

## Surfaces of Intent

Suppose someone is running across a large field and is suddenly instructed to turn right (make a right angle turn.) He will find it impossible to do so; his actual path will be a curve. If he is relatively weak, the curve will be more gradual; if he is relatively strong, the curve will be more sharp.

If stronger and stronger individuals were to attempt this, their efforts would produce sharper curves, closer approximations to a right angle. At the same time, the curves of stronger individuals would become closer and closer together (the difference between the attempt curves becoming less and less (Figure 09.)

As the strongest individuals attempt the turn, it becomes apparent that a limit of curvature is being approached, a limit that is, in the end, fundamentally beyond human strength to surpass.

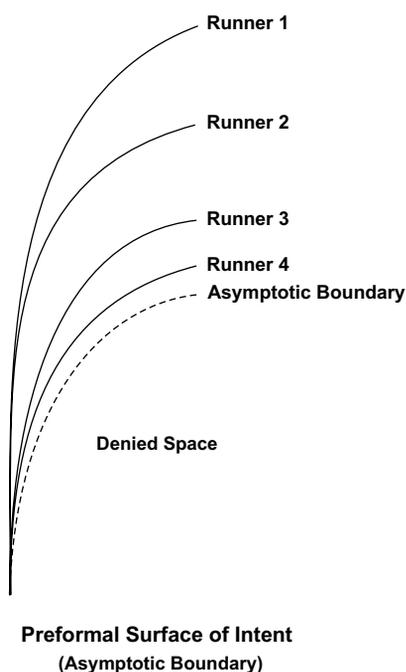


Figure 09

The limit approached is an **asymptotic boundary**, a barrier of preformal space born in the confluence of conscious intent and the upstream determinative structures of the preformal field. An asymptotic boundary is a limiting surface that is

only approachable, never crossable, as impenetrable as hardest steel, yet without any real physical substance whatsoever.

The asymptotic boundary (surface) is the final determinant in the causal hierarchy of the preformal spectrum, the final resultant of the constraining effects of all upstream determinative principles under the modulation of Intent. The five preformal principles acting together, define a unique set of limits that determine the finality of what can happen, by determining what could never happen.

On a theoretical level, the set of technical moves of Aikido and Aikibojitsu are based upon nage continually moving in such a way as to occupy space that is denied to uke by asymptotic boundary. Since uke cannot pass through the boundary, nage is essentially protected by the boundary's impenetrable, reflective **asymptotic surface**.<sup>1</sup>

When nage moves in such a way as to deny uke's center of mass access, nage's technical positions are buttressed by the upstream causal power of asymptotic determinative structure. Ueshiba Sensei was a true master of this, able to control multiple armed attackers by continually moving to space simultaneously denied to all of them.

## Waveguides

An asymptotic surface is a boundary that has no substance but which acts as if it does. It is like a perfect mirror, never touchable and therefore without flaw.

The notion of an asymptotic surface as a perfect mirror is not just a metaphor. In high-energy physics, energy is often controlled with **waveguides**, round or rectangular metal conduits within which energy is guided to a destination.

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1. More precisely, it is uke's center of mass that is blocked by asymptotic boundary. It might still be possible for uke to reach through or perhaps strike through the boundary (albeit relatively inefficiently) with arms or weapon. Note that such a reach or strike would itself be bound by asymptotic determinative surfaces.

At low frequencies, waveguides are not needed because electrical energy tends to stay within a conductor (a wire or circuit board trace.) But as frequency of energy increases to high levels, energy begins to flow more and more toward the surface of a conductor. At even higher frequencies (radio frequencies), energy actually tries to leave conductors altogether and it does. In fact this is a main principle behind the design of transmitting antennas.

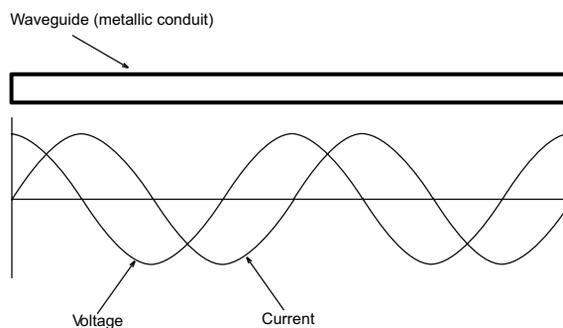
Waveguides are used to control extremely high (microwave) frequency energy by deliberately *using* energy's reluctance to stay within the conduit's metallic structure. The desire of the energy to avoid re-entering the conductive walls of a waveguide provides a means to guide and contain it. In a waveguide, energy is introduced into the guidant conduit by a small antenna placed within the conduit, from which the input energy radiates, propagating down the waveguide toward the ends, bouncing off the walls as it goes.

