

## How to achieve victories in modern Table Tennis

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Announcement

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### Personal profile

Xiaodong

- Coach of Chinese Table Tennis Association -Deputy Head of Technical Studies Committee -Coach of Chinese National Team (Head Coach of Women's team) -12 years coaching with Beijing Team 22 years with Chinese National Team -Has been responsible for developing World champs and Olympic champs such as Teng Yi, Wang Tao, Yan Sen, Wang Liqin, Wang Nan, Li Ju etc.

-Doing researches and studies on table tennis theories, giving seminars throughout Chinese Sports community, publishing many essays in professional journals

## How to Achieve Victories in Modern Table Tennis Li Xiao-dong

Representing Chinese Table Tennis Association, I am very honored and pleased to be here sharing ideas with our European counterparts. For the positive developments of table tennis in Europe and the world, this kind of co-operation is of great benefits. Today is simply a marvelous beginning. I firmly believe, with the ceaseless efforts from you all, our dreams and goals will soon become reality.

I am going to talk about the following five topics.

### I Stages of table tennis development

Table tennis was originated in England at the early 20th century. It was a leisure amusement for the aristocracy. It was seen as "tennis on dining table" and not taken seriously. However, in the last century, with the hard work of generations of 'table tennis people', the insignificant leisure game has been developed into a great worldly competitive sport with tremendous impacts. There are five stages of development.

#### **First stage:** the choppers' era ( early 1920's - late 40's)

It was an era ruled by the chopping style of European players, that emphasised control and defense. The sport of table tennis was at a stage of starting up and searching. It was characterised by time-consuming long rallies, poor equipment, long playing time, and weak confrontation. It required not much energy and most players just pushed and chopped.

**Second stage:** the penhold looping era ( early 1950's - late 50's) The Japanese invention of the penhold single-wing looping game was a significant move which brought the end of an era. The game took a turn towards another direction. Offense replaced defense. Shots were more aggressive and powerful. Its birth stirred up the entire table tennis world and the Europeans were soon dethroned.

**Third stage:** the penhold fast attack era ( early 1960's - late 70's) Based on the Japanese persisting aggression, Chinese developed their own style of pips-out penhold fast attack according to China's characteristics and situation. The playing style was faster taking more initiatives and had more variety of shots. It was creative and dynamic. Such superiority soon showed in the battle between China and Japan. Eventually, it headed the trend and became the mainstream style of the time.

**Fourth stage:** duel between Europe and Asia era ( late 1970's - mid 90's) The rise of European two-winged loop style symbolized the Europeans' completing of their revolution on style and tactics. The style was advanced and left much room for developments. It led to a confrontation between Europe and Asia. The two styles fought, interacted and learned from each other. Many a great player and fierce competition came onto the stage. It was a period of prosperity.

**Fifth stage:** globalization era ( mid 1990's - present) At the present, even though China has a slightly edge in a lot of competitions, we the entire world, are very much at the same technical level.. As the sport develops, people have also reached a general consensus that the sport should be played and viewed as a spectator sport. Our understanding and view on speed, power, spin and aggressiveness are amazingly similar. We can see that Boll, Samsonov, Wang Hao or Wang Liqin have very little difference when they play fully to their potentials. To achieve the exact same end, we just have taken different paths.

## II. Establishing of a master directive ( or plan )

If we are to be successful in a competitive sport, we must have a clearcut directive to take charge of the development.. Such directive decides which direction the sport is heading to and becomes its guideline for developing. Within this framework, the many different playing styles can correctly grow into their own characters.

The establishing of this master directive is to combine the trend and pattern of the sport's development, and the norms and situations of individual countries. This directive must be precise, clear, easy to understand and ahead of its time. It is not to say that the directive will never change. It will grow and become more advanced according to the changes of situation and need. It is fair to say that China has done well in this aspect. I would like to present it to you and it is my most sincere wish that you provide me with your valuable feedbacks. I am certain, we have much to learn from you too.

