

A discussion on the specific consciousness of table tennis players

Piren Su, Beijing University of Physical Education, Beijing 100084, *China*

The problem of raising the specific consciousness of a table tennis player in training is being brought up by more and more people as its importance is becoming increasingly clear. But what exactly is the consciousness of a table tennis player, and what are its components? To these questions a satisfactory answer has yet to be found. This article is devoted to the meaning, importance and components of what I term "table tennis consciousness," as well as ways to cultivate it.

What is table tennis consciousness?

By table tennis consciousness, I mean a table tennis player's conscious mental activities during training and competition, activities that have definite aims and directions.

The most salient feature of such consciousness is its active function. Take the consciousness of judgment for instance. With this consciousness, a player in action actively pays attention to distinguishing and judging the placement, spin, trajectory, speed and strength of an oncoming ball.

The word "consciousness" has come to be widely used nowadays. During the 11th Asian Games held in Beijing in 1990, we could see large streamers bearing slogans urging people to be more "Asian-conscious"(just let you think of the Asian Games, should do very well in every aspect) everywhere in the streets. When Beijing was bidding to host the 2000 Olympic Games, people here often talked about being "Olympic-conscious", To be conscious about the Asian Games or the Olympics means to think of these events all the time and to devote your efforts towards their success. The meaning here is identical with that of the specific consciousness of a table tennis player.

Consciousness may also be interpreted as a line of thought. You can be said to be conscious if you actively think only of a problem related to table tennis. How you should think of the problem, and the ways of solving it, these are technical issues outside the province of consciousness. Take the consciousness of judgment again, for instance. A judgment-conscious player needs only to pay attention to distinguishing the characteristics of different oncoming balls. As to how this should be done, that is a technical issue beyond the realm of consciousness. A player who rashly hits back every ball without caring about its characteristics, thus making frequent mistakes, is typically devoid of conscious judgment. If a player understands the need to exercise judgment and watches every oncoming ball very closely in practice, he is considered judgment-conscious even though he may lose a game to a stronger opponent, for what is involved there is a matter of technique.

We may study the issue of table tennis consciousness in two aspects: its contents and its state of being.

Components of table tennis consciousness

Scientific-mindedness: Generally speaking everyone can play table tennis, but not everyone can play well. The table tennis game has its own objective laws; in order to play well, you must adapt your mental and physical behavior to these laws. To achieve this aim, you must make incessant efforts to sum up your own and other people's experience in training and competition, study scientific and cultural knowledge, probe into the laws of table tennis, and use them to guide your practice.

Working hard and ingeniously: There is no accomplishment without hard work, and yet not all hard workers can be successful unless their actions conform with objective laws. Studying objective laws and using them as a guide to action is in itself ingenious work. Only when you work hard and ingeniously can you become a good player. Working hard without using your brain will get you nowhere. Hard work, however, constitutes the most basic law of training.

Firmness of purpose: Purpose is a tremendous driving force which generates strong will and fortitude and leads to practical actions. Unless a player is firm of purpose, it is impossible for him or her to display strong will or fortitude. Children usually learn to play table tennis only for fun. As he or she makes progress, the coach should try to instill a firm purpose in his pupil.

Watching the ball: This is the basis of sound judgment in playing table tennis. After making a shot, a player should closely watch the opponent's stroke movement (particularly at the instant of impact with the ball) and then follow the flight of the oncoming ball. Many people fail to make prompt or correct judgment simply because they do not strive hard enough to watch the ball.

Quick recovery: After making a shot, you should quickly adjust the centre of mass of your body and shift back to the ready position in preparation for the next shot. Some people who lack consciousness in recovery allow their body weight, arms and racket to linger on too long in the follow-through, so that they find themselves hard pressed for time when the ball comes back to them again.

Agile footwork: Since in table tennis the ball can come to you in a thousand and one ways, with different placements and varied rhythm, it is necessary for you to move about nimbly so as to position yourself where you can give full play to your forte (e.g., forehand attack from the backhand court) and hit the ball back most effectively. It should be made clear that table tennis does not involve only the use of skillful hands; along with technical improvements, the importance of footwork will make itself more and more strongly felt.

Looking for a suitable point of impact: The point of impact means the position of the impact between the racket and the ball relative to the position of the body. It depends on the style of play. Although there are some general laws governing its selection, it is most important to consider the individual conditions. A player should therefore constantly look for the point of impact that is best suitable for the moment.