One interesting thing about waveguides is that, if properly designed, the waveguide's ends may be open, but there still will be no loss of energy from the system! Such a waveguide would be constructed of an actual tube of metal, open on both ends. Even if very high levels of energy are input to the waveguide by way of a precisely placed transmitting antenna, the input energy will not leave the waveguide structure through the open ends!

This is because the open ends of the waveguide act as **asymptotic mirrors** to the energy that is travelling toward them, even though there is no physical mirror, or for that matter any conductive material there at all. Energy that reaches the open ends of the waveguide finds in the 'nothing' at the end, an infinite impedance, and is reflected back the other way.<sup>1</sup>

1. Asymptotic reflection from the open end of the conduit is based upon wavelength of the energy to be contained. Length of conduit, and precise placement of the radiant antenna are calculated with respect to the wavelength of the energy to be contained.

The notion of asymptotic reflection and precise placement of the energy generator, is not limited to electrical waveguides. Aikibojitsu treats the staff as a resonant entity, a carrier of energy that doesn't differ in principle from a waveguide.



$$\text{Impedance} = \text{Voltage/Current}$$

At either end of the waveguide, where current is 0, impedance is infinite, causing energy to be reflected back the other way

### Waveguide

Figure 10

In Aikibojitsu, choice and location of hand position, is precisely determined by nodal location of harmonic preformal wave patterns within the staff. Control of high levels of energy in the staff is based upon asymptotic reflection and non-resistant redirection of energy both outward into space, and inward to asymptotic ground.

Hand placement and sequencing, with respect to the waveforms of the resonant staff, is called **Tracking Pattern**, a matter considered in detail in the chapter *Technical Aikibojitsu II*.

## The Asymptotic Channel

As contracted intent (under the upstream causal determinism of decontracted intent) modulates the preformal determinative field, limits come into being beyond which objects of manifes-

tation cannot go. Such limits appear and disappear and are invisible, but they exist nonetheless.

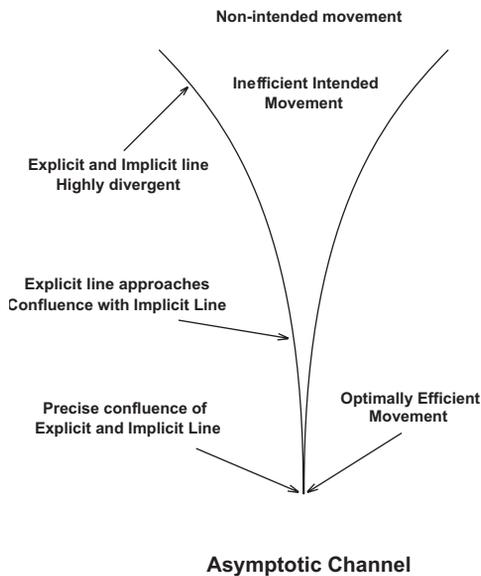


Figure 11

Without an understanding of the hidden structure of the preformal, a martial artist (or other high-level athlete) who attempts high-performance action will frequently attempt a movement that is, fully or in part, preformally denied. When such an act is attempted, the denied energy is reflected by invisible asymptotic limit, the reflected energy dissipated in destabilization of the body and disruption of intended trajectorial paths. The athlete would usually describe this kind of error as somewhat odd and ‘inexplicable.’

Optimal technical movement can be defined (or understood) through the notion of an **asymptotic channel**. The asymptotic channel figure has nonlinearly curved sides which converge at the bottom (Figure 11.) When movement is made imperfectly (inefficiently), that is, when personal intent and objective preformal structure do not coincide well, the movement is poorly accomplished and is relatively higher in the channel (lower efficiency.) Efficiency is lower because contractions exist within the body that don't contribute to the theoretically perfect line. In contrast, when non-contributory contractions are minimized,

movement deepens toward the bottom of the channel.