Firstly, we were very well aware of the Chinese advantages in this sport (which places emphasis on techniques) when formulating the directive. Chinese are hardworking and have a very high tolerance level. We are also quick with our bodies and mind. Therefore, when we are building the different playing styles, we always use " taking the initiatives, change fast and be solid with details" as the foundations. Throughout history, we have looked at many different situations and needs to formulate new master directives and plans.

1. During the 60's of the last century, the penhold fast attack style, bred by its successes, became the predominant playing style in China. To enhance the

supremacy and establish clear direction for the training of this mainstream style, we pointed to " fast, vicious, accurate, change" as the master directive. All styles work towards these goals. ( e.g. Zhaung Zedong's two-winged attack, Li Furong and Xu Yinsheng's block and hit.). The master directive was the first of its kind and is now viewed as a milestone.

2. In the 70's, the coming of European two-winged looping game brought great difficulty to the Chinese penhold fast attack.. In order to adjust to spin, to impart spin and to develop speed in the face of spin, Xu added "spin" to the above mentioned master directive To meet the challenge of spin with a positive attitude, we look upon this as the second milestone for its legacy is still around.
3. The 80's saw the allround Waldner and Persson grow into maturity as the European-Asia confrontation became increasingly heated. They presented huge threats to China. We promptly made " allround skills, sharp forte, no apparent weakness" as our master directive to put ourselves in a better position to win.
4. In the 90's, we tried to anticipate how table tennis would develop. At the time, Cai Zhenhua rightfully said that it would be a conflict between top spin and the attack on top spin. At the same time, he also advocated the " connecting theory" as regard to the transition from defense and offense or vice versa. This is a theoretical foundation that we base on for the developments of generations of players to come. Thus, it is the third milestone.
5. Four years ago, we put the mentioned directive in further details while applying.. It became " taking initiatives, sharp forte, allround skills, scramble tight connecting, balanced offense and defense, work towards aggression, quickness, spin and change". This directive definitely provides a clearer goal for current table tennis.

**Taking initiatives** It is an integration of consciousness and skills. When serving and taking offense, one must take the initiatives to attack at all time. Shots are to be both pressing and relentless. When receiving serves and keeping in control, one must try to snatch the offensive initiatives, make more changes, and take control. In rallies, one should attack first, put more power in shots first, and change directions first. Even in defense, one should apply pressure to his opponent aggressively and look for every opportunity to counterattack on the criterion of steadiness. All these links are put together to fulfill the desire of taking initiatives. Then they become an aggressive and competitive advanced playing style.

**Sharp forte** - When a player has the forte to overwhelm his opponents, he has style. It is easier and more effective to put training revolving his forte. For instance,

Ma Lin's forte is his serves. Because of that, he has more opportunities to attack, he moves faster and his continuous attacks become stronger. In such case, he can easily build his own offensive system and unique style. On the other hand, training to improve will be a lot more difficult if the player has no forte to work on.

**Allround skills** - One must have allround skills in nowadays' table tennis. There is no room for obvious defect or weakness. Otherwise, the weakness will become fatal when opponents keep pressuring the Achilles' Heel. All skills, attacking and

defending, taking initiatives and controlling, close to and far away from the table, forehand and backhand...etc are to be mastered and used at the proper moments.

Scramble - The sport is developing into such a fast one. One cannot limit his quickness merely on the first three shots. One has to scramble in every category. We demand (our players) that must attack when you can, must put in power when you can, must change when you can, if there are shots that you cannot take offensive initiatives., you must control or counter-control to make your opponents uncomfortable as to create opportunity for the next offensive shot. There is no room for any missing link during scrambling.

Tight connecting It means connecting the 3rd and 5th shots, or the 4th and 6th and make them into combination. Most people tend to play a safe ( high percentage) shot before going on attack. This practice often leads to giving up initiatives and losing opportunities. Therefore one must insist on being aggressive. For those who are mentally strong enough can win the battle of initiatives.

