

Design Course

## Visual Symmetry

Visual relationships based on symmetry of visual elements

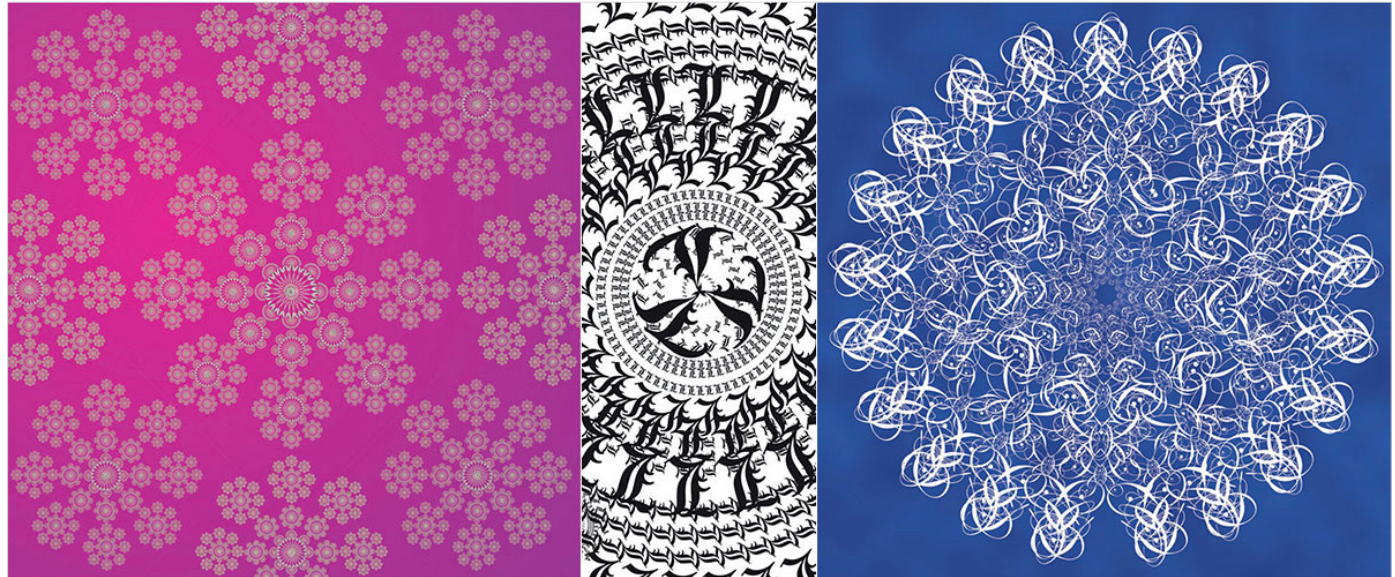
by

Prof. Ravi Poovaiah

IDC, IIT Bombay

Source:

<https://www.dsource.in/course/visual-symmetry>



1. Symmetry as Text
2. Notes - Annotation
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<https://www.dsource.in/course/visual-symmetry/symmetry-text>

## Symmetry as Text



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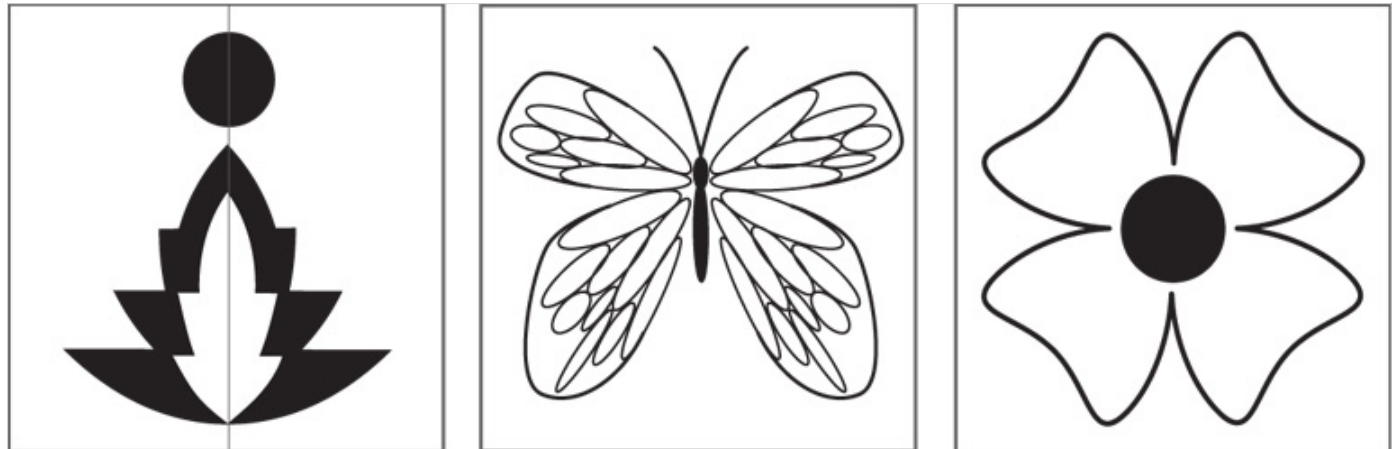
<https://www.dsource.in/course/visual-symmetry/notes-annotation>

## Notes - Annotation

### Formal Aspects



Symmetry is when visual elements/objects or their representations have the exact shape or form when they are on the opposite sides of a dividing line or plane or about a center or an axis.



A visual element/object or its representation can be symmetrical within itself.

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And it can also be symmetrical when visual elements/objects or their representations are repeated around the asymmetrical axis.



