THE SWEET SCIENCE 101: GO THE DISTANCE

The Official Manual of the United States Intercollegiate Boxing Association (USIBA)

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Before I could read, I started boxing lessons under the tutelage of my uncle, Pete Hobbie. This book is dedicated to him and his trainer, Wilson Pitts.

It is a compilation of all that I have learned throughout my eighteen years of boxing training combined along with techniques from both men. Wilson not only taught and trained Peter Hobbie, but also the boxing pride of Richmond, Virginia, Carl “Piggy” Hutchins.

Wilson lived in Philadelphia and studied boxing at Joe Frazier’s gym in the 1970s. It was there that he learned and embraced the techniques of the legendary trainer Eddie Futch. By watching and eventually being accepted as a student of the sweet science by trainers such as George Benton, he was able to learn boxing tactics and knowledge that are unfortunately becoming harder to find as time passes.

Luckily, this manual helps preserve some of Pitts’ invaluable insight.

Kevin Ferguson
Fall 2014
In my experience as a collegiate boxer, visiting and training with various collegiate boxing teams, I found there are simply not enough coaches to fully assist beginners in mastering the essentials. It’s not uncommon to encounter one coach attempting to teach and train thirty or even forty boxers. It is impossible to effectively teach at that teacher-student ratio given the time constraints and limitations inherent to a student’s many other responsibilities.

This boxing instruction manual provides the basic, but proven, fundamentals of boxing and is meant to be a supplement to the student boxer’s personal instruction. These techniques have stood the test of time, as many of the descriptions and illustrations used can be found in boxing books dating back to the beginning of the modern era of boxing and are still found in boxing manuals today. The aim in creating this manual was to compile the most useful elements of these classic methods in a comprehensible and easily accessible manner.

This manual will serve as a brief but inclusive boxing reference guide for high school or collegiate boxing clubs. We predict that it will find the right home in the gym bags and lockers of amateur boxers and trainers across the country.

Footnotes
1 In 1867, the Marquess of Queensberry rules were introduced in England. These rules provided the landscape for modern boxing rules and regulations.
SECTION I: BECOMING A COLLEGE BOXER

In this section:
SPORTSMANSHIP
THE IMPORTANCE OF PHYSICAL CONDITIONING
Training is essential for the amateur boxer to cultivate a fit body and mind, as both are necessary to succeed in the sport. It is not sufficient for a boxer to pursue only the development of technical skill, for boxing requires a multidimensional athlete.

Stamina is needed to maintain efficacy through the progression of rounds, speed is needed for punching and defensive maneuvers, and power is needed for explosive movements of the core and feet. A boxer needs not only this, but a sharp psychological state to withstand and overcome the many obstacles that will be posed throughout his or her progression. All of this is accomplished through the rigors of disciplined training.

A complete boxing training regimen is comprised of the following: a dynamic warmup, cardiovascular training, plyometrics training and skill training. This diversity of exercises not only builds the physical attributes needed in the ring, but also works to improve mental focus. For this reason, a boxer cannot neglect any aspect of training and should strive to make the most of each workout.

“Training is the psychological and physiological conditioning of an individual preparing for intense neural and muscular reaction. It implies discipline of the mind and power for intense neural and muscular reaction. It implies discipline of the mind and power and endurance of the body. It means skill. It is all these things working together in harmony.”

Bruce Lee
Before anything else, general mobility and power-to-weight ratio should be addressed by training the boxer’s lower body and core. Start with unweighted squats and lunges, rope skipping, and step-up aerobics. Boxing is interval training: you do an exercise to rapidly raise the heart rate, stop for recovery, and then repeat. **It’s the trainer’s job to adjust the number, duration and intensity of intervals.** This style of training will help to burn fat and increase leg strength; both are needed and should be achieved before the gloves are ever put on. ( Depending on the beginner’s starting fitness level, this could take a full semester.)

Once general conditioning and improved mobility is gained, resistance and plyometrics training, using weights and plyo-boxes, can be introduced. Start by marking a line on the floor with tape and have the boxers jump over the line side to side while maintaining balance.

