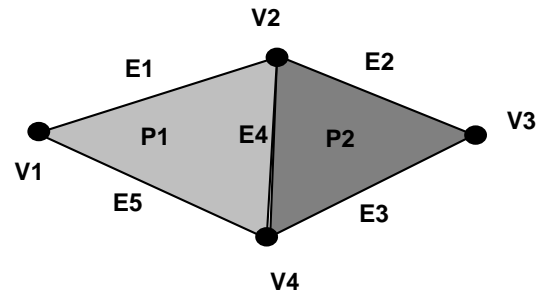
**Figura 8.8** Triangulações que não são superfícies.



**Figura 8.9** Superfície poliédrica.



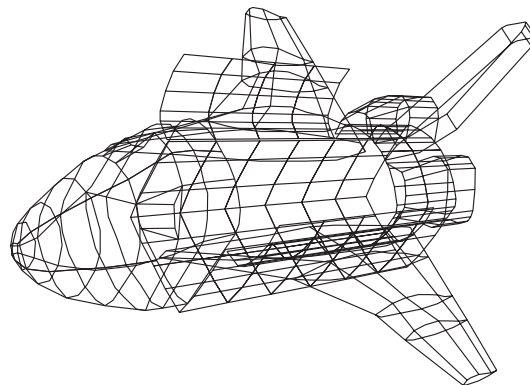
**Figura 8.10** (a) Grafo dos vértices; (b) Grafo dual



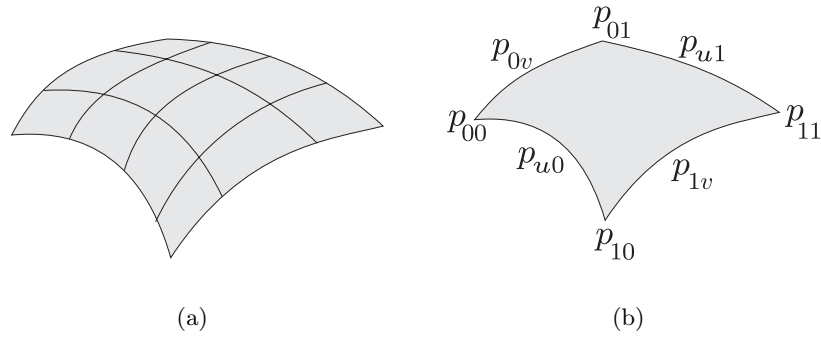
**Figura 8.11** Codificação com ponteiros para lista de vértices.



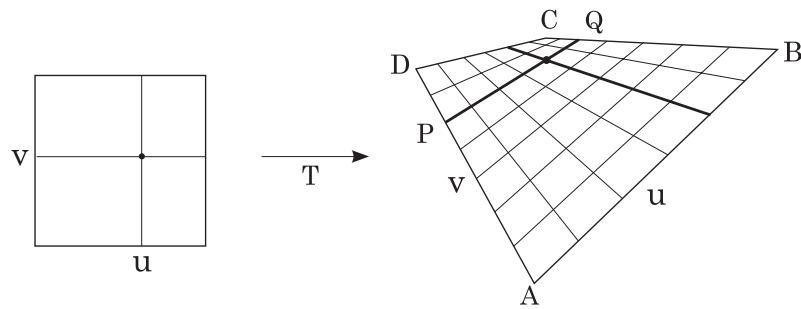
**Figura 8.12** Representação poliédrica de uma face.



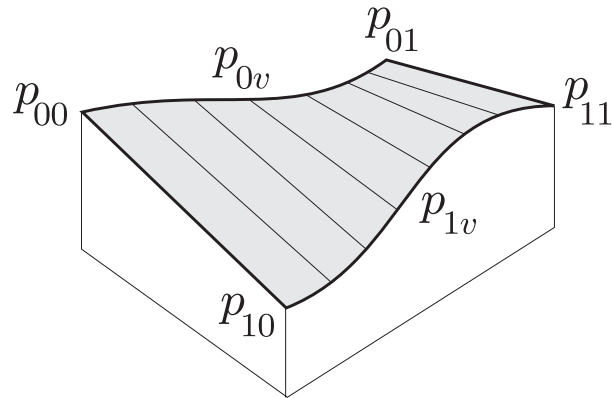
**Figura 8.13** Representação por subdivisão paramétrica.