Using principles of symmetry, elements can be repeated to create interesting patterns.

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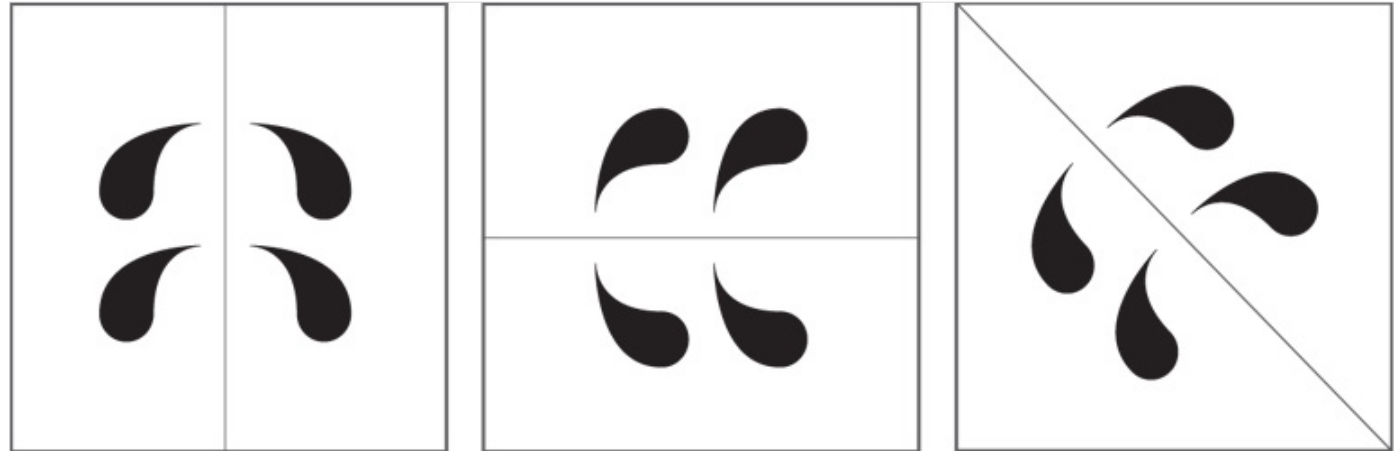
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Types of Symmetry - Reflection:

Reflection symmetry is when visual elements/objects or their representations are reflected across an axis. Reflection symmetry can occur in vertical, horizontal, diagonal or in any other direction.



Types of Symmetry - Rotational:

Rotational symmetry is when visual elements/objects or their representations are rotated around a point. Rotational symmetry can occur as revolving, radial and spiral.

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Types of Symmetry - Translational:

Translational symmetry is when visual elements/objects or their representations are repeated by shifting or sliding its position. The shifting or sliding can occur in vertical, horizontal, diagonal or in any other direction. Shown above are examples of translational symmetry along with reflection.

Semantic Aspects



Symmetry creates visual balance - by the division of the visual element into equal halves around an axis. An element/object or its representation that is visually balanced in turn denotes harmony and unity.

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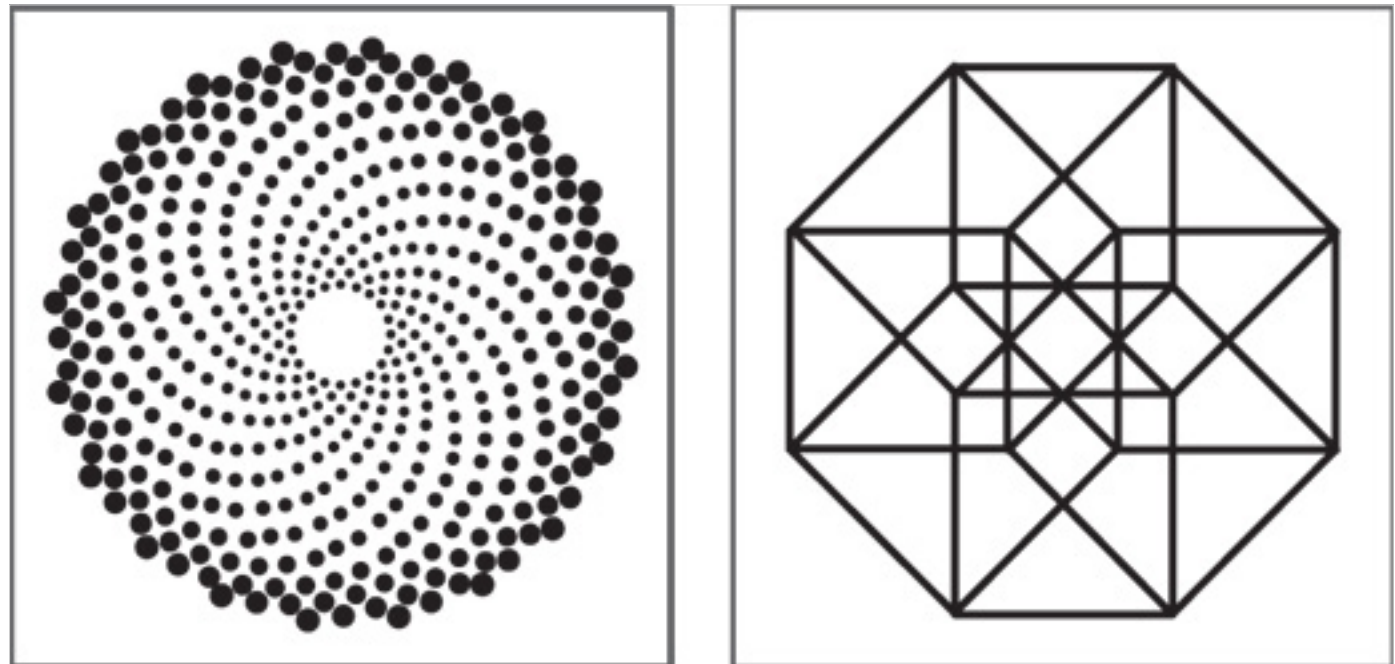
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Many objects in nature display symmetry - you can find this in humans, animals, leaves, and flowers.