Balanced offense and defense. Contemporary table tennis is moving towards allround type of play. A player being weak in either offense or defense cannot survive. One will surely emerge as the victor if his attack rips the opponent's defense apart while his defense stops oncoming attack. Therefore one must try to reach a balance of offense and defense.

Aggression, quickness, spin and change Aggression is going on attack relentlessly. It means attack from all angles, attack with power, attack with high quality shots. Therefore enriching the variety of attack shots and improving the quality of such shots are the embodiments of being aggressive. Quickness is speed. It is always the most important factor of any style. Pure speed and simple spin are things of the past. The combination of speed and spin is how this sport is going to develop. Change is the soul of playing style and sport IQ. Changing at the right time strengthens the playing style. We are in the opinion that we will change first in order to make the opponent play our game.

6. A couple years ago, as backhand plays all over the world were getting more completed, the innovative backhand 'twist-drive' and counterloop were also becoming more effective. This caused a readjustment in our collective concept. We proposed to be 'irrational' in the rational development of playing style. That was to say replacing control and defensive shots with attack shots, attacking opponents' attack shots. It would mean to be even more aggressive at a limited rational level. Such playing style would be more advanced, more ahead of time.

7. For the future, we have our pursuits and designs. We define the future development as: strong offense, strong confrontation, strong transition, complete integration, and more changes.

Strong offense is to enrich the variety of offensive shots. It is also to expand the area we can attack from and hence, to raise the quality of the offense. It is a multi-dimensional offensive concept.

Strong confrontation means we are to scramble for initiatives in all areas at all time. There is no letting up in confronting the opponents for every shot, at every moment.

Strong transition means a strong offense coming off from defense. Only through creative and strong offensive methods that we can make the offense more overwhelming because the game is no longer a simple offense versus defense.

Complete integration is that players must master all skills and put them together more scientifically and rationally as to maximize the effectiveness.

More changes is a reflection of 'table tennis IQ' and the understanding of the game. Changes occur in every situation and players have to adjust accordingly. The highest level is we ourselves, instead of our opponents, initiate the changes..

As of now, our sport has not quite reached the mentioned level. Nevertheless, we have clearly set the goal and direction. It is what we are striving for.

### **III. The Five Elements:**

#### **Concept:**

We, the coaches, are required to take the lead in designing playing style, studying the tactical and technical aspects of the game even when we are winning in tournaments because doing so is a guaranteed solution for future development. Such requirement makes our pursuit for excellence endless. Our framework and technical innovations are accomplished with a theoretical foundation..

We see that the sport of table tennis consists of five elements: speed, power, spin, trajectory, and placement.

Speed is the nucleus. It is the number one factor for developing the sport. It goes a lot deeper than speed of the shots. Speed also includes moment of impact, suddenness of shots, footwork and adjustment to changes. All these have to be done with speed.

Power is the foundation. To ensure the execution of tactics and forcefulness of playing styles, power is essential.

Spin is the means. The effects of spin are forever increasing in modern table tennis. Spin can do damages to opponents and stabilize one's own shots at the same time.

Trajectory is the guarantee. If a proper trajectory is made, the accuracy and percentage of our shots are ensured. On the other hand, good shots or skills are nothing if consistency cannot be guaranteed.

Placement is the soul. Table tennis is a sport of matching one against the other. Counteracting against each other is its most intriguing character. Winning the battle of placement enables us to play out our tactics fully.

We categorize speed, power, and spin as the dynamics when trajectory and placement are the protections.

Integrating, stay ahead

The five elements are no isolated individual items. They affect, control and push each other. Those who are competent solely in speed or spin will not reach the highest level.

In developing playing styles for individual players, we try our best to include all five elements. According to studies, a top level player is good at at least three of the five. Otherwise, he will achieve little.

Boll: His speed and spin are outstanding. Trajectory and placement are quite good. Only his power is a bit subpar

Wang Liqin: Speed and power are excellent. Spin and trajectory are not bad. His placement is comparatively weaker.

Ma Lin: Spin, trajectory and placement are very good. Pretty good speed but he is also lacking in power.