Combining fast hits and loops: The two most basic ways of applying force in table tennis are to hit the ball fairly squarely, and hit it tangentially or to brush it. Except high balls near the net, which can be hit simply with a fast hit all other balls must be hit with a stroke combining fast hit and the brush, with emphasis on one or the other depending on the circumstances.

Emphasis should be laid on the fast hit in a fast attacking stroke so as to increase its

speed and strength. However, a brushing element is also needed to impart the topspin that is necessary to bring the ball down after it over the net. This may be done by adjusting the angle, force and topspin of the shot at the moment of impact. The most important of these is the topspin, which is produced by brushing the ball.

Emphasis should be laid on a brushing action when you wish to produce a spinning ball such as a loop. However, you can hardly produce a very strong spin if you brush the ball tangentially. The correct thought is "strike first, brush next." In other words, you should think about striking as if the ball is stuck on the surface of the racket, then think about brushing it with force.

Getting the feel of the stroke movement: Every time you have hit the ball, your muscles must clearly get the feel of the whole stroke movement you have just completed, especially the way you apply force at the instant of impact. If you have mis-hit the ball, you should immediately recall your stroke movement and try to find out what was wrong with it. As you improve your technical performance, your thoughts should be more and more specific.

If you have hit the ball out of bounds, for instance, you should try to find out how far it has gone out and what was it in your stroke movement that has caused the error. Only when you do so consciously can you make continuous progress in technical performance.

Grasping the essence of a stroke: While it is necessary to look at the outward appearance of a stroke, it is even more important to research into its essence. A good stroke is characterized by a speedy racket, a high percentage of success, and the ability to cope with different oncoming shots.

Awareness of time and space in performing a stroke: Stroke movements may be analysed with respect to time and space. The stroke is timed differently according to the type of the ball to be dealt with. Thus you hit fairly early when the oncoming ball is a loop, especially if you want to make a "quick carry" i.e., a forehand stroke produced with a force mainly of the forearm, utilizing the momentum of the coming ball during its ascent. But you have to hit the ball during its descent when it is a backspin. In timing a stroke, particular attention should be paid to adapting the speed of your swing to that of the oncoming ball. In that way, you can produce a speedy, powerful shot by making use of both your own strength and the momentum of the oncoming ball. The space factor, is related to such things as the path of the racket, its angle, the method of applying force, and so on.

Readiness to make adjustments: No matter what type of game you play, you must consciously adjust your movements according to the behavior of each oncoming shot.

1. Adjustment of force: You have to hit hard if the oncoming ball is slow and high. If it has backspin, you can return it with slightly reduced force by utilizing its own momentum. You can reduce your force still further if the ball is driven to you with moderate strength. If it is a powerful shot, then you can return it with a block without applying any force.

2. Adjustment of the racket angle: This is done according to the spin of the oncoming ball and the height of its trajectory. The racket is tilted slightly backward when the coming ball is low or carries strong backspin; it is held in a vertical position if the coming ball carries no spin or if its bounce is just as high as the net; it is tilted forward if the coming ball carries topspin or is high.

3. Adjustment of the swing: The speed, amplitude and height of the swing should

be varied according to the pace, height and spin of each oncoming ball; never allow yourself to get into a groove. If the coming ball is a loop with strong topspin, you should hold your racket little higher and quickly swing it forward (without a preceding backswing) to meet the ball. If the ball is low and carries backspin, you should hold your racket a little lower. If it comes in very fast, you should reduce the amplitude of your swing so as to speed up your stroke movement. If it is slow and high, you increase the amplitude of the swing so as to add force to your smash.

4. Adjustment of the finger movements: No matter which part of the body you use for applying force to a stroke, eventually it is the fingers that act on the racket. Being closer to the ball than any other part of the body, the fingers are most sensitive during the stroke. In serving, in particular, all the tricks you use at the instant of impact depend on the actions of your wrist and fingers. Hence the need to adjust the finger movements according to circumstances.

5. Adjusting the direction of the stroke: For instance, a stroke should be directed a little upward when attacking a low, backspin ball; it should be directed mainly forward when attacking a non-spin ball, and forward and a little downward when attacking a high loop with strong spin.

Differentiating various types of shots: In technical training, a player should make constant effort to differentiate the various types of shots he has come across, to find out the ways of countering each type of shot, and to clarify matters needing attention when he handles these shots. Some players are only good at dealing with shots that are familiar to them. Once they come up against a strange shot, they will fail to make a good return.