Next, using plyo-boxes, introduce box jumps. (The height of the box should not exceed six inches.) Resistance training can be integrated into these exercises by adding light dumbbells or flexion bands.

This phase of training is aimed at strengthening the connective tissue enough to avoid knee injuries. My golden rule is to never jump on concrete. The shock created by continuous hard impact can be detrimental to connective tissues and joints. If necessary, build a plywood-topped surface to jump on. Remember, all movements should target the core or hips area.

**COACHING TIPS COURTESY OF WILSON PITTS**

**DYNAMIC WARMUP**

A dynamic warmup prepares the body for the demands of a workout by eliciting the acute physiological changes that prepare the boxer for strenuous physical performance. These physiological changes include an increased heart rate, increased respiratory rate, increased blood flow to large and small muscle fibers, increased core temperature, and enhanced muscle elasticity to aid in the prevention of injury during explosive movements.

To achieve optimal benefits, the warmup exercises should emulate, as closely as possible, “real boxing” movements.

See Figure 1 below for an example dynamic warmup.
CARDIOVASCULAR TRAINING

Cardiovascular training (sometimes abbreviated to cardio training) is perhaps the most important aspect of any boxer’s training regimen. In amateur boxing, lack of physical fitness probably causes more losses than any other factor. Too often, collegiate level amateurs rely solely on the mandatory club practices for workouts and do not supplement those workouts by training on days that the team does not meet. This is at least partly due to the busy lifestyle of most collegiate boxers. Between the rigors of class and school-related obligations, training and recovery time is always at a premium. For this reason, the collegiate boxer must train intelligently to budget both a busy schedule inside and outside of their program.

See Figure 2 for an example of a cardiovascular program.

<table>
<thead>
<tr>
<th>CARDIOVASCULAR WORKOUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stimulus period</td>
</tr>
<tr>
<td>20-30 minutes in the</td>
</tr>
<tr>
<td>Target Heart Rate Zone</td>
</tr>
</tbody>
</table>

| Cool-down period        |
| 10-15 minutes of        |
| lessened intensity      |

| 70 percent of maximum heart rate level |
| 85 percent of maximum heart rate level for more intense workout

Make no mistake, building a strong cardiovascular system requires a steadfast commitment. There is, however, a notable distinction between hard work and efficient work. There is a quantitative metric, known as the Target Heart Rate Zone, that can be used to ensure that you are working hard enough to achieve benefits without overworking and risking injury or burnout. Training below your target zone may not be intense enough to burn sufficient calories or improve your cardiovascular fitness, while training above your zone means you’re working above your threshold for recovery.

Use the chart (Figure 3) below to determine your individual target zone.

![Figure 2](image1)

![Figure 3](image2)
PLYOMETRICS AND RESISTANCE TRAINING

Plyometrics training, often referred to as jump training, is a training technique designed to increase explosive muscular power and permit faster and more powerful athletic movement. This is achieved by conditioning the neuromuscular system with a wide variety of dynamic resistance exercises that rapidly stretch a muscle (to reach its eccentric phase) and then rapidly shorten it (to reach its concentric phase). A well-designed program will typically modify and make use of bounds, hops, jumps, leaps, skips, swings, and twists. Because plyometric exercises are modified to closely mimic the motions used in the boxing ring, these basic movements enhance an athlete’s ability to rapidly change direction, body motion, and position, thus increasing speed and power.

Although plyometrics fit the power training description required for boxing, plyometrics exercises can place a great deal of stress (especially for beginners) on joints and connective tissue if not properly performed and supervised. For this reason, it is important to design a program that gradually increases in difficulty, as well as adapts to each athlete’s individual capabilities.

See Figure 4 below for an example of an introductory plyometrics routine.

**COACHING TIPS**

**COURTESY OF WILSON PITTS**

**SKILL DEVELOPMENT**

All boxing skills should be learned and practiced in slow motion first. Skill training should be light and easy. This means the following: there should be no threat of getting hit, no complicated drills that might frustrate a beginner, and no practicing skills after the boxer is tired.