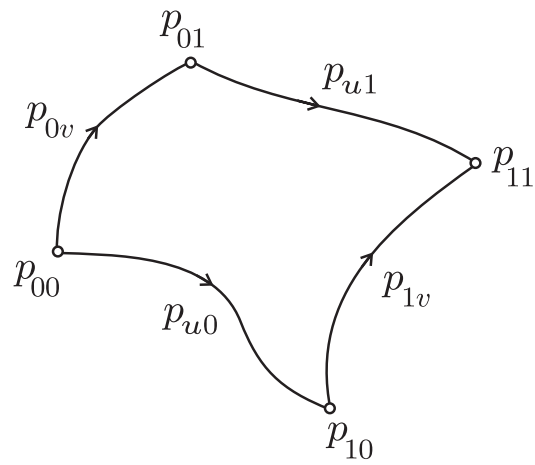
**Figura 8.14** Malha quadrangular (a); retalho da malha (b).



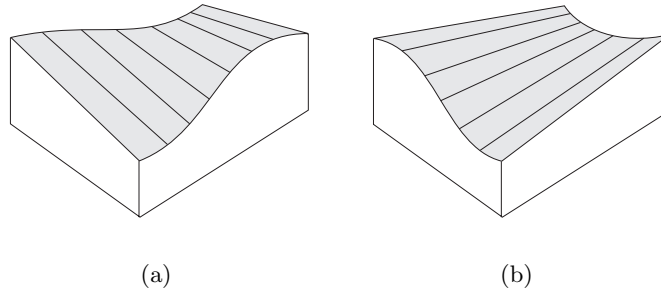
**Figura 8.15** Interpolação bilinear.



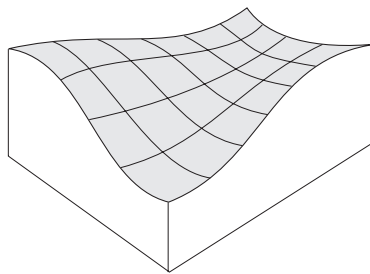
**Figura 8.16** Reconstrução com lofting.



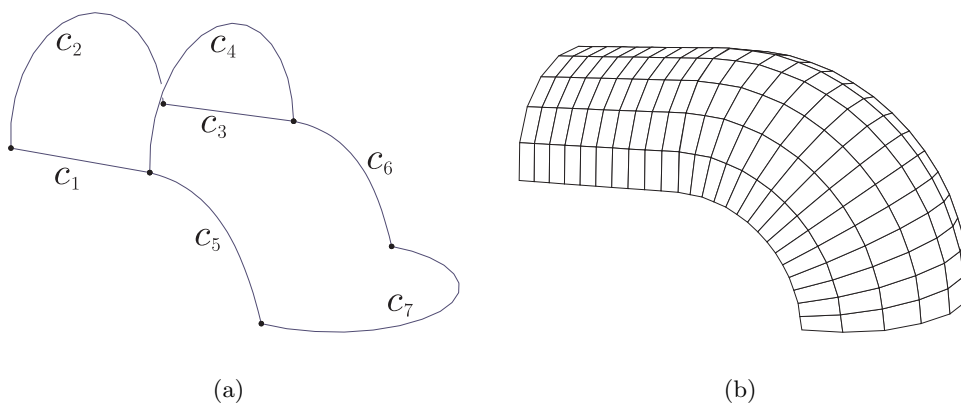
**Figura 8.17** Space curves.



