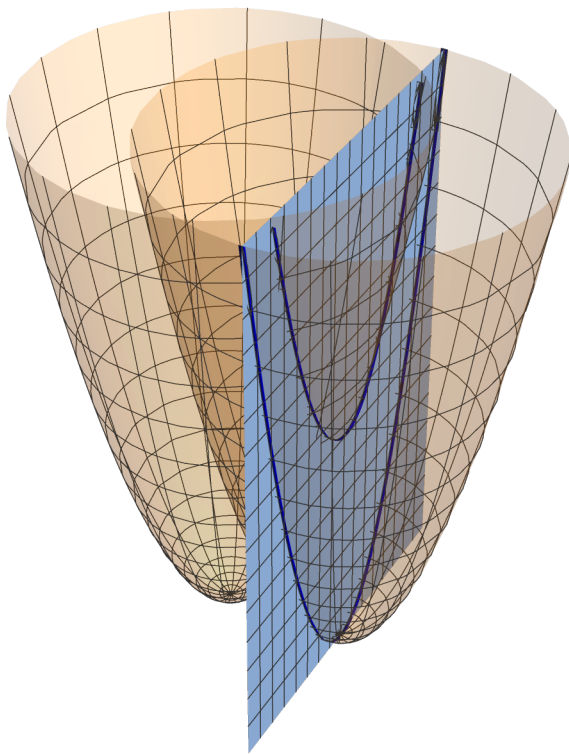


```

In[ ]:= Show[
  ParametricPlot3D[{r Cos[θ], r Sin[θ], r^2},
    {r, 0, 3}, {θ, 0, 2 π}, PlotStyle → Opacity[0.2]],
  ParametricPlot3D[{r Cos[θ] - 2, r Sin[θ], r^2}, {r, 0, 3},
    {θ, 0, 2 π}, PlotStyle → Opacity[0.2]],
  ParametricPlot3D[{0, y, z}, {y, -3, 3}, {z, 0, 9}, PlotStyle → White],
  ParametricPlot3D[{0, y, y^2}, {y, -3, 3},
    {z, 0, 9}, PlotStyle → {Blue, Thickness[0.1]}],
  ParametricPlot3D[{0, y, y^2 + 4}, {y, -2.2, 2.2}, {z, 0, 9},
    PlotStyle → {Blue, Thickness[0.1]}],
  Axes → False,
  PlotRange → All,
  Boxed → False
]

```

Out[ ]:=



```

In[ ]:= Export["C:\\Users\\willo\\Documents\\Uni\\Year 4\\Introduction to Condensed
  Matter\\Notes\\images\\parabolas-from-parabaloids.pdf", %66, "PDF"]

```

```

Out[ ]:= C:\\Users\\willo\\Documents\\Uni\\Year 4\\Introduction
  to Condensed Matter\\Notes\\images\\parabolas-from-parabaloids.pdf

```