Make a separate time for more general conditioning. **The coach’s job is to build confidence while teaching the fundamentals in an organized manner.**

I firmly believe that an early mastery of the fundamentals will help to prevent injury, and thus greatly improve the **overall boxing experience.** It is highly likely that few of these young people will actually box for more than a few years. But if they have a positive experience, the character-building aspects of overcoming fear, self-discipline, and leadership will last a lifetime.

**PLYOMETRICS WORKOUT**

**POWER = strength × frequency / time**

**Low to medium intensity**

- **Double leg bound**
  - Deviates explosive power in the muscles of the legs and hips.
  - Focuses on the gluteus, hamstrings, quadriceps and gastrocnemius.
  - Perform 3 to 5 sets of 8 to 10 repetitions with two minute rest intervals.

- **Lateral jumps over medicine ball**
  - Works on agility and power.
  - Do as many jumps in 30 seconds as possible.

- **Forward jumps over medicine ball**
  - Works on agility and power.
  - Do as many jumps in 30 seconds as possible.

**Medium to high intensity**

- **Bar twists**
  - Perform about 20 to 30 repetitions for three to five sets with one minute rest intervals.

- **Squat jumps**
  - Develops power in the leg flaps, quadriceps, gastrocnemius, hamstrings and glutes.
  - The emphasis is to attain maximum height on every jump.
  - Perform two to four sets of 12 to 30 repetitions with one minute rest intervals.

- **Dumbbell arm swings**
  - Emphasizes shoulder and arm muscles and stimulates the alternate arm movement of swinging.
  - Perform two to four sets with two minutes rest intervals.

*muscle at the back part of the lower leg involved in standing, running, jumping and walking.
In the sport of boxing, the fundamental principle is to hit and not get hit. To be sure this occurs, this requires perfect bodily balance. Balance is essential for a fighter to achieve maximal coordination of the hands and feet. Proper stance must be developed in order to achieve a seamless and efficient flow between offensive and defensive movements. Mastering the rudiments of proper form is the most essential step for any prospective boxer. It must be diligently practiced until the posture becomes “second nature.”

Proper foot position, trunk position, head position, and hand position comprise the Fundamental Boxing Position. It is imperative that any amateur boxer learns this as naturally and precisely as possible for maximum performance.
To begin, one must first study the classic foot position.

To start, stand naturally with both feet spaced approximately shoulder width apart. The toes should be pointed directly forward so that the feet are parallel. With the non-dominant foot, take one step, the size of a natural walking gait, directly forward. Next, make a slight inward turn (approximately 45°) of the lead leg and foot. This lead leg should be straight, neither locked nor bent. Maintaining this foot position, lift the right heel off of the ground and bend the right knee.

See Figure 5 for an example of proper foot position.

Once this basic position is established, stability tests should be used to ensure adequate balance. To test for a solid foot position, a partner or coach should administer a light, quick shove to the front of the boxer. If the push causes the boxer to fall backward, proper footing has not been established.

Additionally, lateral stability can be confirmed, in this stance, by bending forward at the waist and shifting the weight of the upper-body from side to side. This simple drill is aimed at replicating the constant transference of weight from one leg to the other that is required for effective combination punching.

The position of the trunk is mainly determined by the position of the lead foot and leg. In other words, if the lead foot and leg is in the correct position (as described in the above section), then the trunk should automatically follow suit. Because of this correspondence, it is of the utmost importance that the lead foot and leg be slightly inwardly turned, mainly for defensive purposes.

This slight inward turn of the trunk produces a natural and rather desirable defensive advantage: it presents a more narrow target to the opponent. This defensive advantage is best appreciated when compared to the alternative posture that would follow from a lead leg and foot that is rotated outward. In the case of an outwardly turned lead leg and foot, the body becomes squared toward the opponent, and as a result, a larger, more exposed target is presented. The latter, more defensive-oriented posture is more prudent, especially for the novice, hence its longstanding recognition as the fundamental, orthodox trunk position. More plainly, this position gives a boxer the best chance at realizing the golden rule of boxing: to hit and not be hit.

