

The Eye of Light—Playing in the Shadows

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The Light of Creation-

In the beginning (according to biblical sources) there was Light, emanating from the very first creative utterance of the Divine architect. This radiance percolated down from the highest planes of existence, illuminating the entire newborn Universe even before sun and stars had been created. In the *Zohar* (“The Book of Splendor,” a 13th century Jewish Kabbalist treatise,) there is a compelling description of the emergence of this primal Light into the realm of the physical:

...Within the most hidden recess a dark flame issued from the mystery of *Eyn Sof* [“without end”], the Infinite, like a fog forming in the unformed—enclosed in the ring of that sphere, neither white nor black, neither red nor green, of no color whatever. Only after this flame began to assume size and dimension did it produce radiant colors. From the innermost center of the flame sprang forth a well out of which colors issued and spread upon everything beneath, hidden in the mysterious hiddenness of *Eyn Sof*...It could not be recognized at all until a hidden supernal point shone forth under the impact of the final breaking through.¹

10⁻⁴⁷ seconds after the Big Bang (according to contemporary cosmologists) an unimaginably fierce, roiling pinpoint of energy sprang into existence out of the emptiness of No-Space/No-Time. Expanding explosively in ten or eleven dimensions (depending on who’s counting,) the unified forces of Space/Time/Gravity split apart and unfurled to fill an area the size of the solar system in less than a second—an unbelievably dense and burning ball of plasma, hotter than the interior of a star. During this period Space itself glowed brilliantly in every direction and from every point, so that not a trace of shadow existed from one end of the Universe to the other. Thousands of years of expansion passed before the newborn cosmos had cooled enough so that hyper-energized quarks could begin to link up and congeal into hydrogen atoms. As eons passed, the omnidirectional radiation gradually simmered down to the velvety blackness of near-vacuum and the production of light photons became localized into the massive clumps of hydrogen and helium, that became the first stars. Yet even today, several dozen billion years after the fact, the energy imprint emanating from those first fiery moments of cosmo-genesis still reverberate throughout the Universe as a faint background hum of radiation that can be detected by our most sensitive radio-telescopic instruments.

In truth, there is not a whole lot which mystics and scientists can agree upon. But these two accounts of the first moments of Creation seem to concur that the Universe and all it contains is a composition of various sub-frequencies and textures of Light. This awesome energy force (constituting the living fabric of the Divine garment, or excitable

photons traveling at 186,000 miles per second, depending on your belief set) has been stepped down many, many octaves before ever reaching the opaque confines of our particular neighborhood of the space/time continuum and registering on our feeble eyes. In this straightened manner, the once-pure Cosmic Light trickles into the mouth of the dense, material caves where we, Plato's prisoners, are chained, no doubt watching dim re-runs of the greater reality-show.

Given its primacy in the very fabric of the physical universe, it is perfectly logical for both mystics and puppeteers to make use of Light (and its antonymic, Shadow) as a metaphor for human existence. The shadow puppet figure itself is a kind of bridge between the world of dis-embodied spirits and the physical world that we inhabit in our hard, opaque bodies. It performs a text that is actually a dance of the naked, translucent parchment skin—a skin that has not yet been tattooed and pinned down with letters, words and verses, which subsequently freeze into sheets of written scriptural canon. Shadow puppets are a kind of living hieroglyph, not etched into stone or punched onto clay, but spun out of Light and imbued with breath and motion. In the words of the 12th Century Persian Poet, Omar Khayyam:

Heav'n but the Vision of fulfilled Desire,
And Hell the Shadow from a Soul on fire,
Cast on the Darkness into which Ourselves,
So late emerged from, shall so soon expire.

We are no other than a moving row
Of Magic Shadow-shapes that come and go
Round with the Sun-illuminated Lantern held
In Midnight by the Master of the Show.²

The connection of Shadow performance to spiritual discourse is quite evident in the oldest surviving genres of Asian shadow performance: the "tolu bomalata" from southern India; the Thai "nang-yi"; the Indonesian "wayang kulit." These genres are explicitly enmeshed in the transmission of sacred cultural material. But even the more secular Chinese shadow traditions have roots in both ancient shamanic rituals for communicating with the dead and in Buddhist religious traditions that spread up and down the Silk Road.

Fascinating stuff, no doubt, for Sufi poets, ethnologists, performance studies scholars and other students of the arcane. But there is another compelling reason to give serious attention to the art of shadow performance—something that goes to the essential nature of the craft of puppetry itself.