**Figura 8.18** Lofting: (a) vertical; (b) horizontal.

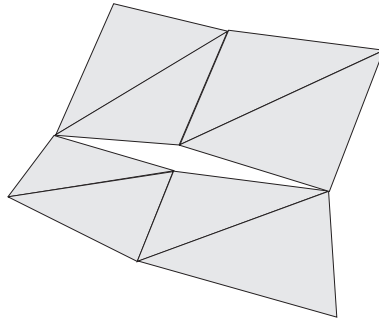


**Figura 8.19** Retalho de Coons.

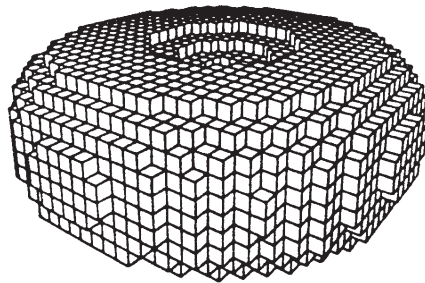


**Figura 8.20** Superfície definida por retalhos de Coons.





**Figura 8.21** Colagem com descontinuidade.



**Figura 8.22** Representação matricial de um todo sólido.

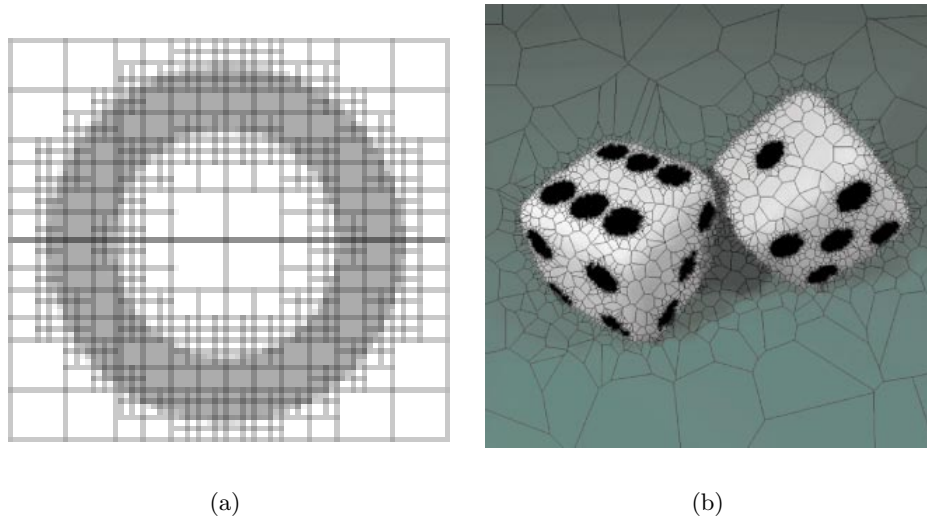


Figura 8.23: (a) Representação por quadtree. (b) Representação com células de Voronoi.

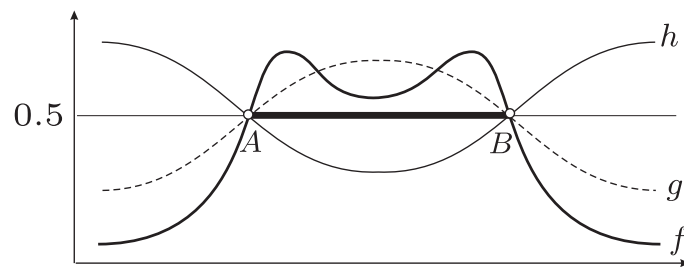
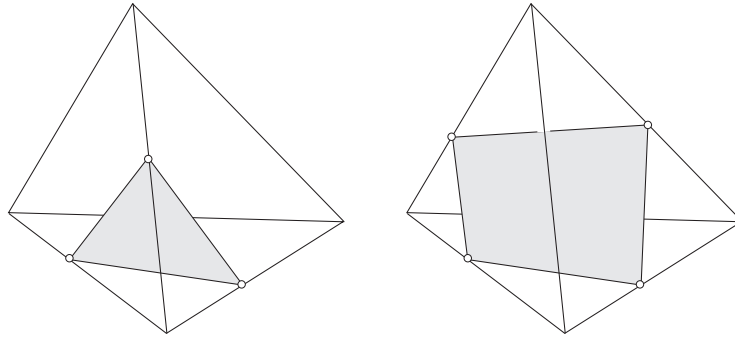
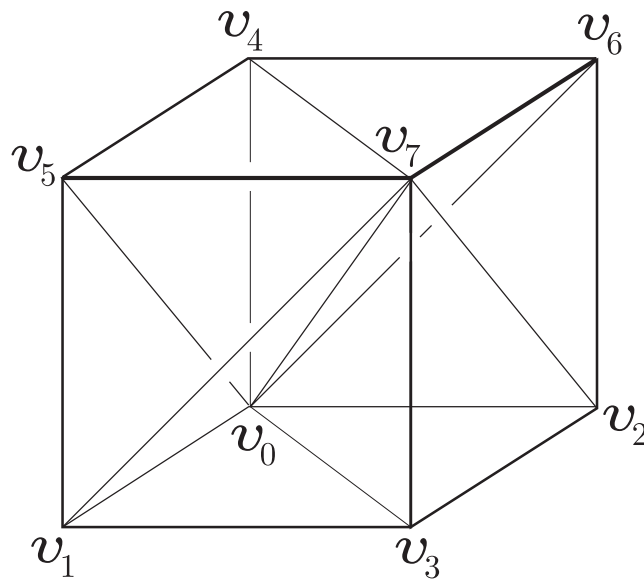