Among all current players, Wang Hao is the strongest. His style is also the most advanced. He is good at all three dynamics and he has them well integrated. His trajectory and placement are reasonably good. As a result, he is most threatening and can do most damages to any opponents.

In the training process of Chinese team, we design players' styles by looking at their potentials, natural abilities, specialties, habits and characters. Best efforts are put into including all five elements, especially the three dynamics, into their games. On such foundation, we try to ensure the high quality of their shots first. Then we will deal with their application in actual match play later.

#### **IV. How Chinese view the current state of European table tennis.**

Objectively, Europe is the founding place of table tennis. The sport has been deep-rooted and possessed a very strong popular base. Even today, the fans and those who are involved are no fewer than those of Asia or China. We have always believed, and still do, that there is no lack of talents or even geniuses in Europe. When they did well, they were at the top of the world. S. Bengtsson and Jonyer of the 70's, Waldner, Persson, and Gatien of the 80's and 90's, nowadays' Boll and Samsonov, and women players like Boros, Steff, and Dodean. They are all

amazingly skillful and talented. They have also made remarkable and unforgettable contributions to world table tennis. We respect them and we learn from them. They have been highly competitive and at the same level with the Chinese. Therefore they are the nucleus of the development in Europe. We wholeheartedly wish for the rise of European table tennis. We Asians and Europeans together, put out great competitions and show the world the charisma of our sport.

Nevertheless, analysis rationally tells us that there are some slow and unbalanced aspects in European table tennis's development. In my personal opinions, there are the three following reasons:

### **1. Differences in system**

Table tennis, which is crowned as the national game enjoys very high prestige in China. To win honor for the motherland is our goal and motivation. There have been great supports from various levels of government, fans and the general public. In China, competitive sports are run nationally. Tremendous amount of financial and human resources, a well established collective training and competition system, strong high level coaching staff and ceaseless supply of players with high potentials are the reasons keeping China competitive over a long period of time. While chatting, my European counterparts have always expressed an admiration and envy for the Chinese system.

Although table tennis is fairly popular with the general public of Europe, there are not enough attention or investments. Consequently, a lot of outstanding talents are isolated as lone individuals who do not work as a group. There are hardly any collective efforts so the players struggle individually. For example, only a handful of players stay together for extended periods of time at the clubs. They have few practice partners. The variety of styles is limited. There is a huge disparity among players' levels and training together is only once in a blue moon.. Thus, young talented players are largely 'undertrained'. This fact becomes their worse disadvantage as compared to those of China. In the pursuit of excellence, training top level players or developing young talents, the investments are simply not enough. Lately, a lot of the European Leagues have come to realise the seriousness of these problems. They are working on having more seminars to exchange ideas with China. There are more camps that players train together. These are all very good measures to remedy the problems, which will certainly turn the table around one of these days. We must all be persistent in doing so.

### **2. Coaching**

Coaches in China enjoys high social status and this is consequential.. I can surely see a difference of culture and attitude here. Coaches in China are a sizable community or collective. For players of every age category, we provide high level professional coaches and they are the deciding factor of how successful training is going to be. Chinese coaches are all former high level players, especially the national team, whose coaches are mostly world champs and Olympic champs. They have ample amount of achievements and actual experiences in competitions. After retiring from high level competitions, they have to go through education in theories

and coaching. In this case, their firsthand experiences blend with theories. They can make the best use of what they are. The national system provides them with the opportunity that they can devote themselves to the sport ( coaching and managing the team and doing researches) without any distractions.

The situation in Europe is quite different. Most coaches duties are many and complicated. And it is harder work. They are very much overloaded in organization operating, and co-ordinating the many aspects of the sport. The stress they suffer stops them from focusing on coaching or researching.. In addition, very few top players retire to become coaches. This definitely brings limitations or even damages to quality of coaching.. Players often have to rely on their own talents or understanding of the sport. In this aspect, Germany has done a wonderful job. The sport has been kept at a very high level because they have paid more attention, invested more and worked with a system.