At its core, the art of puppetry consists of creatively bridging the gaps between performer, performing object and audience. Shadow puppetry factors in an additional element to this triadic equation—since it is not the object being manipulated by the puppeteer that is focus of the audience's attention, but the object's image as it appears projected out onto some surface or translucent plane. As the puppet figure is pulled away from the focal plane, the gap between the physical puppet and its shadow image widens. It is this gulf, where object and image first begin to wiggle free of each other's embrace, which defines the art of shadow puppetry. Thus while other genres of puppetry engage

the tension of the animator/object duality, shadow puppetry plays upon the exponentially greater dynamic of the animator/object/image complex. The material substance out of which this dance between performing object and image is fabricated is a composite of ethereal light and its absence. No wonder then that the results are so remarkably malleable.

The image/object gap can be manipulated with the application of various mechanical filters, such as precisely curved arcs of smooth, polished glass. These refract and subtly twist the unfocused stream of light, before or after it passes through the object, into crisp, disciplined patterns that can then be projected a great distance onto any receptive flat screen or surface. Or the focused beams can be directed to fall onto photo-sensitive receptors inside the body of a camera and translated into an analog pattern or digital bit streams, making the image suitable for even wider dispersal. But while sophisticated technical mediation increases the distance in space and time that these patterns of light and motion can be transmitted, the essential principal of broadcasting live images is not much different than that employed by a Javanese dalang in a wayang kulit performance. There are however a number of important distinctions. Modern forms of electronic broadcasting—film, video and computer-generated media—require small armies of specialists and technicians to manufacture and operate the imaging and broadcasting equipment, create, perform and edit into shape the content, as well as producers and marketers to disseminate the resulting image-streams to its intended public. This entire industrial combine must be engaged (no striking unions, faulty transmission satellites, or unpaid cable bills) before any image flickers to life on a single screen.

In contrast, shadow puppetry maintains hands-on, physical contact between performer and object, as well as real-time, unmediated, line of sight connections between object, image and audience. Though there maybe a superficial resemblance between a shadow image and an animated film, shadow puppetry is a product of light flowing directly through and around the object directly to the focal plane, not the reflection of an object's image imprisoned by the curvature of a camera lens. Nevertheless, it can be said that shadow puppetry is the primal ancestor of all contemporary broadcast media, analog and digital.

The Elements of Shadow Performance

The triad of elements that together constitute shadow performance-- light source, shadow figure and focal plane-- are so intimately entwined in production that it is hard to refer to one without the others. To gain a clear understanding of the craft however it is worth teasing them apart and observing their individual characteristics closely.

LIGHT SOURCE—

Of all natural light sources, fire, the rapid oxidation of organic material (wood, coal, cow dung, fat or oil) is the one most intertwined with the earliest advance of human culture. The domestication of open flame in the form of torch, lamp or candle marks the first stages of our technological development. It is fitting then that the oldest forms of Asian shadow theater still uses oil lamps as the light source. In Javanese wayang performance this lamp, the “blenchong” hangs directly above the dalang’s head, about an arm’s distance away from the screen. The trembling flame of the blenchong imparts a soulful animation to the filigreed silhouettes of shadow figures.

.... In [the flame] the dreamer sees his own being and his own becoming. Space moves in the flame; time is active. Everything trembles when the light trembles. Is not the becoming of fire the most dramatic and the most alive of all becomings? The world moves rapidly if it is imagined on fire. Hence the Philosopher can dream everything—violence and peace—when he dreams of the world before his candle.³

In Gaston Bachelard’s philosophical rumination excerpted above, he mourns to eclipse of the soulful natural light of the open flame by the artificial glare of electric light bulb which developed beginning towards the end of the 19th century. But the steady, brilliant compact illumination of incandescent light bulb was just the first step. During the course of the last century, a plethora of light-producing technologies have been developed to fulfill every conceivable need and usage: fluorescent bulbs, halogens, xenon or sodium vapor, LASER and LEDs.