At such times, it will do them good to stop and think: What is special about that kind of shot? Is it especially long or short, fast or slow, or heavily spun? They can then differentiate various kinds of shots and look for ways to cope with them. In course of time they will make their skills more and more refined and continuously improve their performance.

Awareness of the dialectical relationships between variation and stability in play. While you should be able to differentiate oncoming shots with increasing subtlety and change your ways of handling them accordingly, you should keep to a well-tested method of play when dealing with shots of the same type.

Tactical awareness: Attention should be paid to how you use your skills. On the one hand, you should pay attention to the methods of employing tactics in competition because only when tactics are appropriately applied can you give full play to your techniques. On the other hand, you should show tactical awareness when learning skills. In practicing exchanges of forehand diagonal strokes, for instance, link the practice with tactics like surprising the opponent with sudden hits driven at sharp angles or with occasional body hits. In this way you will achieve better results than you will from thoughtless practice.

Strategic awareness: In training, and especially in competition, one must take a comprehensive view of the general situation, such as the schedule of tournaments for the whole year, the order of their importance, the aim and tasks to be fulfilled in each tournament, and so on. Sometimes, in order to concentrate on a tournament of decisive significance, one may give up some of minor importance. When a team takes part in a big tournament, it has to take care of certain strategic problems of overall importance, such as selecting players for competition and determining which event (say the team event, the singles, or the doubles) should be given top priority. These problems must be taken

seriously; unless they are properly resolved, you can hardly achieve the desired results in the tournament.

Paying attention to the placement of shots: This is particularly important in competition. Generally speaking, sharply-angled shots, body hits, drop shots and deep shots are considered well-placed. However, different players may find different placements difficult to deal with. A player who favors the forehand attack and backhand push, for instance, usually has trouble tackling deep backspin balls driven to his backhand, especially when such a ball comes to him suddenly after a string of shots have been directed to his forehand. During a match, a player should try to find out which kind of placement his opponent fears most and should carefully study the habitual way he places his shots.

Memorizing a game: During a match, you should consciously memorize the tactics you and your opponent are employing, including such details as what types of serves were produced by your opponent, how you returned them, what your opponent did next, and so on. By doing so, you will greatly heighten your tactical consciousness in course of time.

Developing spinning skills: One should fully realize the importance of spin as a contributing factor in winning points. During training, one should make conscious efforts to improve and vary the spins of one's serves, chops, lifts and lobs. In competition, one should try to outplay one's opponent by skillfully imparting varied spins.

Developing an urge to attack: This is the guiding idea for positive play. During a match you should try your best to get in the first punch. Failing this, you can play a transitional stroke before initiating an attack. This urge to attack is very important. Some players who are quite good at forehand attacks from the backhand position often miss opportunities simply because they lack a strong urge to attack. The ancients said, "When two men of equal strength get into a fight, it is the braver who will win." The braver man is the one who gains the initiative by striking first.

After initiating an attack, one should keep on the pressure until the point is clinched. Otherwise, there is the danger of allowing the opponent to rally and wrest back the initiative.

Adaptability to changing circumstances: During a match, one should carefully read the opponent's tactical moves and promptly change one's own tactics. Throughout the match each player keeps varying his tactics in the hope of gaining the upper hand. The player with the keener observation and who can change his tactics more quickly according to the situation will stand a better chance of winning.

Varying the rhythm of play: This is as essential as the variation of placement and spin. After you have produced a series of fast drives, for instance, you can take your opponent unawares by suddenly slowing down a little for a high loop with heavy topspin. The rhythm of play can also be varied in your serves, preferably made with similar stroke movements.

Awareness in containment, defense and counterattack: When it is not possible to attack, or when the opponent shows a particularly strong urge to attack, you should try to contain him while preparing to defend yourself. While defending, look for an opportunity to switch over to attack.

Asserting one's partial advantages: A player can do whatever he pleases if he is better than his opponent in every respect. Such cases, however, are extremely rare in a tournament, where most players excel only in some aspects of the game. Hence the need

for them to assert their partial advantages, i. e., to use their own strong points for striking at their opponents' vulnerable spots. This is of course not always possible. Suppose you are specially strong in varying the spin of your serves and your opponent is specially weak in receiving high-toss serves. In this case, since there is little connection between your strength and your opponent's weakness, it may be worthwhile for you to try using high-toss serves even if you are a poor hand at them. In this way you may be able to gain partial advantage over your opponent.