The point where the sides converge, at the bottom of the channel, is the point of optimal movement, representing a perfect match between intent and objective preformal determinative structure. Optimized movement is movement deep within the theoretical channel of perfection.<sup>1</sup>

Non-optimal movement is movement, large or small, that would attempt to violate upstream structure. Because upstream limit is inviolable, such non-optimal movement will result in reflection of committed energy back into the body in disruptive, chaotic ways.<sup>2</sup>

In the quest for optimal movement, high-performance athletes (whether they know it or not) are thus involved in the process of identification and elimination of asymptotically denied intent.

## Implicit Line

In Aikibojitsu staff work, the theoretical structure of the asymptotic channel gains a powerful reality. Practitioners can actually experience the asymptotic channel directly, as a real channel. If a Short Form is attempted with a high level of energy, the channel of optimal movement is actually seen (felt).<sup>3</sup>

The channel narrows to the degree that more energy is committed to the move. When a high-intensity Aikibojitsu move is poorly accomplished, the staff can actually be felt to ricochet down the

1. Strictly speaking, the sides of the asymptotic channel never touch, but rather approach each other infinitely more closely as they converge. Although pictured as a V-shaped notch, the asymptotic channel can also be looked at ‘end-on’, wherein it is a circle with increasing density toward perfection which lies at the circle’s center.

2. More precisely, non-optimal movement results in generation of swarms of non-contributory **exponentials**. Exponentials are defined and covered in depth in the next chapter, *The Pure Exponential Entity*.

3. The **Short Form** is Aikibojitsu’s fundamental unit of technical study, a highly defined and relatively short, technical movement with the staff. It is introduced in full in the chapter *Technical Aikibojitsu I*.

intended trajectory, banging off the asymptotic sides of the channel as it goes!

An advanced staff practitioner, once shown the basics of a form, can actually learn directly from upstream structure the correct way to carry the form out optimally. By progressively throwing higher levels of energy into the form and working toward perfection through narrowing of the asymptotic channel, the correct form becomes increasingly clear.

In a technique, at the very bottom (center) of the asymptotic channel there is a line of perfect confluence, a ‘silver thread of perfection’ toward which the staff practitioner attains. This line of perfection is called **Implicit Line**. Implicit Line can be simple or complex. It is the optimal curvilinear line, the core structure of technique, the perfect expression of which is the ultimate goal of Aiki technical practice.

### Explicit Line

The actual technical movements by which the practitioner attempts to carry out the perfection of Implicit Line, is **Explicit Line**.

Implicit Line comes into being in its entirety on the level of the preformal, even before a physical move is begun. It comes into being with the appearance of the practitioner’s intent; physical motion comes after. It is very important to understand that the Implicit Line of a form comes into being *as a totality in the potential field* before the body even takes the first step into its physical manifestation.

Upon the formation of intent and the preformal appearance of Implicit Line, it is the practitioner’s task to bring Explicit Line into alignment with Implicit Line. This is the technical task of the Aikibojitsu practitioner, and the primary technical task in the open-hand work of Aikido. It is work that involves energy state (phase), trajectory, momentum, rhythmic timing, and exponential development.

The notions of Implicit and Explicit Line are not confined to the study of Aikibojitsu and Aikido. Understanding and purification of conver-

gence of Implicit and Explicit Line is the ultimate aim of all high-level athletics.

An extension to the concept of Implicit Line lies in the notion that an Aikibojitsu Kata<sup>1</sup> has an overall perfection in its **Implicit Structure**. The moment immediately before a practitioner commits to the first move of a Kata, its entire Implicit Structure suddenly appears in space as a fully formed preformal complexity of absolute perfection. It is into this structure that the Aikibojitsu practitioner steps, and it can be an intimidating prospect.

One takes up the staff and commits into this potential structure with energy and abandon, throwing energy boldly and hopefully down its early winding channels and reflective surfaces in what is at first a highly focused, and then increasingly desperate effort toward perfection.

If a practitioner is highly skilled and throws a great deal of energy into a Kata’s Implicit Structure, it is actually possible to ‘see’ the presence of the confining surfaces that surround one as the Kata unfolds, like stepping into an environment of contoured preformal shapes (preformal topology.)

On this level, location and type of errors can be clearly identified, highlighted against the ideal determinative structural channels. Errors of momentum, rhythmic timing, position, and acceleration begin to make themselves known progressively, and one can feel them piling up in the moments just before they accumulate enough to cause drastic and occasionally frightening disintegrations of form....

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1. In Aikibojitsu, a Kata is a designed sequence of Short Forms. The Aikibojitsu Kata is introduced in the chapter *Technical Aikibojitsu I*.