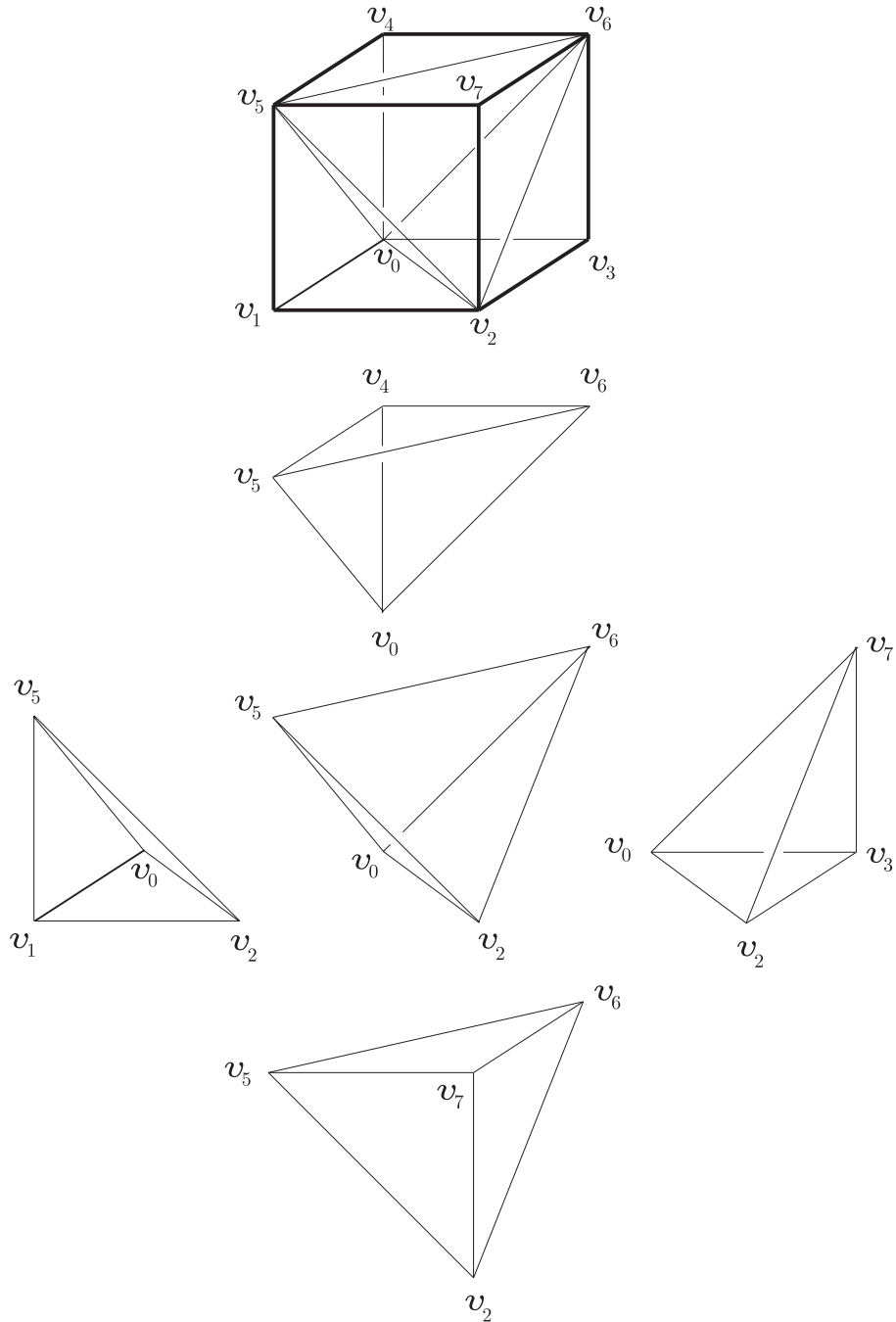
Figura 8.24 Descrições implícitas distintas do “sólido unidimensional”  $AB$ .



**Figura 8.25** Imagem inversa de  $\tilde{F}$  em cada tetraedro.



**Figura 8.26** Triangulação CFK do cubo.



**Figura 8.27** Triangulação do cubo com cinco tetraedros.