

## ENERGY TRANSFER IN KARATE TECHNIQUE

I must admit that when I first observed certain energetic characteristics that emerge in the process of generating force within karate technique I focused mainly on final stage of the movement (**kime**). Even though I was aware of distinct phases within each technique I didn't realize the extent to which the direction of spiraling forces reflects the energy involved in the process and not just the mental intention leading to **kime**. That somewhat imbalanced approach made me miss crucial aspect of the energy transfer within the body, while intense nature of **kime** itself and subtle character of mind/body connection in general posed additional challenge. In my defense, I believe it is reasonable for the scientific approach to involve some trial and error. Different pieces of the puzzle finally fit together when I realized that the polarity of energy lines changes during technique and is determined mainly by the nature of creating energy within movement, the process which involves the use of the ground. That means that muscular activation is always simultaneous with formation of yang powerline regardless of which stage of completion the technique is at or in which direction the body is moving.

The timing of energy transfer, which is the core of each technique (or any dynamic body transition) is determined by the stage of energy increase within the movement. As explained in vertical slingshot chapter, each technique includes stages of initiation/increase and climax/release. The transfer is simply part of the process of efficiently distributing the energy along the body once its increase reaches the maximum level. The energy then can be either transferred directly to the target (**gyaku zuki** in stationary position or combined with footwork\*) or to the other side of body and to the target (**kizami zuki** with forward slide).

The process of energy transfer per se is identical in regards to various external movements - punching, kicking or footwork sequences. In case of stationary techniques such as **reverse punch** executed in front stance the yang energy line is formed along back leg which is also a line of grounding/reaction/technique. In that case the energy is transferred directly to the target.

Yang energy lines form also while moving (stepping, sliding, walking) prior to actual technique, generating the force in order to transfer it to another leg before it reaches the target. Good example of such is **kizami zuki** combined with sliding forward, where initial grounding action along back leg assists in building and transferring the momentum to the front leg resulting in enhanced reaction/technique.

\*The energetic pattern of **reverse punch** executed in place should not differ from the application involving footwork. If the energy of initial push off the floor along back leg does not instantly extend towards the target via overall body activation but instead is separated from the punch by excessive hip rotation entire effort becomes energetically incoherent. Not only the sequence is slower and less explosive but the technique becomes two separate efforts - one being sliding and the other punching. Hip rotation is irrelevant there for when it happens the body is already off the ground. As a matter of fact hip action in such case is more a result of punching arm's movement than the one of the leg's. The punch executed in such way is not direct result of grounding/reaction and becomes just forced drag forward.

In this case back leg initially works as yang energy line (the line of grounding/reaction) and changes to yin once the accumulated energy reaches its climax and is transferred to front leg. The moment front leg makes the contact with the ground it becomes yang energy line (the line of grounding/reaction).