To help illustrate this point, it might prove useful to take a look at the former four-weight division world champion and legendary boxer, Pernell “Sweet Pea” Whitaker. Whitaker was an esteemed defensive mastermind, always placing the highest premium on avoiding unnecessary damage. He was a slippery, hard-to-hit counter-puncher whose success in the ring demonstrated the importance of learning and mastering defensive fundamentals. Whitaker’s defensive prowess was unmistakably related to his adoption of a classic defensive posture. Whitaker kept his lead foot and trunk turned inward, narrowing his target body, thus leaving as little as possible unguarded and in range of his opponent.
Undoubtedly, Whitaker was a highly gifted athlete with speed and keen reflexes among many other desirable attributes at his disposal; however, this point should not deter or detract from the intended lesson.

Remember, in the sport of boxing, it is not always the more naturally-gifted fighter that wins the day.

**A Tip for Taller Boxers**

Generally, the advantage of the orthodox trunk position is most evident when adapted by taller, longer fighters. The inwardly turned trunk makes the best use of a taller boxer’s height and reach. Along with reducing the size of a boxer’s unprotected area, a more sideways stance naturally leaves the lead hand closer to its target and, in turn, allows a taller fighter to keep a shorter one at a favorable distance. At the same time, this more sideways posture enables attack and counterattack with both hands while maintaining defensive integrity.

*More on distance to come in a later section.*

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**Head and Hand Position**

The last, but surely not the least, aspect of the Fundamental Boxing Position to be covered is the placement of the hands and head. This positioning is vital as the hands are the tools of the boxing trade and the head is the predominant target. It is, therefore, essential that boxers of all skill levels effectuate the core elements rooted in these time-tested fundamentals.

**Orthodox Hand Position** *(on-guard)*

**Lead Hand and Arm**

In the on-guard pose, the hands and arms are arranged to provide maximal defensive protection while still permitting a seamless transition to offensive attack. In the proper footing, hold your lead hand up with the elbow bent and resting on the short ribs to protect the body. Carry the fist about eight inches from the lead shoulder at approximately shoulder-height and off to the left (or to the right if left-handed) as far as possible without raising the left elbow. Your arm and hand should be relaxed, with the tricep muscle resting on the latissimus muscle (your rib cage) and the hand in a loose fist. It is important that your hand is turned so that the thumb faces either upward or inward. (See Figure 6.)

**Right Hand and Arm**

Bring your rear fist up to about the level of the chin while keeping the elbow close to the body. The fist is used to protect the chin while the elbow and forearm are used to protect the right side. The arm should be relaxed and ready to make either an offensive or defensive movement. (Again, see Figure 6 for an example.)
HEAD POSITION
For all intents and purposes, in boxing, the head is regarded as if it were a part of the trunk, thus it should not move independently of the body. Drop the chin down so that it is pinned tightly down to the breastbone and look through the top of the eyes. (See Figure 7 for an example.)

In this position, the muscles and bone structure of the neck are aligned to withstand and absorb an oncoming blow. Because only the top of the head is exposed, it is extremely difficult for an opponent to land a punch on the chin or jaw. Accordingly, proper head position must be maintained under all circumstances, no matter how the body shifts. If the body turns to the right or left, the head should move correspondingly.

John J. Walsh, the winningest coach in college boxing history, wrote the following about the importance of proper head position:

“One of a coach's biggest jobs is to convince a boy that his chin must be kept down, or he may find himself on the canvas. I have had national champions, who, after four years of college boxing, still made the mistake of dropping their shoulders and putting their chins up.”

OVERVIEW OF THE FUNDAMENTAL BOXING POSITION:

Although this stance will almost certainly, at first, feel unnatural or uncomfortable, these fundamentals must be diligently drilled into a novice boxer until little to no effort is required to assume the Fundamental Boxing Position. This is not to say that all boxers should adopt the same on guard stance. Rather, there are certain unquestionable basics that, if adequately grasped, will ensure efficacy in the ring. As experience is gained, these basics should serve as a solid foundation from which adaptations that best complement individual strengths can be made.

The great undefeated former Heavyweight Champion Rocky Marciano once wrote:

“You can't judge an advanced boxer's stance by how close it is to pose position. Some "pros" appear to be doing everything wrong. They practically fight with their hands down. This may give the impression that these fighters are "wide open." But with the proper footwork, timing, and experience, the unorthodox boxer or unnatural boxer can avoid a good deal of punishment, while he draws an unwary opponent in, keeps him off balance, and counter punches him with unerring accuracy. It takes years to develop this kind of ability, however. A beginner must start with the pose position. It will be wise to learn it thoroughly, since it is the foundation of any boxing course.”