Since the Light gives birth to the Shadow, the precise shape of the illuminating source is of particular importance in the defining the shadow’s edge. This basic principle can be readily observed during a solar eclipse when, for the brief period when the solar disk is occluded by the Moon, the generic circular globs of light that usually mottle a tree-shaded sidewalk are transformed into swarms of little wavering crescents. Likewise an artificial light will create an umbra that exactly fits the source’s profile, or the bulb’s filament: a tiny, pinpoint light source (for example, that produced by an LED or a halogen projector bulb) casts a crisp, sharp razor-sharp shadow; a broad light source (eg: a fluorescent light) creates a blurry and diffuse shadows; likewise, multiple light sources will cast multiple inter-woven shadows. Single point light sources make possible the amplification of the shadow image to many times the scale of the object producing them. A xenon arc lamp, of the type used by Larry Reed’s Shadow Light Theater (which is makes an incredibly brilliant light from a controlled electrical sparking) can project a massive shadow some 30’ across from a relatively small object positioned a foot or so away from the lamp. The size of the light source and its distance from the screen affects the depth of field in which the shadow figure can play through and remain in focus. How the light is concentrated or reflected will also affect the quality of shadow cast. Traditional theater lighting instruments such as Lekos or fresnels encase the naked lamp bulbs with reflectors and lenses. These create adjustable columns of light, suitable for controlling the spread of the beam on stage, but they often addle the shadow image beyond comprehension. The choice then is the position the lamp far away from screen to

approximate a smaller source profile area, or strip the lamp of its reflectors and lenses which can be placed closer to the screen and still make a crisp shadow image.

Although in traditional shadow theaters, the light source is passive, this is not always the case for many contemporary shadow theatres. Herte Schonwolf's seminal book and modern shadow puppetry technique, *Play With Light and Shadow*, refers explicitly in its title to this change in emphasis. In the work of the Italian company Teatro Gioca Vita this idea is developed to the point where the light source is as meticulously articulated as the shadow figures—even more so perhaps, since the static cut-out figures are given motion through the precise placement of hand-held halogen instruments. The artful choreography of these lights around the immobile shadow object, shift the resulting image like the panning or zooming in or out of a camera.

SHADOW FIGURE—

So, if the defining element of this genre is the light source, why do we refer to it as “shadow puppetry”? Perhaps for the same reason that we routinely delineate types of puppets by their method of control (eg: hand, string or rod puppet). Since it is the object blocking the light that most directly articulates the projected image, it makes sense to refer to the figure as a “shadow puppet.” There are “light puppets” as well, but these refer to figures painted or stenciled onto flexible mirrored surfaces that produce bright images on dark backgrounds (“negative shadows”) that can be articulated by bending a part of the mirror.

In its most elemental form, the shadow figure is defined by the edges and contours of its edges and perforations. Light from the lamp together with the contoured silhouette of the figure creates a simple binary composition of black and white. To add intermediate shades of grey or color to the image, one must consider the material substance of the puppets body itself, how deeply the light can penetrate before it is scattered into oblivion. While most solid materials are opaque, certain types of organic material have varying degrees of translucency and materials with extremely regular crystalline or molecular structure (such as glass or certain plastics) can be totally transparent. The way that materials transmit, refract, absorb, or randomly scatter various frequencies of light give them their particular qualities of transparency, opacity, refraction and color. The light transmission characteristics of different materials is what gives the shadow designer a wide-ranging palette with which to paint the image.

One of the oldest materials for traditional shadow figures is animal hide that has been laboriously stretched, scraped and pounded. The resulting parchment makes a marvelously rich and varied shadow image that is tinted warm ochre or russet depending on the animal it came from and the skin's thickness. Deriving as it does from a living creature, backlit parchment exhibits an organic irregularity and graininess. It has a

reluctance to remain flat, since the outer dermal layers absorbing water and expanding at a different rate from the inner layers, thus causing the skin to curl and warp when subjected to variations in humidity. This makes it quite different from artificial material such as vinyl, acetate or polycarbonate plastics, whose utterly reliable uniform transparency is a product of an industrial manufacturing process.

The shadow figure for the most part is articulated by rods since this allows the most direct control without the operator's own shadow interfering with the image. However a kind of body/shadow figure has become popular for larger scale shadow figures in which a shadow mask is mounted on the puppeteer's head. The resulting shadow image melds together the silhouette of the puppeteer together with that mask.

The design of a shadow figure must be graphically powerful to read well in image form. The edge of the figure is what defines the character-- there can be no reliance on the subtlety of 3-dimensional modeling of form to assist in revealing the figure's dramatic character. Most shadow figures for this reason are designed in profile, or in a stylized, cubistic view. It is interesting to contrast Chinese or Javanese shadow figures of particular character types with their 3- dimensional puppet or human counterparts in order to appreciate the way designers can compensate for the limitations of the 2- dimensional image plane.

FOCAL PLANE—

The passage of light comes to an abrupt halt when it hits an opaque (wall) or a translucent (screen) focal surface. The clear, blank surface-- traditionally the wall of a tent or a taut stretched piece of linen or silk-- is the field upon which the shadow image is inscribed. Modern screens include a variety of synthetic RP materials that diffuse the hot spot caused by the light source.