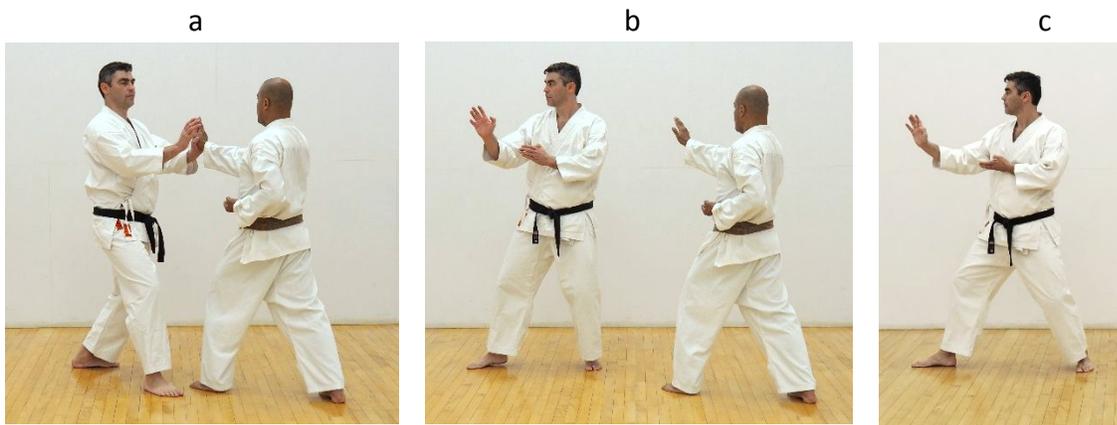
It is important to understand that in general yang energy line works as the conduit for grounding/reaction force and is based purely on activation factor during both “pulling” and “pushing” actions. Pulling and pushing relates to direction of energy towards the body (pulling) or outward (pushing). In case of initial stage of **kizami zuki** it is a formation of yang energy line along back leg along with pulling action by the arm on the same side. This way the energy is generated along back leg before its transfer to the front. Proper timing in regards to withdrawing mental component from the action of **hikite** is necessary to avoid locking the energy on pulling hand’ side and executing **kime** on the action of **hikite** instead of on the punch.



Pic 8.1. Emphasizing starting phase of **kizami zuki** by initial activation of opposite (here right) side of the body. Pulling with right arm against resisting partner helps in formation of yang energy line along back leg, which is used to initially generate the force and transfer it to the front once its potential for grounding/reaction (technique’s climax) is reached.

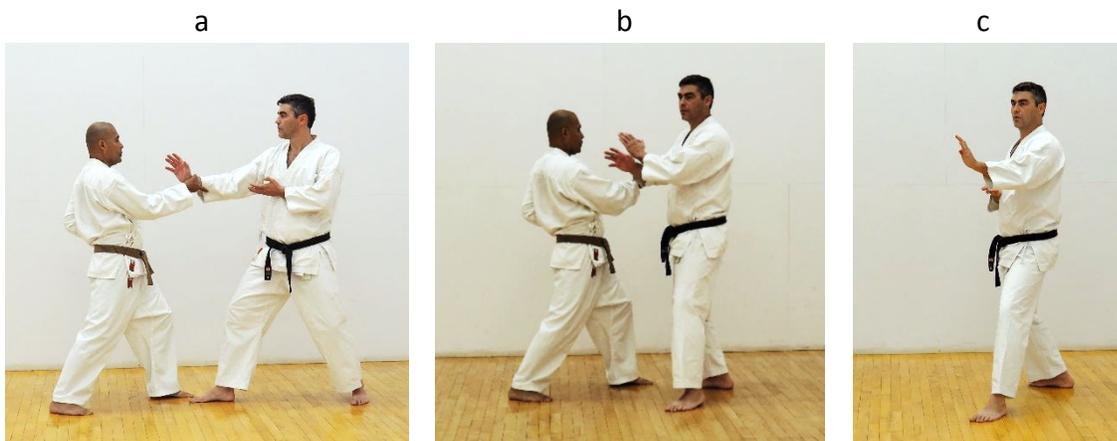
The process of energy transfer is quick and its’ “in between” nature can be quite elusive. Let us use an example of footwork action which illustrates the same point but “stretches” the process in time for easier observation.

Consider second to last movement in Heian Shodan kata. First you pivot clockwise on left foot shifting right foot 135 degrees to your right. Left leg is a line of grounding/reaction and forms yang energy line up to the passing point. Unlike in **kizami zuki**, in this example initial yang energy line is being formed during simultaneous pushing action with the force directed outward (pic 8.2a,b,c).