THINGS TO REMEMBER ABOUT THE FUNDAMENTAL BOXING POSITION

Stay relaxed!
Find your balance.
Keep your knees flexed slightly.
Your body should be bent forward slightly at waist.
Your non-dominant hip and shoulder should be forward.
Your chin stays down on the breast bone.
Look out of top of your eyes.
Your lead hand is held high at shoulder/eye level.
Your rear hand is held in and level with chin.
Your elbows are held in to your ribs.

1. The lead foot is turned in at an angle of approximately forty-five degrees.
2. The right heel is raised approximately two inches off the floor.
3. Both knees are slightly bent.
4. The body weight is either balanced between both legs or shifted slightly to the rear leg.
5. The elbows are down and in front of the short ribs.
6. The lead hand is held between shoulder and eye height about eight to ten inches in front of the body and off to the left (off to right if left-handed) without sacrificing elbow positioning.
7. The rear fist is relaxed and held at jaw level with thumb inward.
8. The chin is tightly tucked forward to the breast bone.
9. Avoid tightening or clenching the shoulder and arm muscles.
10. The boxer should feel relaxed yet poised to strike, cultivating a “springy” feeling as if ready to pounce.

“A coach should spend all the time necessary to enable his boys to master each fundamental of the on-guard position. These fundamentals must be drilled into them so that they will mechanically fall into this position without giving it a thought.”

John J. Walsh, 1951
SECTION III: FOOTWORK

In this section:
ADVANCING
RETREATING
LATERAL MOVEMENT
PIVOTING
Once a proper stance has been established, the next step is to master moving in any and all directions while maintaining foot movement aimed at keeping, as closely as possible, to the precept of perfect balance that was so highly stressed in the development of a good stance. Essentially, this means that when one foot moves, the other should follow closely behind. (The feet should be neither closer together nor farther apart than they are when the proper stance is taken.)

At its most basic, footwork can be defined as the use of the feet to move the body so as to be in the best position for attack or defense. This should not be confused with and does not mean jumping around, nor does it mean movement for the sake of creating a spectacle. Rather, footwork means moving just enough to accomplish a purpose: to make an opponent miss, or to deliver a counter blow effectively.

At no time, in his or her movement, should the boxer’s balance be compromised. Sustaining a balanced, on-guard position after every movement allows a boxer to take any action at any given time without hesitation. If a compensatory adjustment must be made before taking or a step or throwing a series of punches, that is an indication of deficient balance and thus improper footwork.

This section will provide the four most fundamental foot movements: advancing, retreating, lateral movement, and pivoting. Remember that a true master of footwork can move in any direction, while rarely using the same move consecutively. It is of little worth to solely practice moving in any one direction.

**CORE CONCEPTS OF FOOTWORK**

1. Move feet closest to the direction in which you want to move first.
2. Shuffle rather than jump or hop.
3. Circle away from your opponent’s “power hand” (their rear hand).
4. Practice moving in and out.
5. A moving target is not easily hit.
6. Move in every time you punch.

“Clever footwork does not mean hopping and jumping around, this will put you off balance and the slightest blow will upset you. The purpose of clever footwork is to give your opponent false leads. it also carries you out of danger when hurt.”

Joe Louis

**ADVANCING AND RETREATING**

A forward advance uses series of small shuffle-like steps to move forward in order to minimize the need for wide steps and major weight shifts during which balance is precarious. This means the aim is to maintain balance by keeping the feet, at all times, directly under the body. When advancing, the body should be poised to execute either an offensive attack or a defensive maneuver. The key is the maintenance of the Fundamental Boxing Position at all times. (Refer back to Figures 6 and 7 for examples of this.)

**A GUIDE TO THE FORWARD ADVANCE FROM THE FUNDAMENTAL BOXING POSITION**

Pushing off with the ball of the back foot, slide the front foot forward with the back foot directly following.