### 3. Concept

We feel that for further development or replacing old ideas, to be innovative with an intent is of the utmost importance. We demand our young players to be more inovative and creative. The same demand applies to some well established veterans sometimes. We see innovations as the lifetime quest. What we oppose most is purposefully copying. " New players, old style " is not what we want. We must continuously look for new things or we will become stagnant and be lost. At the present, many players are too steady and too conservative. They fail to take risks or try new things for fear of losing what they have. It is impossible to achieve much without changes or innovations.

China is a powerhouse in table tennis. We do feel obligated to promote and popularise this sport Under the support of the Chinese Association, there are plans next year in getting more European young players to Chinese training camps. In addition, the Association is also planning a professional table tennis academy. Its establishing will make our studies and training even more systematic. Then, we welcome any Europeans who have the wish to learn, to exchange ideas and to be better in table tennis to go there.

### V. The Five Links of Hitting a Shot

The order for the five links are: judging, position, timing, distance and adjustment. These five links start and end the hitting of a shot. They affect the co-ordination, rationale and precision of the stroke. Due to the fact that every player is different in grip, habit, and feel, we cannot require them to have the exact same stroke. As long as his shot is reasonable and can bring out his personal forte, that will be acceptable. My understanding of a good stroke is : well co-ordinated, can assert power adjusted, with ease, back to ready position, continuous, with speed, power and spin, ensured accuracy.

A detailed explanation of the five links is as follows.

**a) Judging:**

In actual play, if a player is certain in judging the opponent's spin, direction and placement his brain will send out very clear and strong signals which make him more coordinated, relaxed and resolute. On the other hand, if he cannot see or judge properly, the blurry images affect the signals sent. The adverse effects in hitting the shot are hesitation, being tense, slow and stiff.

***There are two ways of judging anticipating and watching the ball***

Anticipating is under the criterion that one can guarantee the quality of his shots, he makes an early judgement on how his opponent is going to play habitually. In such case, opponent's return is basically under control and his next shots can be more easily planned and executed. This will bring very positive effects to accuracy and the feel of hitting the shots. There are three ways of doing the trick

Firstly, basic rule. If I make a very heavy backspin serve, I assume he cannot attack. Then I will be ready to attack a backspin or short return. A topspin serve would mean one cannot return with a short backspin. I will be in position to attack a topspin return.. A fast long serve will most likely bring a deep return. I will take a step back to attack that. If I play a down-the-line shot, I will be in position for his likely crosscourt return. All in all, get a good grip on the basic rules of anticipation, hitting shots can be so easy. Secondly, shots combination In competitions, the proper use of shots combination affects anticipation largely. For example, the great Kohno, 1977 world champ, hit his forehand drive from coast to coast. I was really amazed because he was not particularly powerful or quick with his feet. But he was always in time to hit a forehand from his backhand corner after hitting the previous one from the forehand corner. Then I found out that he had this nice shots combination. He hit a fast backhand down the line and then ran to the forehand waiting for the crosscourt. Then he hit another down the line to his opponent's backhand. His opponent was already put on the run so he moved to his backhand, corner with plenty of time, to hit the killing forehand drive (coup de' grace)

Thirdly, quality. Anticipations need quality shots as insurance. If your shots are forceful and hard pressing, your opponent will have a lot of weak returns. Then you are in control, and the anticipation will work. If not, your opponent can pretty much do what he wants with your shots. Then there will be no anticipation.. Ma Lin's spin, Wang Hao's backhand and Wang Liqin's forehand are all of very high quality. Therefore they can always anticipate a lot more easily.

Watching the ball should be taken literally. We have to watch that split second of impact. This is particularly important in receiving serves. The more common mistake is that players watch the entire process and get fooled by the deceptive motions. Some are simply lazy and too egotistic. They are so full of themselves that they think only what they want to do. They never develop a habit of watching what their opponents are doing. We do have ways of watching the ball.