There seems to be a unifying connection between the idea of symmetry and the workings of nature, the structure of living beings, mathematics, pattern making, music and poetry. We find instances of recurrence, recycling, rhythms and balance.

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### Practical Aspects



Many human created objects are made symmetrical. Examples of these are patterns, pottery, symbols, vehicles, buildings, and gardens.

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## Relationship

	Points	Lines	Planes	Volumes
Vertical (reflection)				
Horizontal (reflection)				
Vertical+Horizontal (reflection)				
Diagonal (reflection)				
Radial (rotational)				
Revolving (rotational)				
Spiral (rotational)				



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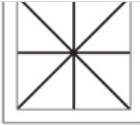
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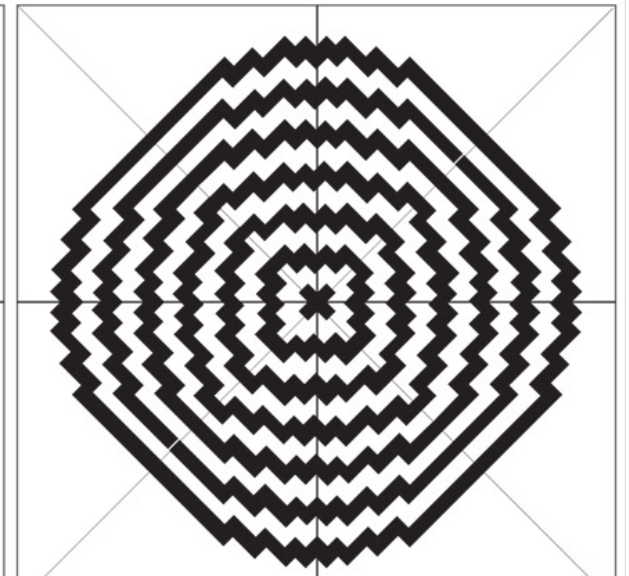
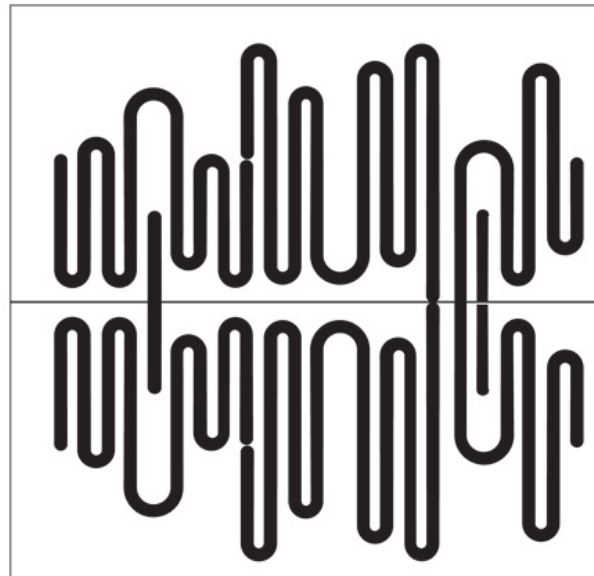
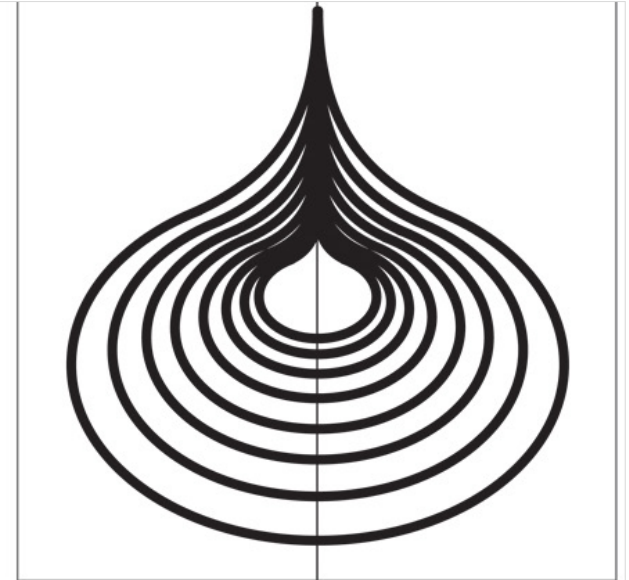
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## Reflection Symmetry



Vertical, Horizontal  
and diagonal  
Symmetry  
(reflection)



