

The Point to Pointillism

Pointillism as an art form was developed in France by Seurat, et al, c1880s. It was intended to produce paintings with a more vivid or vibrant optical effect by using small unmixed dots of primary colour. This type of colour mixing effect occurs inside the brain of the observer and is called optical mixing.

Modern printing technology uses this same principle by squirting very small dots of paint onto paper. With dots of three primary plus black, (CMYK), a full colour print can be made. The same idea is also used in a TV monitor. Electron beams projected onto a screen activate dots of phosphor that glow in three colour triplets, (RGB), to produce the sensation of most visible colours. The beam then quickly proceeds to 'paint' the screen, line by line, and produces what appear as a blend of frames into a moving image. Movie theaters rely on our limit to see fast changes, (critical fusion frequency), thus they present a sequence of still frames so rapidly that our brain only perceives a continuous movement.

Early Neo-impressionists, (Paul Signac), and many modern artists, use small dots in various combinations, (and along with other techniques), to add optical mixing effects to their paintings. However, the concept of larger objects being made up of very small items, goes back much further than the Pointillists. The idea that the huge cosmos is composed of small bits, existed in Indian philosophy as far back as 600BCE. (Acharya Kanad). It was also described in Greek texts by Leucippus around the fifth century BC, and further developed by his pupil Democritus, into an atomic theory of matter. John Dalton in 1808 described the first modern Atomic Theory. This was updated in 1911 to become the Nuclear Model, and finally by Erwin Schrodinger as the Quantum-Mechanical Model.

Thus, as artists, we now have the technique, the scientific theory, and an ultimate Cosmic philosophy to support Pointillism as a respectable and perhaps even the ultimate art form. What we 'see' when we think we are looking at the 'real' world, is our mental consciousness of a brain structure. Our mind needs to conjure up a simplified analog to represent the chaotic complexity out there. However this 'simplification', actually adds a complex neural network (brain), perceiving a new version of the underlying complexity.

Apparently the direction of Nature's creativity is to start small and increase complexity by building big. Thus a point source becomes the Big Bang, atoms of gas become stars, and stars become galaxies. We, artists, start life as single cells, become large animals, form social structures, and then add artistic creativity to it all.