Awareness of speed: We must fully realize that speed is the soul of the Chinese game of fast attack. Speed is the chief means by which Chinese players overcome their foreign adversaries. To make an early hit, one must give full play to the snapping force of one's wrist and fingers.

Combining ferocity and steadiness: There are a great variety of playing styles, each with its own characteristics. Nevertheless, all styles with proven worth in competitions must be at once fierce and steady. Ferocity and steadiness are interrelated; the two must be appropriately combined in both training and competition.

Developing one or two fortes: A player must develop one or two fortes in his play if he is to pose a real threat to his opponents and scale technical heights. These fortes should be established in the light of various factors, such as the type of game practised by the player, his physical and mental attributes, and the properties of his racket.

Readiness to make changes: The ability to make changes is one of the important contributing factors in winning points. During a match one must consciously change the speed, spin, strength, placements and trajectories of one's shots. It is also necessary to change one's tactics according to the circumstances.

Slighting the opponent strategically and taking him seriously tactically: When you compete in a tournament, you must first of all be confident of your ability to defeat your opponent, then you must make a serious effort to study his techniques, tactics and physical and mental features so as to work out your own tactics, including such details as what kind of serves to produce, how to force home your attack, points deserving special attention in receiving serves, what to do in a long-drawn-out rally, and so on.

When two players of equal strength meet, they usually "fear" each other. When you feel nervous during a match, you should think more about your advantages and the tactics you are going to apply, and should be assured that your opponent fears you more than you fear him. That way, you can add to your courage and gain a psychological edge over your opponent.

Cultivating a good technical style: This should be emphasized in both technical and tactical training. A player's technical style is often said to be the soul of his technique. The type of technical style cultivated by a player will have a direct bearing on the course of his future development and achievement. Numerous facts have proved that, unless a player has a clear-cut style of play, it is impossible for him or her to scale the world's highest peak in table tennis.

Grasping the principal contradiction: Every player at a given time is faced with a principal contradiction which affects the improvement of his overall performance. Once the contradiction is grasped and resolved, he or she will make remarkable progress. Let's cite just one example. At the 23rd World Championships in 1957, the Chinese players found that their fast, aggressive play was rendered less effective by a lack of accuracy. Afterwards, they stepped up their training for achieving greater precision in their strokes, and it quickly paid off.

Consciousness in all-round training: A player must have a good idea of the various factors contributing to his competitive power, such as physical shape, functions and attributes, techniques, tactics, mental state and intellectual faculty, and must conscientiously work for the improvement of all these factors. Some people wrongly think that to upgrade performance it is necessary to go all out for technical improvement. To them, such things as physical and mental attributes are of little consequence. Such a narrow point of view has led to anything but the desired results.

Developing an urge to make a good showing: A player must clearly understand that the purpose of training is to achieve good results in competition. For this reason, a player under training must cherish a strong desire to make a good showing in the forthcoming competition.

Developing an urge to make innovations: This is incumbent on both coaches and players. The success of a team or an individual player often has much to do with their innovations. By making innovations, a weak team or player can become strong and go from victory to victory. This is a law revealed by the 60-odd years of world table tennis development. Innovation should embrace techniques, tactics, playing methods, training, administration, equipment and theory. Players are mainly concerned with the first four respects.

Consciousness in making quantitative analyses: A player should have a clear quantitative idea of how he stands in training or competition. E.g., how many seconds does it take for him to run 1,500 metres? What is the time for each lap? How much time does he spend on training every week? How is his pulse in the morning? What is the rate of success in applying a certain skill in training and in competition? One must be very meticulous about these matters.

Attaching importance to theories: Players should fully realize the role of theories in guiding practice, conscientiously study table tennis theories and pay attention to combining them with practice.

Consciousness in preparing files: Coaches and players should build files for themselves and persist in writing daily training logs and summaries of work (both for a short time and for a year). They should keep a clear record of the numbers of matches won and lost in a given period, of the results of the players' physical and technical tests during that period, and so on.

