

The Pure Exponential Entity

As martial systems, Aikido and Aikibojitsu are involved with generation of peak intensity and precision in placement of power. As both of these aims are based upon exponential transition, they lend themselves to exponential analysis. Attainment of peak intensity in strikes and technical throws requires both intuitive and practical understanding of the nature of pure exponential transition.

The **Pure Exponential** is a fundamental entity, unique, an identifiable yet elusive characteristic underlying change itself. No matter how subtle, powerful, or complex, all change is reducible to combinations of pure exponentials, their composite interaction itself exponentially bound. The unique confluence of all component exponentials with respect to a particular object at a particular time is determinant of the future of that object.

In any directed movement, certain component exponentials will serve to achieve a goal, while others will be either superficially or strongly opposed to that movement. Thus efficiency in movement is dependent upon reduction or elimination of non-contributory exponentials.

Most open-hand techniques of Aikido and all staff strikes in Aikibojitsu are foundational exponentials, open expressions of the exponential entity at its most pure level. Aikibojitsu's approach to timing, placement, and control of power involves methods of strike control which work with infinite limits, inducing complex reflective vibrations that themselves need to be optimized and controlled.

A movement has been **optimized** when non-contributory exponentials have been minimized. An optimized movement is one with a high degree

of coordination and precision, not only with respect to intended motion in space, but with respect to how power is managed throughout the movement. An in-depth analysis of optimal power generation and management is the aim of the descriptions of the Pure Exponential Entity found in this chapter.

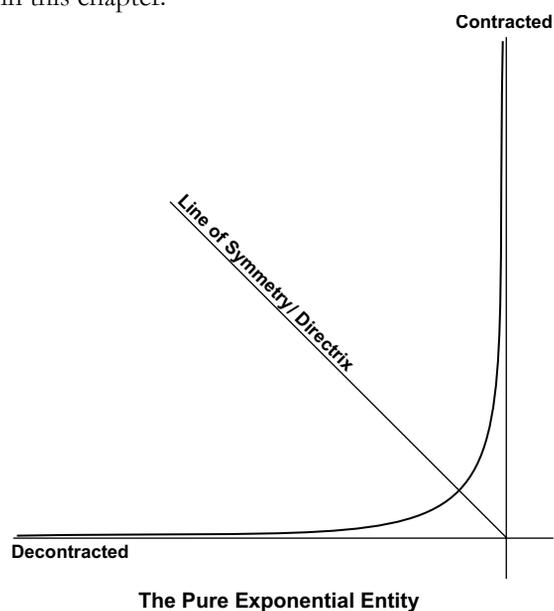


Figure 31

In an exponential expression of power, one in which non-contributory exponentials have been minimized, several identifiable attributes exist. For example, when describing changing intensity in a staff strike, power build starts with a relatively long period of relatively low intensity, followed by a relatively short period of transition and very high intensity.

According to the Pure Exponential Entity, in an optimized Aikibojitsu staff strike, in terms of

time, relatively low intensity movement predominates. In spite of this low initial level however, because of the radical transformation of energy that takes place within an exponential, a very hard high-intensity contraction manifests at strike's end.

There is an overall balance within the Pure Exponential, between a relatively long and relatively low intensity buildup, and a short, high intensity manifested finality. One of the main characteristics of the Pure Exponential Entity, no matter what phenomenon is being described, is that there is energy symmetry between decontracted and contracted states, that symmetry represented by the curve's symmetrical balance around the hyperbolic directrix (line of symmetry, Figure 31.)

In a pure exponential transition, level of decontracted power is mirrored across the line of symmetry into level of contracted intensity. The symmetry property of the Pure Exponential clearly reveals the critical information that **initial conditions** of a strike (depth of decontraction at the strike beginning) are of central importance in achievement of peak strike intensity. This will be discussed in more detail later.

With regard to symmetry, timing and level of applied power are strictly determined by the characteristic shape of the exponential curve. All too frequently, practitioners of every skill level commonly make the mistake either of starting a strike too quickly, or attempting to add extra effort late in a strike in an effort to increase final strike intensity. Neither effort will lead to the desired increase in manifested power however, because they violate the exponential curve's determinative shape.

Power applied late in a strike aimed at increasing strike intensity, has no proper (symmetrical) basis in the decontracted. Lacking its symmetrical counterpart, the effort late in the move distorts the symmetry of the accelerational curve, rendering it asymmetric. Any distortion of the pure transitional curve can be shown to be comprised of the primary exponential as modified by the presence of swarms of non-contributory exponen-

tials that carry off intended power into chaos, detracting from final manifested strike intensity.

Power in a pure exponential transition must be managed in such a way as to maintain the integrity of the transition curve. Because of this, curve **shape** is a central concern of Aiki technical study. It will be seen shortly that the Pure Exponential Entity, in addition to the property of symmetry, has several other definable and important properties....