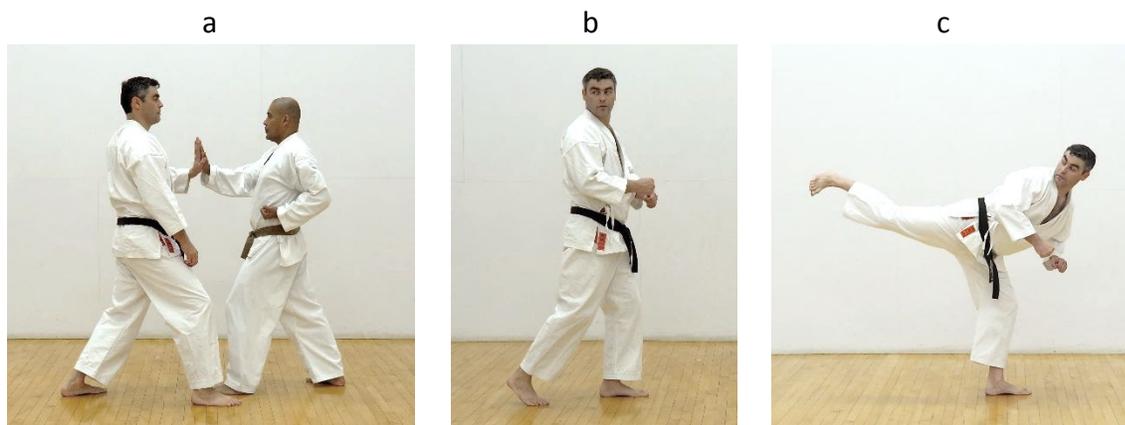
Pic 8.2a,b,c Pushing with left hand arm against resisting partner during initial stage of transition (a). Left leg forms yang energy line up to passing point (b) and changes to yin during final phase (c). The passing point indicates maximum level of grounding along left leg and start of energy transfer to right leg.

Last sequence of Heian Shodan illustrates the case when yang line is being formed during simultaneous pulling action (pic 8.3a,b,c).



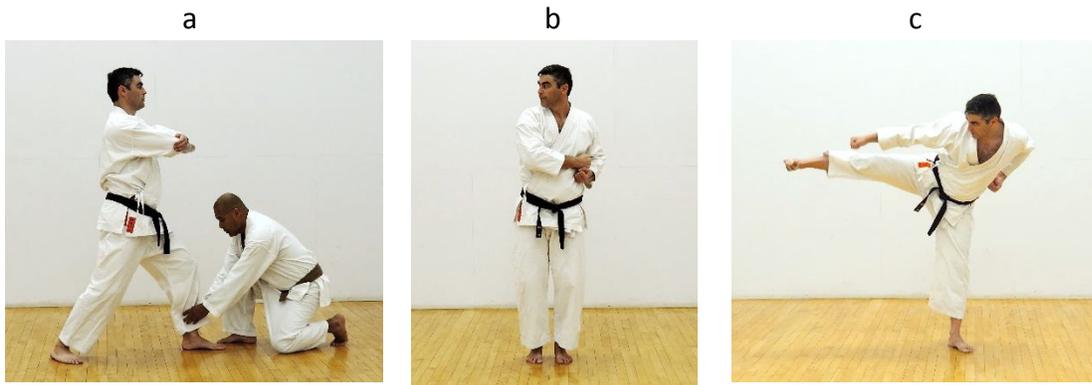
Pic 8.3a,b,c Using pulling action against resistance in last sequence of Heian Shodan kata. Right arm (**hikite**) is used for pulling partner's hand while the support (right) leg assists the pulling by forming yang energy line (a). The grounding along the leg reaches its maximum at passing point (b) which also indicates the start of energy transfer to left leg and arm. At **kime** (completion of transfer) left leg forms yang energy line while right leg changes to yin. Interestingly, applying similar pulling action to previous example results in internal conflict and seems to prevent rather than facilitate its execution.

In case of kicking techniques the process is similar. Let's use **ushiro geri** as an example. In our case we kick with right leg to the back directly from right fighting stance. Countering the partner's push by pushing back with your left hand helps to increase the awareness of grounding taking place along support (left) leg during the process. Initial formation of yang energy line along left leg reflects the stage of generating the energy (the stage of initiation/increase). Once the level of accumulated energy reaches its maximum level (8.4b) the releasing stage begins (execution of the kick). In fact, the stages are almost simultaneous and there should be no artificial division within the technique. They should reflect unity on mental, breathing and physical levels.