The state of player's consciousness

The state of consciousness refers to the degree of awareness of one's own feelings, of what is happening around one, etc. A good state of consciousness means a state of clear-headedness, and is dependent on proper excitation of the cerebral cortex. A healthy man's state of consciousness is mutable, varying as it does from highly conscious, moderately conscious, lacking concentration, to absent-minded. This can also be said of a player in training or competition. In proof I have visited 30 players and 20 coaches, who all confirmed their experience of various states of consciousness during table tennis lay. Under equal conditions, a player in a good state of consciousness shows greater concentration in play and will achieve better results in training; with accurate judgment, quick reflexes and good adaptability to changing circumstances, he will perform better in competition.

I once carried out an experiment with 10 beginners practicing forehand diagonal

attacks. I put them through two tests. In Test 1, I spoke in a very mild tone asking them to try to register as many strokes as possible in each rally, so as to put them in a moderately good state of consciousness. In Test 2, I told them the same thing but used highly instigating words to sharpen their consciousness even more. The numbers of strokes per rally recorded in the two tests turned out markedly different because of the changing state of consciousness in the players being tested. The latter is better. According to these 30 players and 20 coaches, a change in the degree of concentration (which depends on the state of consciousness) can make all the difference in a game even though he does not change his tactics. Sometimes a little "nap" would cost him several points, but once he arouses himself and plays with a high degree of concentration, he may be able to redeem the loss quickly. Tournament play is characterized by intense exertion punctuated with brief pauses. When the ball is in play, the player is required to attain the best state of consciousness so that he is extremely clear-headed and displays a high level of concentration. But during the intervals between rallies and games he can take a little rest and relax. One should fully understand this law and be good at utilizing it.

The components of table tennis consciousness and a player's state of consciousness are interrelated and should be given equal attention in practice.

Any one-sided approach would adversely affect the results of training and competition.

The importance of table tennis consciousness

The actions of a player in training or competition are bound to be governed by his consciousness. With a good state of consciousness, he can train efficiently and quickly improve his overall competitive ability. Generally speaking, technical problems are visible and tangible and can therefore be easily spotted and resolved, whereas problems pertaining to consciousness are more difficult to detect and once they clearly reveal themselves you will have to make tremendous efforts to overcome them, if they can be overcome at all. Now let us examine the importance of a player's state of consciousness by analysing a few typical examples.

1. Those who are not scientifically-minded do not care about the objective laws of table tennis. They often take a mechanical view of the saying "Given hard work, an iron rod can be ground into a needle" believing that those who sweat more will make faster progress. But actually the hard work of these people often fail to bear an amount of fruit that is commensurate with their efforts, and may even end up in a way contrary to their wishes. From this we can see the importance of being scientifically-minded.

2. Twenty veterans who had competitive careers during the 1950s and 1960s told me how a wrong conception can lead a player astray. In their days standardized technical movements in table tennis play were given utmost attention. Some people held that a basic movement could be considered perfectly correct only when it was exactly the same as described in the pictures printed in table tennis books and journals. Guided by such one-sided conception, players devoted all their energy to mechanically imitating the "standard movements," sometimes working with the help of rulers and mirrors for the sake of exactitude. Putting the cart before the horse, they went to the length of regarding the execution of standard basic movements as the ultimate aim in training while regarding the actual effect of stroke movements as of secondary importance. Players who were thus led astray learned little about the essence of a stroke movement that can be comprehended

at the instant of impact between the racket and the ball. Although a few of them became "models" in basic movements, nearly all ended their competitive career with little accomplishment.

3. While doing technical drills, one must always have tactical aims in mind if one is to learn solid skills that are of use in tournaments. I have often heard coaches at spare-time sports schools say they find their young charges progressing pretty fast at the start but showing signs of retardation when they have reached a certain level of performance. Why? One of the main stumbling blocks, I think, lies in lack of tactical awareness in technical training. Tactics is the means of applying skills, which in turn serve as the means of operating tactics. Negligence in developing tactical awareness amounts to forgetting that the ultimate aim of training is competition, because the most basic weapon for winning matches is tactics. Training is aimless unless you know clearly what tactics to adopt against various types of games and which tactics are the most effective against an opponent. In appearance, all players may train in almost the same way but they may achieve very different results if they have different ideas in their heads. Take the practice of block and push strokes for instance. All players may practise with the same patterns, varying the direction and placement of shots as required. But if one does not have a tactical sense while doing the practice, one may be able to acquire the skills but still find it hard to apply them properly in a tournament. One may even find the practice boring with all the endless repetitions. But if we teach the trainees some tactics that can be applied with the block and push strokes, such as "keep sending the ball to one side and suddenly hit one over to the other side" or "keep sending the ball down the centre and suddenly hit one down the sideline", then they can heighten their interest in training and learn to use their skills in competition.