Firstly, watch the position. Don't look at the many motions. Watch where the point of impact is going to be. He Zhi Wen's high toss serve consists of a lot of quick motions. Watching the whole process gives one an impression of being too quick. Instead, one should watch the space around his waist, where he makes the impact. That would make it much easier. Secondly, watch for details.

- angle of the racket. We can find out that the racket is tilted more vertically for topspin serves. For backspin, it is tilted horizontally.

- The direction of the force. In judging, we must watch the direction of the force at the point of impact. Liu Gouliang always moved the other direction after the point of impact. We won't be deceived if we watch the direction at the point of impact.

- The speed of the ball. It takes an understanding of how spin works and how ball bounces. Speed varies with different spin. For examples, backspin is fast. The ball floats slowly with no spin. Ball shoots upward when hit with inverted rubber. Ball skids downward when hit with pips. The mastering of spin and bounce makes judging better.

For competitions, we expect our players to do both anticipating and watching.. Under normal circumstances, watching should be given priority over anticipating.. As much as we have talked about judging and anticipating., we should not become obsessed with the opponents' shots. The best option is still playing our own game and let the opponents play at our pace.

Judging is a skill. It comes from practice. If a player has poor judgements, he will be under more pressure and it is energy consuming.. It will certainly hinder his performance.. If one has developed a good habit of judging during practice, then judging is no longer a burden. Hence, he can afford to put more energy into other areas and his standard of play will rise.

#### b) Position

The second link is position to hit shots. There are are two issues here. One is the basic stance. The other is getting into the best position to hit a shot.

Basic stance means how one positions himself as regard to the table and the ball before hitting. This has to go according to height and style of the player as he can hit his shots most often and comfortably.

In consideration of height, Wang Liqin stands 1.86m tall. He can choose a position which is slightly away from the table. It allows him to go up and down comfortably. That is his basic stance. However such position is not for Deng Yaping, who is 1.5m She has to position closer to the table in order to reach for the over-the-table short shots.

As for styles, one who is a good strong counterattacker should position himself a little further. One who is weaker in putting power in shots and usually plays off the power of his opponents should position closer. One who likes to hit forehand from his backhand corner and has quick footwork can position himself to the backhand half of the table. A solid allround player with slow feet should position at the middle. The position is to let him play his best shots.

In actual play, one has to be flexible with the basic stance. Sometimes, it depends on the opponents and their incoming shots. One may go closer or back up a bit in certain instances but should return to the basic stance as soon as possible. One very common mistake is that many players position too close for wanting to increase speed. Then the shots are so close to their bodies that they have to back up frequently. This leads to slow movements, weak shots, and distorted strokes. In fact, moving forward is the quickest. Then it is moving horizontally. The slowest is moving backward. Therefore my advice is not to position too close to the table. Make sure you move forward or horizontally more often. Those would be the best choices.

Hitting position is dealing with the relation of arm, body and feet in order to have a more feasible position to hit a shot. This is vital to consistency. Take forehand for instance, when one is ready, his body is tilted slightly backward to the right. Ball, hand and body form a triangle. If the three points lie flat on a surface, there is no center of gravity or power to play. The first testament from most coaches is that one must hit the shots before him. Hitting a shot next to or behind would be against the very fundamental principal. Furthermore, the arm should not be too far from the body because one would lose the center of gravity and the point of support. The only situation in which arm may be separated from the center of gravity is when one plays a short shot. Other than this, arm and the center of gravity are in one set most of the time.

To coordinate the upper body and the center of gravity, one has to push both in the same direction. In this case, the coordination helps to simplify the stroke.

In practicing footwork, many professional athletes train hard in running. However, the movements and steps are hardly applicable in actual table tennis matches. The main reason is that small steps (skipping) have been missing in practice. Skipping is particularly important in adjusting position and 'pre-hit' moving. There is also a link between skipping and the rhythm of movement. One should try to master this.