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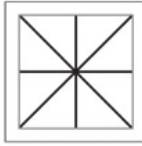
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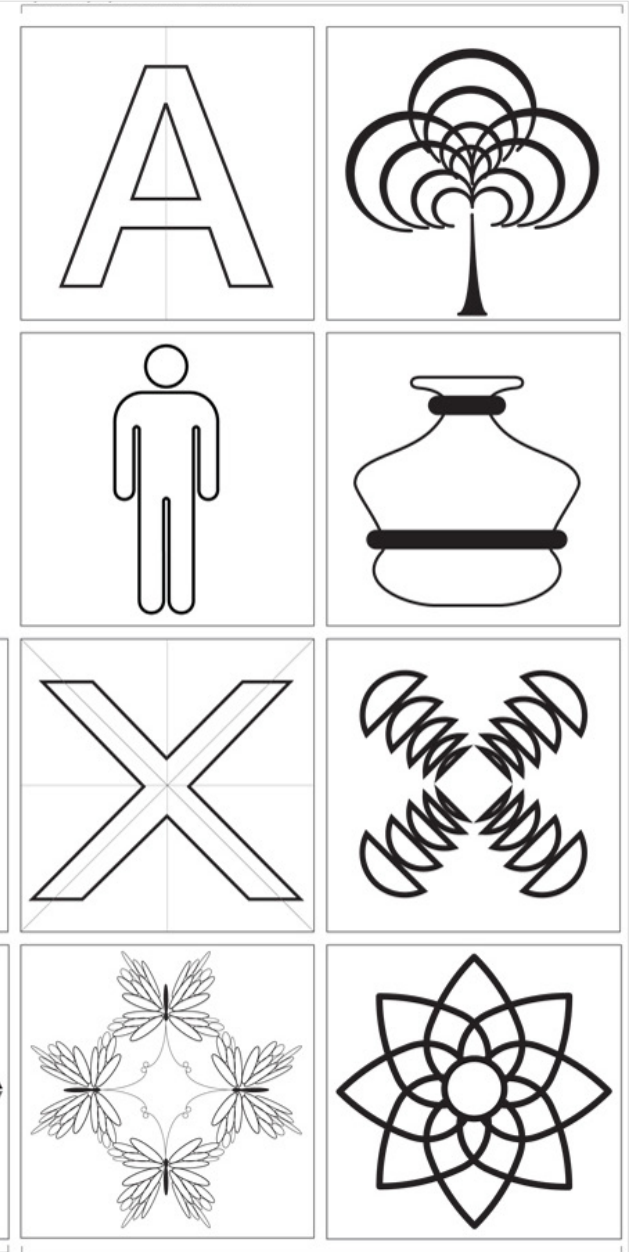
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Vertical, Horizontal and diagonal Symmetry (reflection)



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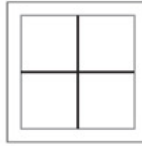
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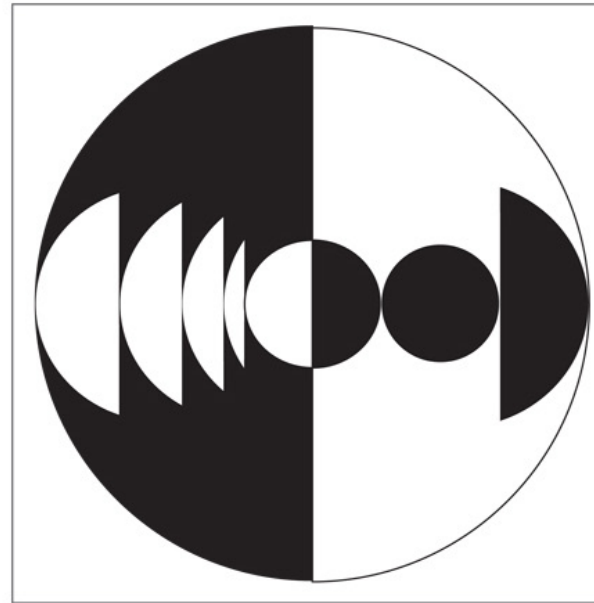
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Vertical and Horizontal Symmetry (reflection)



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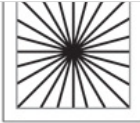
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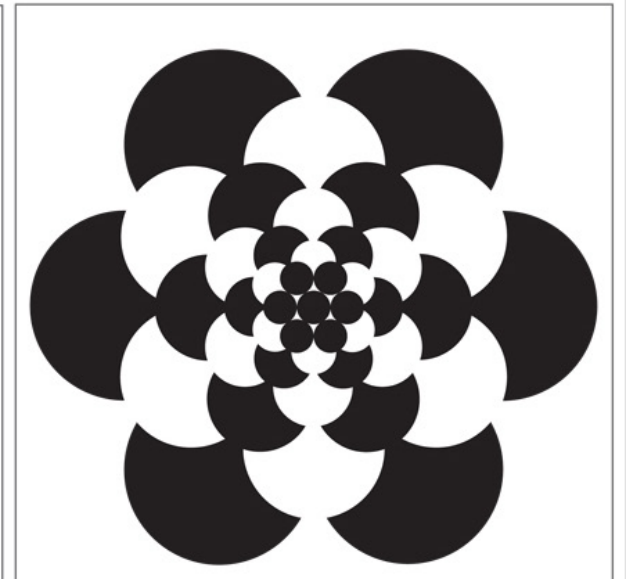
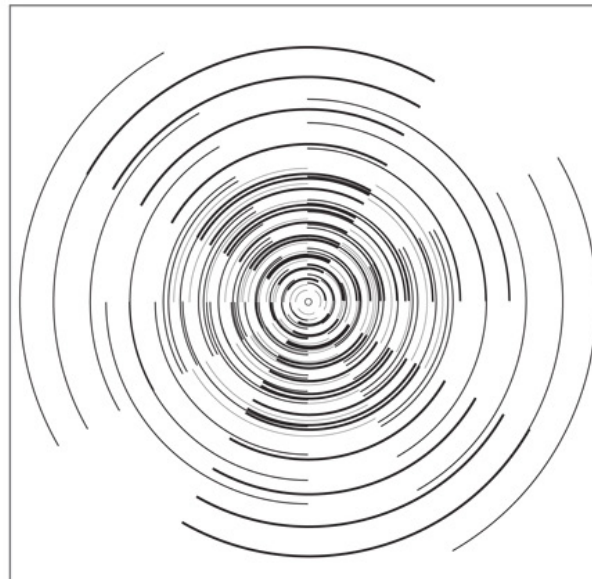
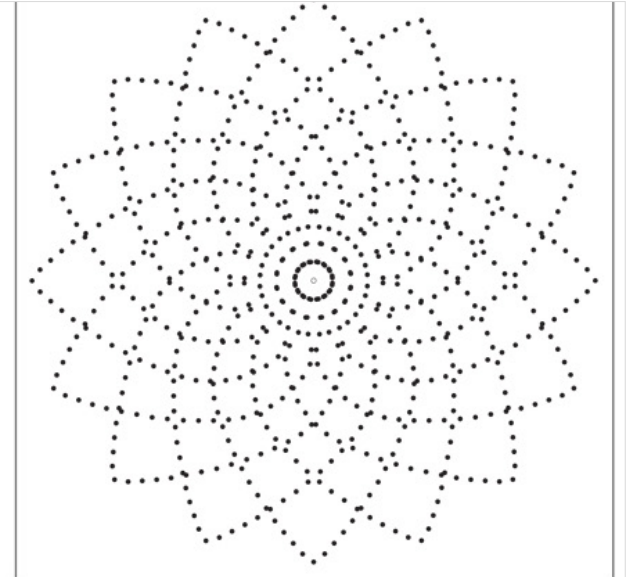
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## Radial Rotational Symmetry