4. A player may have fallen into the habit of displaying "fastswings" between backhand flicks and forehand attacks in competition, which only reduces them to passive defense. He may be pretty skillful at delivering forehand attacks from the backhand position, but he scarcely uses this method simply because he lacks an urge to attack. In my surveys I visited 18 coaches who told me about their experience in training junior players. According to them some youngsters were actually quite good at making forehand attacks from the backhand side, but because right from the beginning much effort was devoted to practicing "fast swings" between forehand and backhand strokes, they neglect cultivating a strong urge to attack, they tended to settle into a groove in stroke play. And when they competed in tournaments, they could hardly break their habitual way of playing no matter how you shouted to them to take the initiative in attack.

Of the 60 persons I consulted, 58 were of the opinion that a player's consciousness is more important than his technical proficiency. The way they looked at it was that skills can be learned but the quality of consciousness can hardly be improved. Some players with poor consciousness were not aware of their problems until they were about to retire. Still others remained ignorant even after their retirement.

Cultivating table tennis consciousness

1. Teaching theories

Table tennis practice is guided by table tennis theories. Training at all levels needs theoretical guidance, and players of all grades must take theoretical lessons. The concept of table tennis consciousness has not come spontaneously; it has emerged through long

years of practice on the part of countless coaches and players. Regrettably, many table tennis books do not contain any special writing on this subject. Such a drawback in theoretical work should call for serious attention from the masses of coaches, players and research workers. The cultivation of table tennis consciousness should be listed as an obligatory theoretical course.

In teaching the theory about table tennis consciousness, special attention should be paid to integrating them with practice. Theories should be explained by citing as many practical examples as possible. As the saying goes, "Skills are acquired through practice, while consciousness is cultivated through the power of understanding." Sometimes, in order to explain an idea more clearly, practical examples that fall outside the realm of table tennis may also be cited. In discussing tactical consciousness, for instance, many examples of military operations in Chinese and foreign histories can be given to explain things from various angles. To teach theory, we can use any means as long as they can help players really understand the essence of table tennis consciousness.

2. In teaching and training, we should see that the players apply themselves to the cultivation of consciousness in conjunction with technical and tactical practice. In teaching how to judge oncoming balls, for instance, emphasis should be laid on making conscious efforts to "stare" at the ball. In conducting technical drills, efforts should be made to instill tactical awareness into the players' minds. Sometimes even a single stroke movement can be taken as an object for explaining the meaning of table tennis consciousness. When a player has hit the ball out of bounds, for instance, the coach should not confine himself to explaining the cause of the error, which may be a faulty backswing, but should go further and explain the importance of cultivating consciousness in constantly adjusting the backswing in play.

3. Drawing up programmes for cultivating consciousness

(1) Initial stage

a) Trainees are taught to develop a scientific approach in training, to set higher aims and to combine industry and ingenious work in table tennis practice.

b) Cultivating consciousness in "staring at the ball." This may be done by different methods such as hitting the ball against a wall, staring at a ball hanging from a string, practicing mental rehearsals, etc. It can be carried out during stroke practice.

c) Maintaining a good state of consciousness. Using practical examples, explain the meaning and importance of maintaining such a state. Then, in combination with exercises of "staring" at the ball, help the trainees maintain a good state of consciousness as long as possible.

(2) The stage in which basic skills and simple tactics are learned

a) Cultivating consciousness in judgment. Theories are explained in the course of technical practice. For instance, by feeding a trainee shots with different properties, placements and trajectories, the coach can help him understand that judgment is the basis and prerequisite for a good stroke, so he must conscientiously exercise judgment in returning each shot.

b) Cultivating consciousness in foot movement. Teaching is carried out in combination with footwork exercises, sometimes using bare hands for simulated stroke movements. The aim is not only to learn how to move the feet but, what's more important, to develop consciousness in foot movement during stroke play.

c) Cultivating consciousness in recovery. It must be made clear to the trainee that when he hits the ball successively, one stroke will end where the next stroke begins, so

he must consciously recover his balance during the brief instant between every two strokes so as to ensure their smooth execution.