The shadow screen defines in formal terms the hierarchy of the theatrical experience, dividing the performers from the audience and segregating the image more distinctly from the object and light source creating it. Some traditional Indonesian wayang performances will upset this rigid separation by allowing select audience members to sit behind and watch the dalang operate the puppets directly. The implication of this arrangement is that these guests are privileged to witness the higher reality of the performance praxis. In practice, it shifts the focus of the performance from the motion picture narrative, to the process of performance and the dalang's technique.

In most shadow performances the screen tends to be the most passive element. However, this need not always be the case. In the same manner that the light source can be brought into play, so can the screen become animated. A good example is dramatic climax of Julie Taymor's "Lion King" when, during the shadow battle between the pack of hyenas and the pride of lions, a 30' long piece of stretchy spandex snakes about the stage. It alternately opens to reveal the live masked dancers, then closes back up and forms a dynamic surface on which are projected the relatively static shadow figures.

THE ARCHITECTURE OF LIGHT AND SHADOW

Without the dead weight of a material body, a shadow projection has no physical limits in terms of scale. They can be made any size—inside a shoebox or a tent with a candle or flashlight, or projected onto the sides of buildings and bridges hundreds of feet tall with lasers or arc-light projectors. The only practical limitation to scale is the brightness of light source. I can imagine in the not-too-far-off future, enormous disks of mist, generated by a hovering aircraft above New York City (assuming that it is still above sea-level and habitable) serving as a pulsing, wavering surface upon which a stereoscopic image from several banks of ground-based laser projectors can toss a live shadow image a mile wide. It's not so far fetched actually, since even now, it is possible to build lasers capable of bouncing focused beams of light off the moon and registering their echoes back on Earth, I think it is safe to say that in terms of mega-shadow puppet performances of the future, the sky is the limit.

A stunning example of practical mega-light-and-shadow spectacle was on view not so long ago in Lower Manhattan. The *Pillars of Light* was a temporary installation placed at Ground Zero in the autumn of 2001 a month after 9/11. Technically, it was relatively simple, yet it was an emotionally moving and monumental construct (visible from 20 miles away) achieved with 88 parallel beams of intense light arrayed in two clusters outlining the footprints of the fallen buildings. Although the twin shafts of light did not move or "perform" in any way, they were in constant interplay with the landscape and the atmosphere above the city. During the month that they were activated, I often sat near our studio, across the East River from them about a mile distant, and watched their beams dance across the various layers of scudding clouds. On rainy nights they formed a brilliant mushroom over the spindly skyscrapers; on clear nights the shaft of light arched straight up like an awesome finger pointing straight to Infinity. It was truly a masterful (and totally minimalist) aesthetic gesture.

Curiously, these Pillars of Light hearken back to the earliest reference to shadow puppetry in Chinese literature. Some two thousand years ago, an emperor of the Han Dynasty was mourning the death of his beloved concubine. His grief was such that he was no longer able to rule. His ministers were confounded and concerned that he might leave the State rudderless. Finally however, an old shaman was found who claimed he could summon back the soul of the Emperor's beloved. He set up a silk tent in the palace and had the Emperor take a seat in front. A flame was lit inside the tent and from out of its flickering light emerged the silhouette of the concubine. The emperor conversed with her and was consoled. Both the contemporary Pillars of Light, and the Han Dynasty shaman's ghostly manifestation were a similar type of illuminated séance. They both deftly illustrate one the most important social functions of the artist and the arts within the larger cultural context-- to fill up the death-ridden voids left behind by History's wrecking ball.

There is no reason why contemporary shadow theater needs to lose its connection to the primal forces that imbue the ancient roots of the art form. Even though these archaic cultural layers have managed to come down to us in traditional shadow theater genres, they are more and more out of step with the flow of contemporary culture. But the digital artist providing motion imagery for a You-tube video upload and the dalang performing episodes of the *Mahabarata* all night in a Javanese village are really opposite poles of the same cultural continuum. It is necessary to reconnect the technician and the shaman once more in the service of fashioning an ephemeral architecture that can frame the aperture between spiritual and physical planes of existence.

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NOTES

- 1- Scholem, Gershom (translator and editor) - *Zohar—The Book of Splendor*. 1949 Schocken Books. Pg 27.
- 2- Khayyam, Omar - *The Rubaiyat*. Internet Classics Archive. Stanzas LXVII and LXVIII.
- 3- Bachelard, Gaston—*The Flame of a Candle*—translated from the French by Joni Caldwell. 1988 Dallas Institute Publications. Pg 22.