Radial  
Symmetry  
(rotational)



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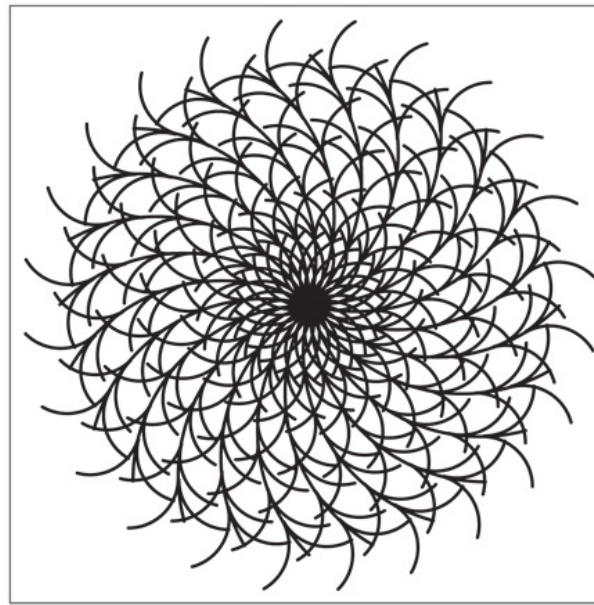
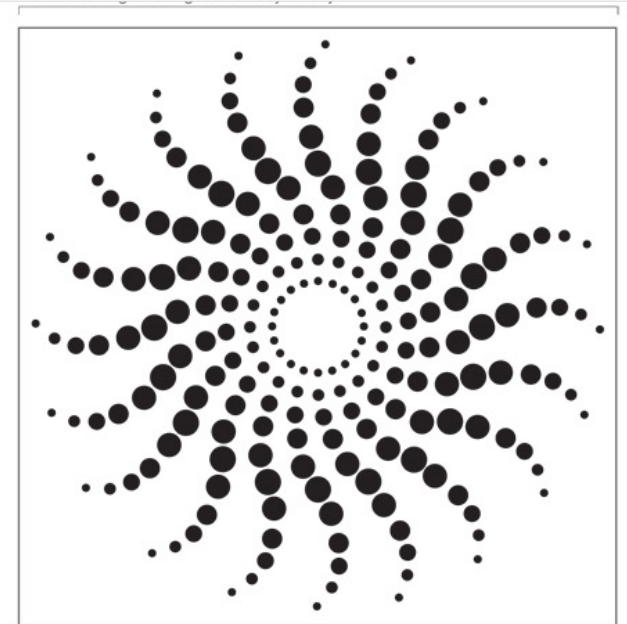
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Revolving  
Symmetry  
(rotational)



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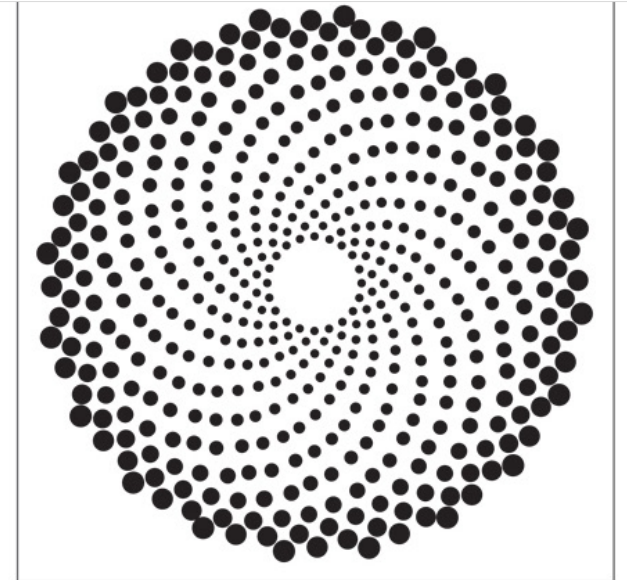
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## Spiral Rotational Symmetry