Pic 8.4a,b,c Pushing back with your left hand used to increase the level of grounding/reaction along left (support) leg. Passing point (b) indicates the start of energy transfer from support to kicking leg.

Another good example illustrating formation of yin and yang lines is combination of footwork and **side snap kick** in Heian Yondan kata. The sequence includes shifting left foot towards right foot and kicking to the side with right foot with simultaneous **uraken uchi**. Initially right leg supports the action by forming yang energy line in similar fashion to previous example. It also helps to accelerate left foot before placing it on the ground in order to transfer the reaction towards the kick.

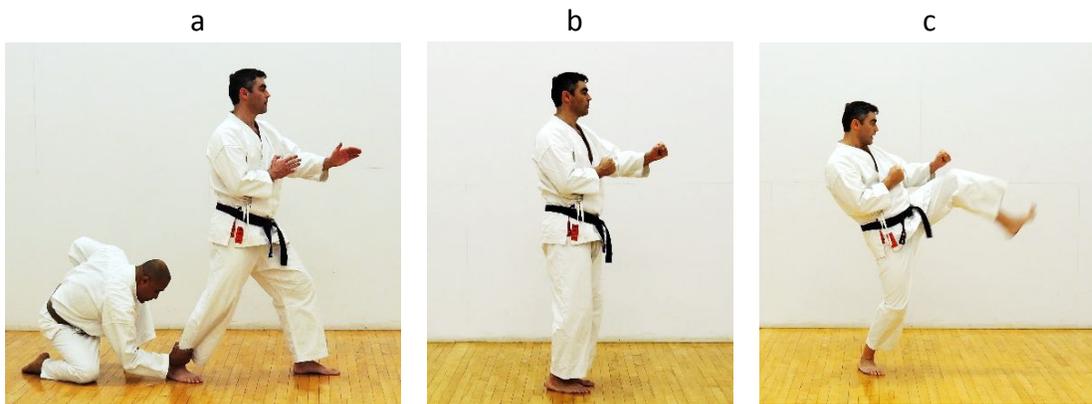


Pic 8.5a,b,c. Grounding during initial stage of Heian Yondan sequence. Applying resistance against left leg by holding the ankle is one of the easiest way to feel and engage support leg in virtually any technique involving footwork or kicking (a). Efficient energy transfer to another side of the body requires synchronizing the increase in grounding with placing left foot on the floor/starting the kick; grounding along right leg works as an engine for accelerating left foot and leg (b). That point brings momentary formation of yang energy line along left leg which quickly changes to yin along with the momentum being transferred towards kicking leg (c).

Another example of combining footwork and kicking techniques is front leg **mae geri** following forward shift of back foot (**tsugi ashi**). In this example initial support/yang line formation along front leg relates to pulling action and helps in accelerating back foot forward. You can test this stage either by pulling partner's hand at the front or having them resisting your back leg; the action of front leg remains the same.

The moment of finishing back foot' shift forward indicates the start of energy transfer to front (kicking) leg. Similarly to previous example back leg forms temporary yang energy line which quickly changes to yin along with the momentum being transferred towards the kick. The full cycle of energy distribution here includes:

- generating the force along front leg via grounding
- transferring it to back leg in order to fortify its temporary yang line
- transferring the fortified reaction from back leg to the kicking leg.



Pic 8.6 a,b,c Using pulling action while testing the level of grounding during initial stage of the sequence (a). The point of maximum grounding along front leg has to be synchronized with placing back foot on the ground and starting the kick (b). At that point there is momentary formation of yang energy line along back leg which quickly changes to yin along with the momentum being transferred towards kicking leg.