The back foot should move forward the same distance that the front foot was moved. For example, move the lead foot forward two inches, followed directly by the back foot, moving it two inches forward.

One foot should be in contact with the floor at all times.

Momentum is regulated by the push of the back leg.

Remember, do not hop.

**RETREATING**

Retreating, or moving backwards, employs the same functional principles as when advancing. **However, when retreating, the rear foot must move first.** Once again, for the purpose of sustaining perfect balance, **both feet must be kept under the body at all times.**
Lateral movement, or moving left and right, is an especially important skill for the amateur boxer and is often one of the key points that can influence the outcome of a bout. To the trained eye, a boxer with the ability to move laterally effortlessly, without compromising balance, stands out as possessing a particularly advantageous skill. The highly esteemed coach of the 1976 United States Olympic Team, Pat Nappi, expressed his regard for the importance of lateral mobility when he said “lateral movement...was the key to our success in Montreal.” For the especially keen eye of Nappi to make the attribution of his team’s success to lateral movement should underline its importance.

Generally, it feels less natural and more difficult for a right-handed boxer to move to the right and a left-handed one to move to the left. This initial awkwardness, however, must be overcome through practice, for the capability to move to the right as well as to the left with equal readiness is paramount to both styles. Mastering this skill allows a boxer to quickly evade incoming punches while simultaneously setting up his or her own attack or counterattack from a different angle.

For more on angles and spacing, see Section IV.

**Lateral Movement**

Moving to the left, your left foot leads.

Moving to the right, your right foot leads.

Only a few inches are covered at a time, with your trailing foot snapping back into position and retaining complete balance.

Keep your feet close to the floor. Think sliding rather than hopping.

**Pivoting**

The pivot is an essential boxing movement; yet, perhaps due to its simplicity, is too often overlooked and underemphasized by aspiring amateur boxers. The usefulness of the pivot applies to both defense and offense: on offense it can be used to change the angle of attack while throwing a combination of punches, and on defense it can be used to escape a forward-charging opponent, or in conjunction with a duck.

To pivot, keep your lead foot planted as you lift your rear foot and spin around to the left or right. It might help to imagine that your lead foot is pinned to the ground and can only be rotated like the hands of an analog clock. By changing the orientation of your body without giving up ground with your lead foot, you are able to move from directly in front of your opponent while still remaining in range and at the same distance. (See Figures 8-11 below.)

**THE PRIMARY ELEMENTS OF THE PIVOT**

From the proper stance, spin your front foot on the spot and allow your back foot to lift.

Keep your lead foot in place by spinning on the ball of your foot.

Allow the rear foot to lift and spin with your body to the right or left (depending on which direction you intend to pivot).

Maintain your stance and keep your weight evenly distributed.

**THE PRIMARY ELEMENTS OF LATERAL MOVEMENT FROM THE FUNDAMENTAL BOXING POSITION**

Moving to the left, your left foot leads.

Moving to the right, your right foot leads.

Only a few inches are covered at a time, with your trailing foot snapping back into position and retaining complete balance.

Keep your feet close to the floor. Think sliding rather than hopping.
Since the fundamental principle of boxing is to hit without being hit in return, hitting is the foundation of boxing. Indeed, a boxer that has developed the ability to hit hard and with speed has, already, an inherent advantage when it comes to preventing an opponent's attack. A boxer must build a strong foundation by learning to deliver the basic punches of the game with the utmost proficiency.

In boxing, punching proficiency can be defined as **the ability to hit hard and fast with minimal effort, and without disturbing bodily balance.** It should be the goal of every amateur boxer to practice each of the basic punches until he or she is comfortable using either hand.