Spiral Symmetry (rotational)



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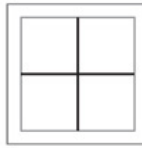
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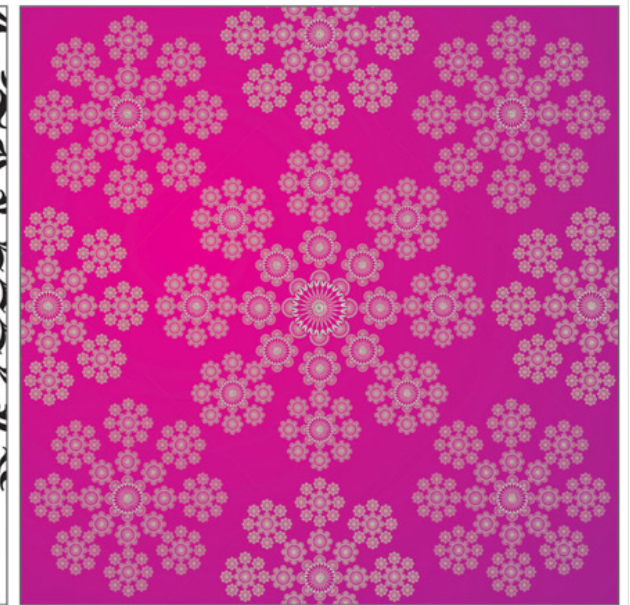
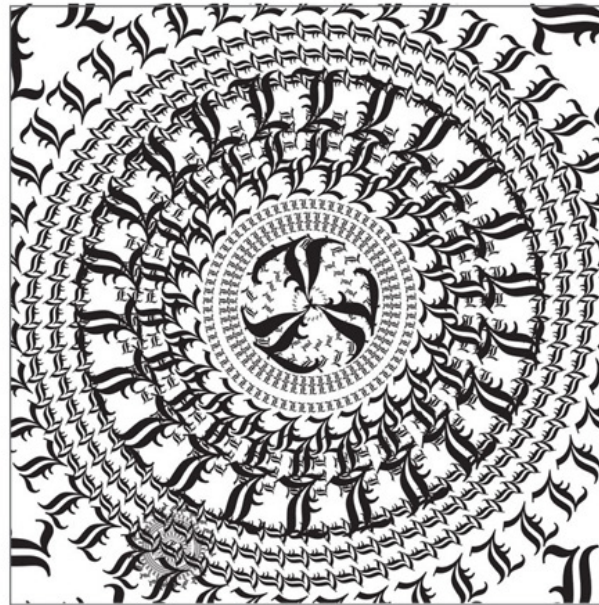
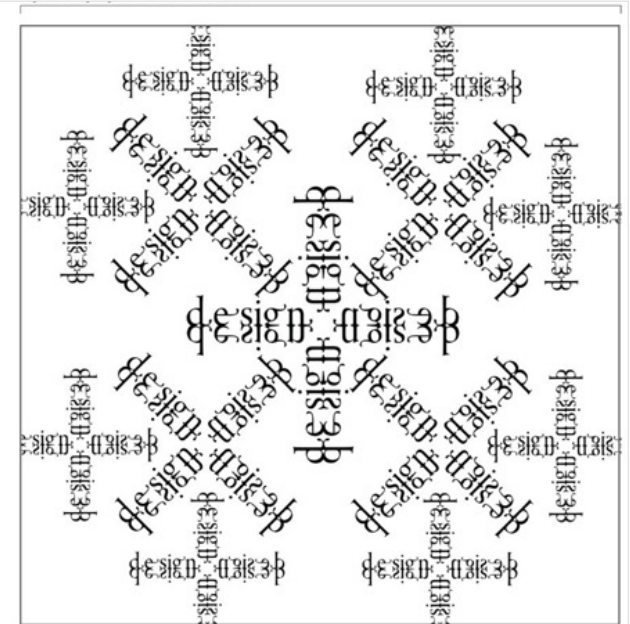
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Vertical and Horizontal Symmetry (reflection)