### c) Timing

The third link, timing, is an issue that covers many things. Usually, we put timing for hitting shots into five particular moments: early ascending, late ascending, top of the bounce, early descending, and late descending. Hitting shots at early ascending is relatively easy. Nevertheless, this point is lower than the net and the shot is fast. It is also difficult to put much power into the shot and mastering the technique is no easy task. Some players blindly pursue high speed. So they try hitting a lot of shots at this point. This is what we would call "pseudo-fast" because the player himself cannot be certain whether he will make the shot or not.

Hitting at late descending is the best. The spin has not taken its full effect. The player has enough time to get ready. This is easy to either put power into the shot or deflect it with opponent's power. And he can play the shot both fast and deceptively. Therefore hitting shots at this moment would produce the most effective result. As far as we can recall, players played their best offensive game when the shots were hit frequently at this point. We should look upon this as the primary timing.

Hitting at the top of the bounce is probably the easiest and the steadiest. The player has a high trajectory and plenty of time to work with. But there are shortcomings as well. The spin has already taken effect. It is no longer easy to be fast and deceptive. The shot is not that forceful and can do less damage.. Therefore to use this as the primary timing is obviously outdated. Hitting at early descending can only be a supplementary measure. It is done only occasionally when the opponent's spin is very strong and we are out of position. Hitting shots at this point will be met with strong spin and difficulty in adjusting and deflecting. Hitting at late descending is the least feasible. Except lobbing or out of desperation, one should try not to do it at all.

#### **d) Distance**

The fourth link is space for hitting. Mainly, we are talking about the space between the ball and the racket before hitting. Usually, the farther away, the easier to impart power. But when the shots are powerful, there tend to be mistakes and inconsistency. On the other hand, the closer it is, the easier to adjust and play off the power of the opponent despite our own lack of power. Based on this theory, we make the choice of distance according to the shots. If there is an opportunity to kill or play a strong shot, the distance should be farther so a lot of power can be put in. On the contrary, an over-the-table shot would require a short distance. Long distance would only make the shot over aggressive and hurt its accuracy.

There are four scenarios of play in general a chance to kill, on the attack, long fast rally, and active defense. All shots fall into these four scenarios. And the motions all consist of many common factors such as center of gravity, stroke, distance power...etc So we are going to deal with all issues together in training.

When kill or loopkill is played, the following happens. There is a big shift of the center of gravity. There is a big stroke to impart more power. The ball is far from the racket. These are 'the big'. When a player is on the attack, the trajectory is lower. The shot is fast. The shift of the center of gravity, stroke, distance and power are less. We can call those as 'the medium'. During long fast rally and active defense, we have faster and more difficult shots. So small shift, small stroke, short distance and small power are in use.

If these requirements are fulfilled accordingly, accuracy and good feel of shots are guaranteed.

### e) Adjustment

The fifth link is adjustment. Adjusting is a skill and ability. It is something that shows in a subtle way. For someone who has good feel on his shots, he must have done a lot of adjustments. Adjustment can well be the most spectacular part of the process of hitting the shot. Or it can be the delicate finishing touch. In actual play, it is wrong to think all shots can be made with one single stroke. There are always small and subtle changes and adjustments which produce entirely different results. What we pursue is not beautiful stroke, but effective stroke.

There are many ways to adjust. I am going to introduce a few primary ones.

#### - adjust by brushing (imparting spin)

The key of this is imparting power with fingers and wrist. The hand is the closest thing to the racket. We get our best feel from there. Power put out by arm, forearm and the center of gravity eventually goes through the wrist and the fingers to complete the task. A Chinese veteran once said, " He who plays with arm is an elementary student. He who plays with forearm is a secondary student. Playing with wrist is an undergrad and he who plays with fingers is the Phd. The simile is clear, vivid and makes a lot of sense. Before brushing the ball, wrist should be pulled back to impart more power. I truly believe that contracting the forearm via fingers and wrist produces more power than contracting arm and forearm alone.

#### - adjust trajectory

I must clarify a certain misbelief first. Brushing the ball is to solve the problem of imparting spin. It should not be taken for granted that shots will be accurate if brushing has taken place. There should also be a desire to go after shots and adjustment of the hand. To consciously play the shots with high or low curve, and deep or short is a skill and discipline. We are to produce the proper trajectory for different oncoming shots. Only by doing so that a high percentage could be attained.