**SECTION IV: Punching Basics**

In this section:
- THE JAB
- THE POWER PUNCHES
- Straight Right (Rear Hand) Punch
- Left (Lead Hand) Hook
- THE UPPERCUT

"It's strange but true that certain fundamental movements seem unnatural to the beginner in nearly every activity requiring close coordination between body and mind. Fistfighting is no exception. Some of the fundamental moves seem awkwardly unnatural when first tried. That's particularly true of the movements in explosive long-range straight punching, the basic weapon in fistfighting or boxing. In fighting, as in many other activities, it's natural for the beginner to do the wrong thing. It's natural for him to swing rather than punch straight. It's natural for him to hit with the wrong knuckles of his fist. It's natural for him to use leg-tangling footwork, etc. Let me emphasize again that you will feel very awkward when you first try the moves in long-range straight punching. I stress that awkwardness for two reasons: (1) so that you won't figure you're a hopeless palooka, and (2) so that you'll pay no attention to wisecracks of friends or sideline experts who watch your early floundering.

Remember: he laughs last who hits hardest."

**Jack Dempsey**
The Jab

The jab, although not considered a power punch, is the most important punch in amateur boxing. It should be properly mastered, spending as much time on its development as necessary before moving on to the other punches. Indeed, its importance cannot be stressed enough, as it serves a variety of uses. It is an offensive tool that can keep an opponent off balance and preoccupied. (See Figures 12-14 for examples.)

USES OF THE JAB

As a rangefinder: If you can reach your opponent with the jab, they are in range for other subsequent punches.

To keep opponent off balance: A solid jab delivered to an opponent’s body or head can disorient their plan of attack by disturbing their balance.

As a primary scoring punch: Because the jab is the fastest and most direct route to an opponent’s target area, it is the chief way to score points in a match.

To create openings for the rear hand: Your opponent’s reaction to the incoming jab often creates an opening for a quick follow-up straight rear hand punch (which is explained in a later section).

To give the opponent little time to react: A jab can preoccupy your opponent leaving them vulnerable and with little time to react to follow-up punches.

THE PRIMARY ELEMENTS OF THE JAB FROM THE ON-GUARD POSITION

The lead fist should snap out straight from the shoulder, with no other preliminary movements to attempt to “put something extra” on the punch.

The elbow folds, like a hinge, and remains pointing toward the ground (and not flaring out to the side).

The snap of the jab comes from the whiplike motion of the forearm and fist, as well as the snap of turning the hand a quarter turn so that the back of the hand is upward and the palm down is facing down.

The jab, and all punches for that matter, are not pushed. They are delivered smartly with precision and snap.

At the very least, a good jab will disorient and preoccupy your opponent with defensive concerns and possibly discourage him from stepping into its range.

After landing, the lead hand returns as quickly as it releases, along exactly the same path, to the on guard position.

The rear hand remains in the on guard position. Don’t drop your hands.

Only after mastering a “snappy” jab straight from the shoulder without any turning of the shoulders or body should the boxer experiment with stepping in with the jab, or using a slight shoulder rotation to accentuate the impact of the punch.
The Power Punches
Straight Right (Rear Hand) Punch

The straight-right (also known as the rear-straight or rear hand) is the primary power punch and is generally most effective following the jab. A forceful right hand starts by converting the potential energy, afforded by the guard stance, to set off a perfect flow of energy through the entire body. **This transference of energy through the body is called kinetic linking.**

Much the same as a sprinter exploding off the starting block, the rear foot drives into the ground and, like links in a chain, the generated energy travels up the leg, twists through the hips, and moves into the large muscles of the chest, back and shoulders. Comparable to the coiling and cracking of a whip, the energy for a straight rear hand multiplies through leverage as it flows through the body, travels out the arm and fist, and snaps into the opponent. After all, boxing is called the Sweet Science!

For clarity, it might be helpful to think of the fist as simply a tool of delivery, with the power developed during the explosive body movement. More plainly, it is a coordinated, full-body movement that gives power to the punch. **An effective blow is snapped out and not pushed.** (See Figures 15-18 for examples.)

THE PRIMARY ELEMENTS OF THE STRAIGHT RIGHT (REAR HAND) PUNCH FROM THE ON-GUARD POSITION

- The rear heel pivots outward.
- The rear hip rotates smartly forward. This is the origin of the power of the straight rear hand punch, from the ground up through the hips and into the torso.
- The trunk rotates and the right arm and fist snap out without any preliminary movement that might telegraph the punch or give away your intention.
- The fist rotates so that the palm is facing down at impact.
- The punch is delivered “through” the target, not at the target.
- The arm remains relaxed until impact to impart a “whip-like” transfer of power. Remember: the punch is not pushed.
- The front hand remains in the on-guard position. Don’t drop your hands. The chin always remains down, tucked closely to the chest.
- The rear fist and arm are returned to the on-guard position immediately.
For many amateur boxers, the lead hand hook is the most difficult punch to master. Considered a feat of muscle memory, the development of a compact yet powerful hook requires a great deal of practice. When properly developed, it can serve as a highly effective and devastating offensive weapon.