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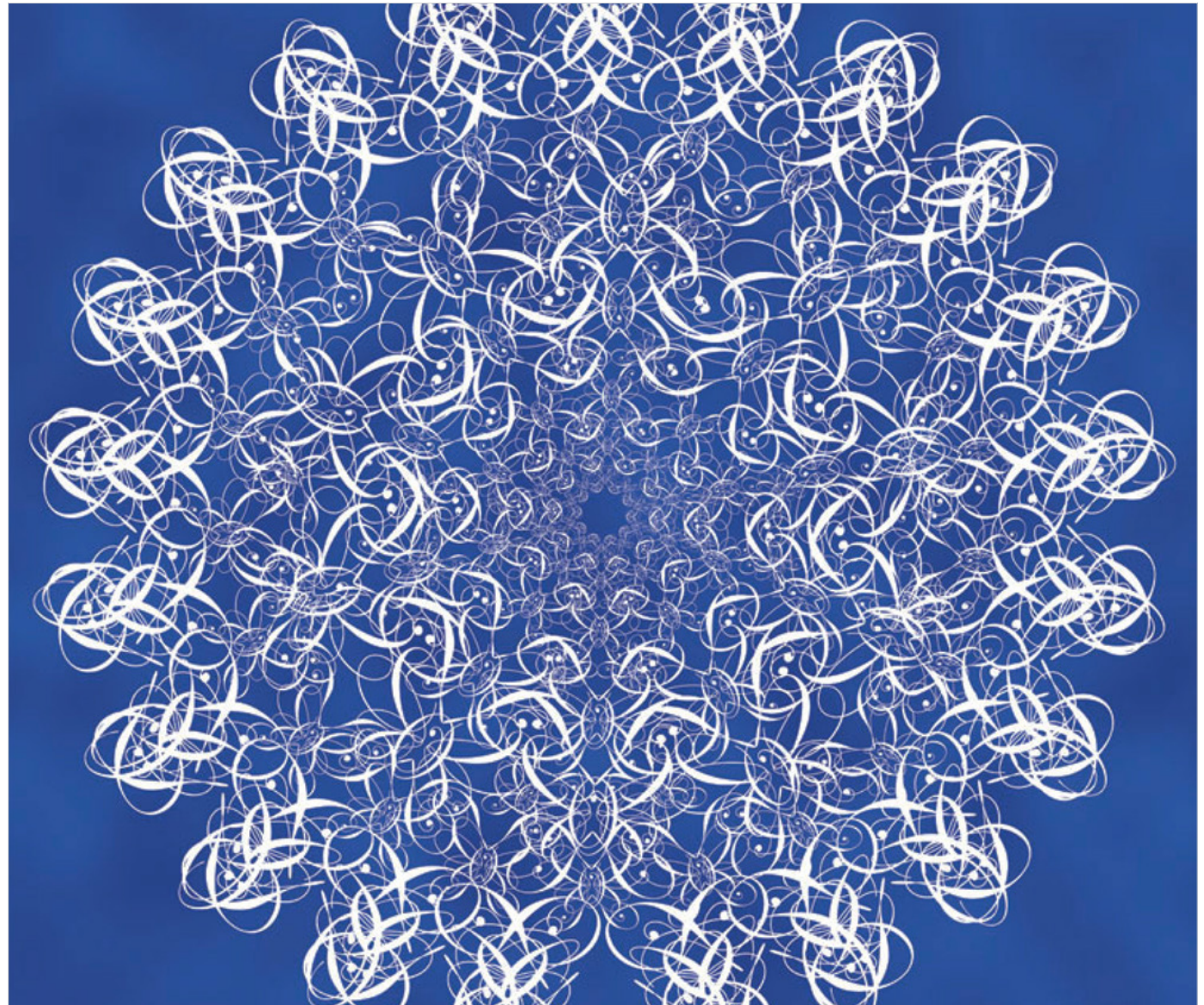
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## Examples