#### - adjust racket angle

The adjusting of racket angles is a high level skill. And because it is difficult to do, master and be consistent, a lot of players dare not work on it. There are no cheap good things. Every good thing comes with a price, (no pain, no gain)

It is my firm belief that no shot is impossible if the racket angle is adjusted properly. The racket has to be open when attacking a short over-the-table shot and loopkilling backspin. And then with hitting the right spot of the ball and imparting power to offset the spin, good effects will be achieved. On attacking topspin and loop, the racket angle should not be too closed. The strong top spin can actually be offset by pushing the center of gravity and arm downward. The racket should never be too closed for it hinders putting in power and speed into the shot.

-adjustment of power Power of hitting a shot is put into five categories: stong power, medium power, a combination of one's own and the opponent's power, deflecting or using opponent's power, and absorbing power.

Strong power is employed while smashing or killing lobs. Employing 90% of what one has is very much enough. Quite a few players go all out and then they become so stiff that they fail to ease up and return to original position. Using medium power takes a lot of skills. It has to be both forceful and precise. It is mainly employed in opening an attack and attacking continuously. Usually, 60-70% is alright.

The combination is taking the spin and power of one's opponent to blend with his own. This is a delicate way of using power but it is also a safe way. He can spend 40-50% of his power to gain a 70-80% effect. Using opponent's power is done in fast long rally and active defense. Even though one may make use of his opponent's power and spin, one should not overlook the oppotunity of hitting back with force. We normally recommend 20-30%.

Absorbing power is mostly used when one serves short and makes short shots. It is my opinion that when one learns or tries to master any new techniques, he must first learn to impart power. It will be much easier to adjust after knowing how to impart power. Take serving short as an example, one should not barely touch the ball to make it short. It can still be easily attacked though it is short. We should practice with imparting a lot of power and spin and then hold the power at the last second. - adjust pace/rhythm

Pace is simply a matter of fast and slow. Competitions are usually a match up to see who is faster or stronger. But when one is no match to his opponent in speed and strengthen, he can turn to being slow, light and spinny to disrupt his opponent's rhythm. These are not the end but rather the means to look for another chance to resume his own speed and strengthen. It is a display of intelligence and wisdom.

The adjustments of pace and power are related. Under normal circumstances, most matches are played while the two players are playing the opposite. When one is fast, the other one tends to look slow. But then there are situations when the two play alike. That happens most often in counterattacking and scrambling for control.

As a whole, adjustments depend on the situation and the flow of the game.. At that moment, judgment, choice and execution become the keys. When one can do this, he should not be too far from success.

Lastly, I would like to show two training tricks to you.

**(A) Five Do's in hitting the shot**

1. When hitting the shot, make use of the center of gravity. One has to do that with serving, pushing, and blocking in addition to attacking. Whoever overlooks this is making a huge mistake.
2. Before hitting the shot, use the wrist to lead the racket. This delicate little thing decides the motion, the power and the feel, especially for the shakehand players.
3. When hitting the shot, focus on a point. A loose motion lacks power. It is particularly meaningful in brushing the ball and deflecting power.
4. When hitting the shot, use your opponent's power. It saves trouble. It is easy. It helps hitting at early ascending. So many good things. Why not?
5. When hitting the shot, put power all the way through the head of the racket. It decides the curve, the feel, and the quality. If power has not reached there, the stroke is not finished.

**(B) Four Must's in practice**

Daily practices are a culmination of good things. We cannot expect to practice new spectacular things every day. If some of the fundamentals work out, players can greatly improve without a coach. In practice, You must

1. watch the ball and make it a habit.
2. insist on practising small steps and make it a conditional reflex
3. evaluate oneself on every shot.
4. do integrated and combination practices, not mechanical ones.

Four great ones, starting from zero, make it more, make it last.