d) Cultivating consciousness in seeking the optimal point of impact in delivering a stroke. The importance of such consciousness is explained during practice, in the course of which problems are spotted and promptly solved. Arrangements may be made for trainees to watch demonstrations given by elite players.

e) Cultivating consciousness in combining "fast and tangential hitting. The trainee is given to understand that such a combination constitutes the very essence of table tennis skills. To help him get the feel of it, the coach may take the palm of the trainee hand as the surface of a ball and use a racket to execute both types of stroke on it.

f) Cultivating consciousness in getting the feel of one's stroke movements. The importance of such a practice, and the methods to be used, are explained to the trainee, who is required to be mindful of every stroke he plays, so that he can tell the why and wherefore of the success or failure of a stroke.

g) Cultivating consciousness in making placement hits. Theoretical lessons are combined with practice. In technical drills, quotas are set for placement hits so as to improve the trainee's consciousness in this regard.

h) Developing a good state of consciousness. The importance of such an effort should be emphasized again and again. Trainees may play "one-point games" in which they go all out to win a single rally, making serious mental preparation beforehand.

i) Cultivating consciousness in attack. Trainees watch performances given by elite players, so that they can see for themselves how important it is to seize the attacking initiative in tournament play. They then do special exercises such as practice games in which each rally must be clinched with no more than three strokes, or in which only one chopping stroke is allowed before making an attack, or only two backhand pushes or flicks are allowed before moving over to the backhand side for a forehand attack, and so on.

j) Cultivating consciousness in producing spins. By watching exhibitions and taking part in competition, trainees are taught the importance of imparting spins to their strokes.

k) Developing an urge to make a good showing in matches. Practical examples are given to show that the purpose of training is to achieve good results in tournaments. In day-to-day training, therefore, it is necessary to cultivate an irrepressible desire to make a good showing in tournaments. Trainees should understand that the only test of one's skills is one's actual performance in tournaments. Supplementary activities such as dancing and singing performances and making speeches, preferably in solo form, can also help cultivate an urge to make a good showing in public.

(3) The advanced stage in technical and tactical development

a) At this stage, higher demands are set with respect to cultivating consciousness in "staring at the ball," exercising judgment of oncoming balls, and getting the feel of stroke movements.

b) With the improvement of skills, one should gradually break away from conventional practice and study the principles of stroke movements by getting the feel of them at the instant of impact.

c) Cultivating consciousness in making adjustments (in the application of force, backswing, timing of strokes, angling of the racket, direction of strokes, methods of applying force, and finger movements). Emphasis is mainly on theoretical courses in

which the reasons, functions and methods of these adjustments are explained. The trainees are then required to apply what they have learned in practice and their performances are critically appraised.

d) Cultivating consciousness in understanding the dialectical relationships between variation and stability in play and in memorizing a game. Theories are taught at classes and verified in workouts.

e) Cultivating consciousness regarding speed and variation. Trainees are taught the meaning of speed and methods for speeding up their play. Their performances in technical and tactical training and in competitions are evaluated and commented upon so as to instill into them a strong urge to vary the pace, placement and spin of their shots.

f) Cultivating consciousness in such matters as tactics, seizing the initiative in attack, adaptability to changing circumstances, and awareness of time and space in performing a stroke. Theories are taught at classes and verified in workouts.

g) Cultivating an urge to make a good showing in play. Trainees are required to carry to a still higher level what they have achieved in the previous stage. They are encouraged to talk about making a good showing all the time, not only in classes but outside them as well.

(4) The stage in which technical styles are established

a) Cultivating consciousness in evolving technical styles. During theoretical classes, examples are cited to show the meaning of technical styles and their importance. Discussions are held for exchanging ideas. Strict requirements are set in training and competition, in the course of which performance is critically appraised.

b) Cultivating strategic awareness and an urge to assert one's partial advantage in play.

c) Cultivating consciousness in developing one or two fortes, in setting up continuous attacks, and in improving the awareness in containment, defense and counterattack.

d) Cultivating consciousness in making innovations. New technical skills are introduced to the trainees and examples in table tennis history are cited to illustrate the importance of technical innovations.

e) Cultivating consciousness in preparing files. Apart from theoretical lessons, specific assignments are allotted by the coach and their fulfillment is checked afterwards.

f) Cultivating a good state of consciousness. This is repeatedly emphasized and "one-point games" are played, with performances appraised by the coach.