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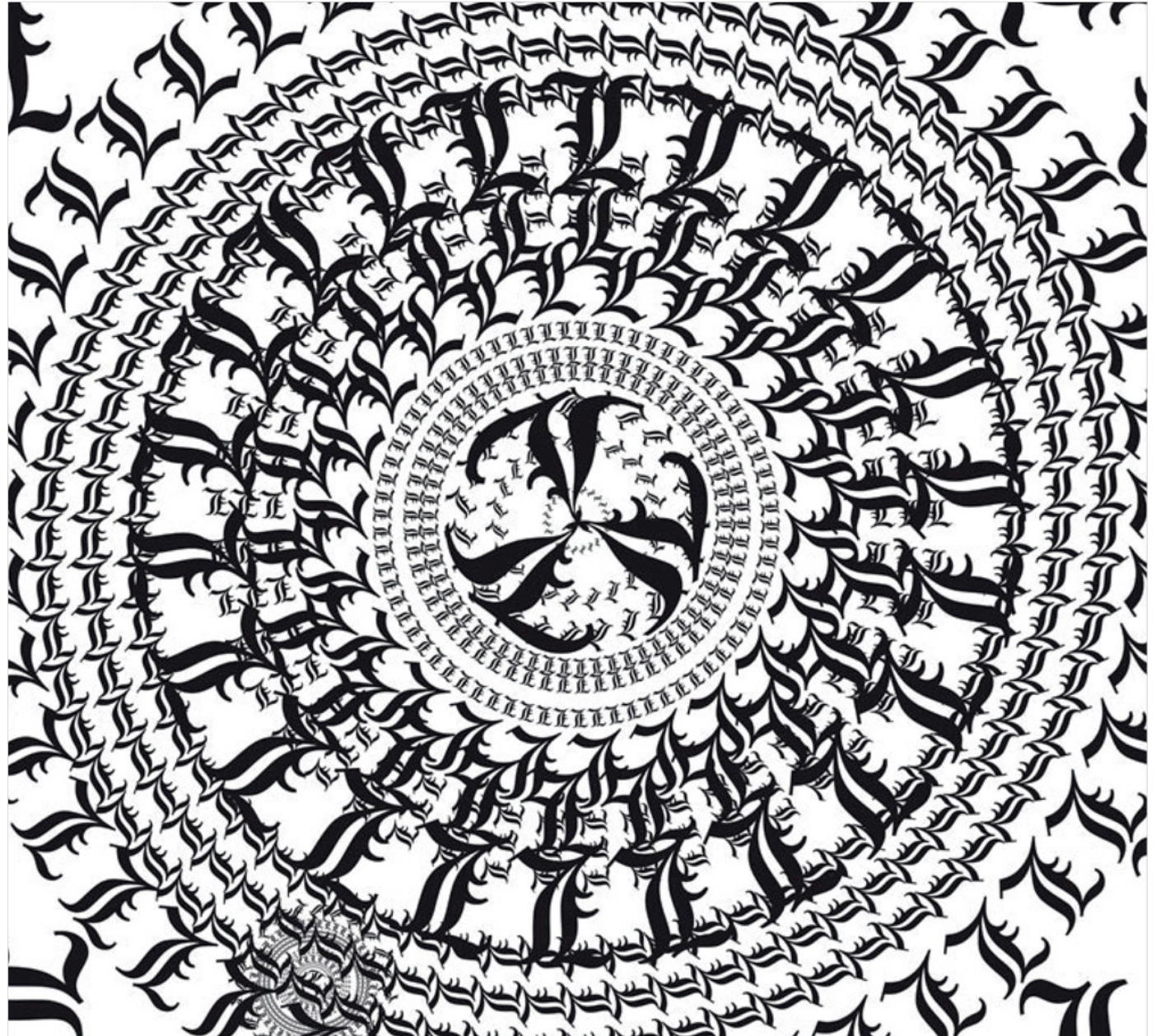
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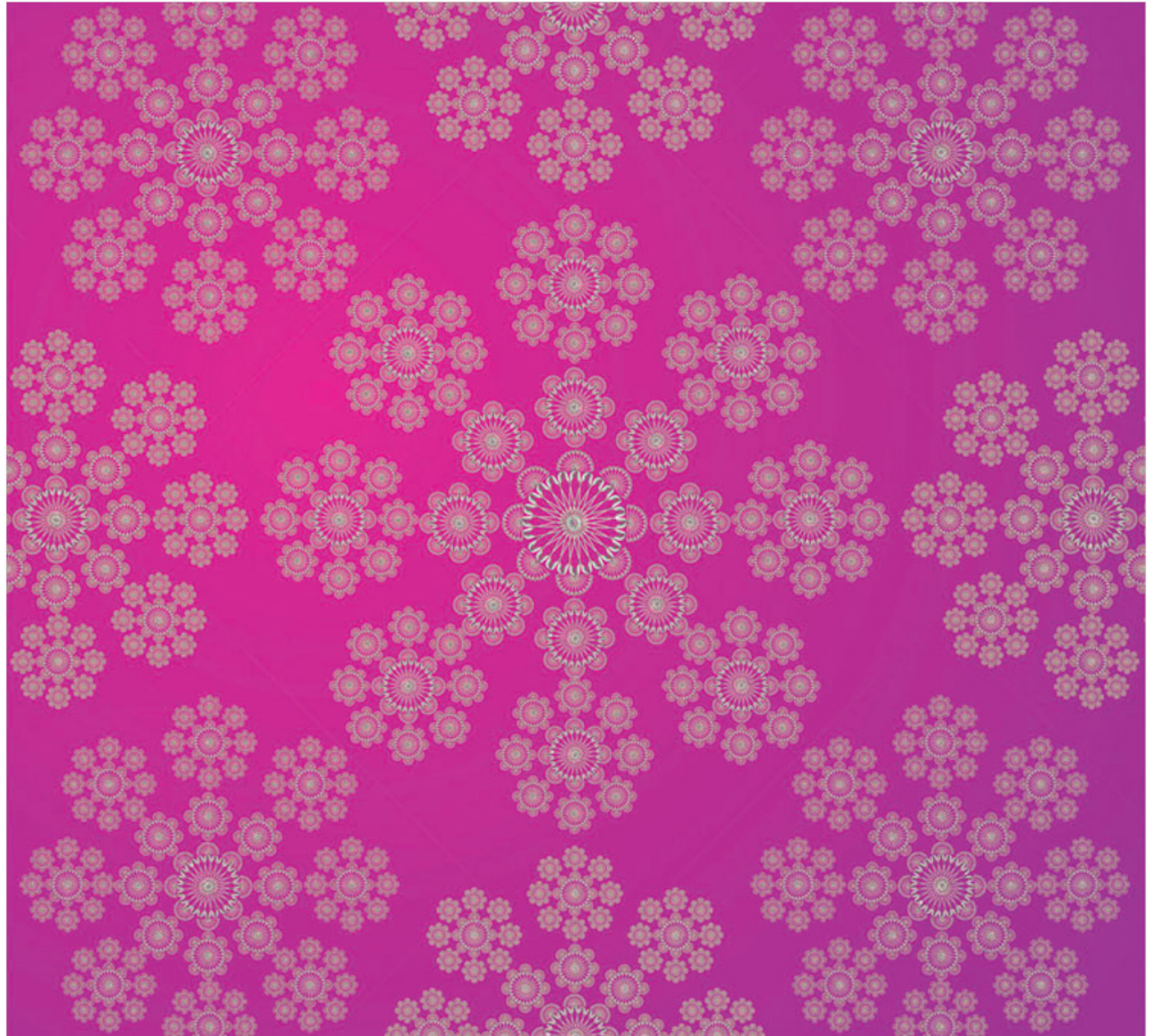
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## Design Tools

**Trinetra:**

Trinetra is a tool for exploring Indian patterns, graphics, and symbols. You can browse the collection of visuals by using various aspects like graphics, meaning, and usage, and download them in reusable vector format. The collection features iconography, symbols, motifs, and both traditional and modern art. You can search and view graphics in categories such as Design Patterns, Children Graphics, and Facility Symbols.

For more information visit: <https://www.dsource.in/tool/trinetra/>



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## Contact Details

This documentation for the course was done by Professor Ravi Poovaiah, faculty at IDC, IIT Bombay.

You can get in touch with him at [ravi\[at\]iitb.ac.in](mailto:ravi[at]iitb.ac.in)

You can write to the following address regarding suggestions and clarifications:

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