

# Illuminated Clay: Exploring Special Clay Bodies

by Allan Kluber

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During the past five years I have been developing special clay bodies which represent a bridge between clay and glass. The bodies retain the plastic forming qualities of clay while adding qualities of light and a full spectrum of saturated color normally associated with glass. Generically the clay is a highly translucent colored porcelain; I refer to it as "illuminated clay."

This work developed from a number of antecedents. I have long been interested in the end points of continuums and the ranges of transition between. Early work with porcelain employed a black and a white body and then the many intermediate shades of gray. To understand glazes I made extensive use of a tri-axial testing format using silica, clay and the various fluxes as the three corner points of the tri-axial. In this format the transitions in and out of refractory stages — through melting and into glass and crystal formation — can be worked with and observed. When I became interested in color in the form of body stains, the exploratory method used was a system of line blends between the pure stains.

Translucency in porcelain occupies a zone of transition between clay and glass, and as such it connects with my ongoing interests. Initial work with translucency took place during the same time as I was working with color in body stains. It was inevitable that the possibility of merging color and translucency should arise. The first tests made use of a highly translucent body and sought to determine how much stain would be needed and how thick the body could be. These tests took the form of a progressive saturation of body stain doubling from 2-16% in a wedge-shaped test slab varying from  $\frac{3}{8}$ " down to close to zero. While these first tests were not entirely successful, they did hint at the potential which subsequent tests confirmed. It then took a year to develop a full, reliable and extensive spectrum of color.

Illuminated clay can be used as a graphic and sculptural medium and has architectural applications as a lighting and window material. My work has touched on these areas with the major emphasis on small process-related graphic pieces and larger works of sculptural lighting. This architecturally oriented work received support this year from an NEA Building Arts grant. The more I work with translucency, the more right it seems. When unilluminated, a piece has the traditional skin of an opaque surface; the outside is revealed and the interior obscured. But when illuminated, the entire thickness of the piece becomes visible, layers of color and form are revealed and stretches and strains show themselves. The dimension of getting beneath the surface adds a richness to the vessel-human body metaphor. Translucency can occur on more than one level.

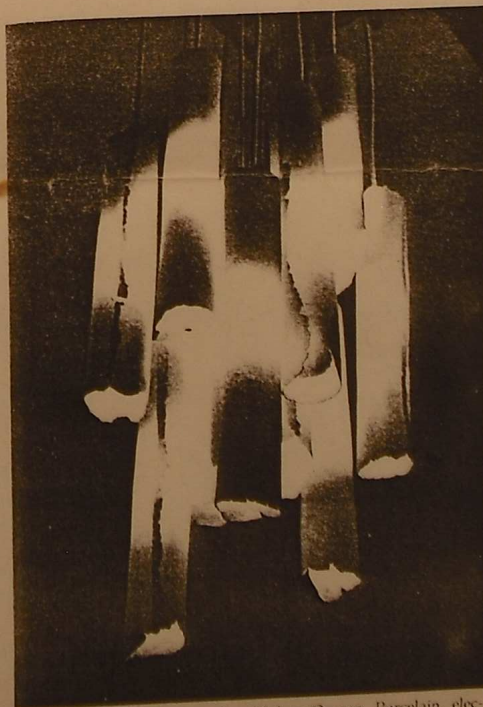
Allan Kluber is a studio potter in Springfield, Oregon. He has been exploring the translucency of porcelain for the past four years.



*Hangin' Tube Cluster (detail), by Allan Kluber, Oregon. Porcelain, electrical wiring; 12" x 2."*

Forming techniques have focused on slab-based processes. Initially, thin slabs were formed with a rolling pin using two strips of  $\frac{1}{16}$ " matt board as thickness guides. Rolling thin slabs to even thickness by this method takes a long time and a slab roller was called for. Most slab rollers use pipe for the rollers and pipe is not perfectly round, being off by as much as  $\frac{1}{32}$ ". This results in translucent slabs of uneven light density. Some slab rollers, such as the North Star, machine the pipe on a lathe so that it is round to within a few thousandths of an inch. This kind of slab roller efficiently produces very thin and even slabs. Since these slabs are very difficult to handle, nylon fiber is sometimes added to strengthen the body during the forming processes. In addition, a variety of molds, slings and forms are used to assist in forming. Firing molds and supports of very refractory porcelain are also necessary, since highly translucent clay is very slumpy.

This work is fired at cone 5. I believe that the basic techniques and principles could be adapted easily to higher and lower temperatures. (The colors do hold up to much higher temperatures. A disastrous kiln sitter accident which went to somewhere around cone 13, melted the elements and slumped the shelves, but the colors held up.) The clay bodies are based on traditional porcelain recipes with the substitution of 5-15% talc for that part of the silica. Translucent bodies involve trade-offs between translucency, plasticity and slumping. There is no single perfect body, and currently I use eight slightly different bodies for different situations.



*Hangin' Tube Cluster, by Allan Kluber, Oregon. Porcelain, electrical wiring; 24" x 20" x 10."*