It is often important to estimate the number and size distribution of objects dispersed in a matrix from their images obtained by slices made through the matrix.

This book proposes new methods for objects which are approximately or perfectly spherical or with surfaces or sections which are approximately or perfectly circular and which are perpendicular to the slices.

The case of slices of thickness less than the smallest diameter is firstly considered. A new approach is proposed in the first chapter for the case of perfectly circular or spherical objects whose diameter distribution is symmetrical and normal. It is valid for both opaque objects in a transparent matrix and transparent objects in an opaque matrix and even with a detection limit of images. This new approach is then used for dealing with any distributions (second chapter) or only approximately circular shapes (third chapter). Then, it is involved for the case of slices thicker than the largest diameter (fourth chapter). Finally, it is indicated also when only section planes are observed (fifth chapter).

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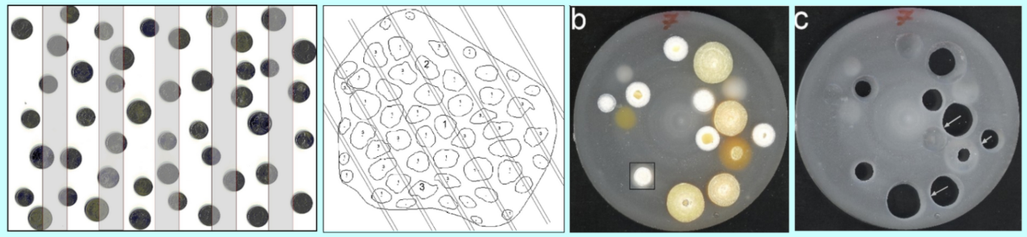
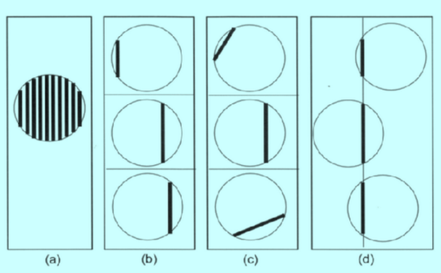
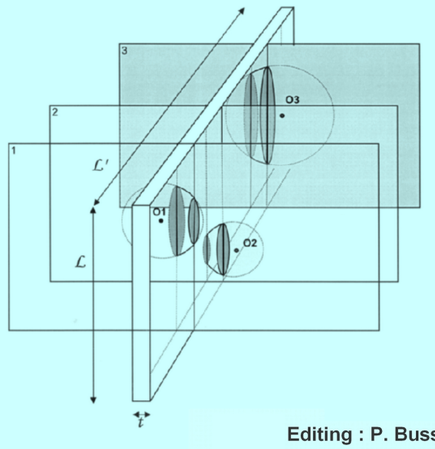
Estimating the numbers and sizes of perfectly or approximately circular or spherical objects from slices — P. Bussières

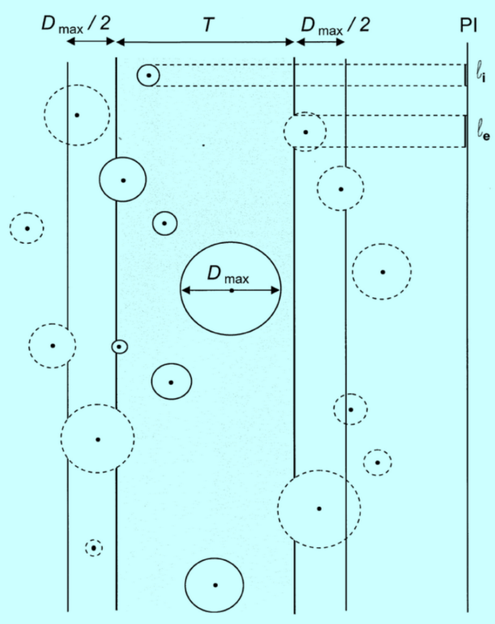


Estimating the Numbers and Sizes of Perfectly or Approximately Circular or Spherical Objects from Slices

P. Bussières







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