As its name suggests, the “hook” is a bent arm blow that is thrown by driving the body in an explosive yet economical twisting action. Through this motion, the hook derives its power from the principle of the hinge. The lead side of the body acts as a hinge, or pivot point, around which the body’s force is propelled. It can be targeted to the head or the body.

Unlike other punches, the hook travels a curve and is able to move around an opponent’s guard. The curved trajectory also means it often goes undetected by opponents, as it is thrown from outside the main line of vision. **In this way, the element of surprise is key to its success.** (See Figure 19, and Figures 20-23 on page 34 for examples.)

**The Primary Elements of the Lead Hand Hook from the On-Guard Position**

Drive off the lead foot, pivoting the heel forward, and turn the lead hip and shoulder around the midline of the body. Think of the lead side of body as a door on a hinge.

The hips, torso and shoulder travel as “one piece.”

Let the driving force of the body pull the arm through to impact in a slightly arced, “whip-like” motion as body weight shifts to the rear leg.

The arm should feel relaxed until the last instant before impact.

Your fist, elbow, and shoulder should form a straight line as you make a snappy pivot to put your body’s power into the blow, with your forearm parallel, or horizontal, to the ground.

At the moment of impact, the knuckles should be pointing outward, the palm facing inward, and the thumb side of the hand up.3

The knuckle part of the glove should be the point of impact, not the inward palm side.

Your chin should be protected by lead shoulder at impact.

The rear hand and arm remain in proper on-guard position, with the fist protecting the jaw and the arm protecting the body.

The lead fist and arm are returned to the on-guard position immediately after impact.

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3 Although there are many variations of the left hook (some suggest the palm face down), facing the palm toward you with the thumb pointed up protects the thumb from injury, as well as increases the power of the maneuver. Think of it as pulling the opponent toward you.

**Coaching Tip**

To develop the proper motion for the basic lead hand hook, practice landing the punch at a 45 degree angle on a focus mitt or heavy bag. Once you have adequately mastered throwing the basic left hook, practice targeting the punch to the head and body.
Uppercuts are power punches that, like a straight rear hand punch, generate force by the principle of kinetic linking. Unlike the straight rear hand, however, the uppercuts are delivered from below an opponent’s defense rather than directly at it. In this case, the power is generated by an explosive upward surge, in which the hand travels a vertical path and the elbow is bent at 90 degrees.

Uppercuts are most useful at close range against a crouching opponent, or one who leads with his head. They are also useful against an opponent whose weight is disproportionately anchored on the lead foot. See Figures 24-27 for examples.

**Primary Elements of the Uppercuts from the On-Guard Position**

Bend slightly at the knees and waist without changing the position of your hands, shifting your body weight slightly to the side of the body that will deliver the blow.

Without dropping the hands or otherwise giving away your intention, quickly explode upward by pushing off the ground and driving the hip and arm up towards the target.

As the fist travels, it should be torqued to a supinated position, where the palm faces you.

Immediately after impact, return to the balanced on-guard position.

The punch can be targeted to the body or to the head.

The uppercut should only be used at the appropriate range, so as not to be vulnerable to an opponent’s counterattack.
OVERVIEW OF THE BASIC PUNCHES
A CONCISE LIST

Stay relaxed, avoiding excessive muscle tension.
Snap punches, do not push them.
Punch “through” your target, not just to it.
Step in each time you punch.
Until completely mastered, concentrate on straight punches before attempting hooks and uppercuts.
Straight blows allow full use of the arms reach and provide the quickest means of attack.
When throwing a punch, the other hand must maintain the on-guard positioning.

REMEMBER:
All punches must be thrown with balance and from the on-guard position. To reiterate, punching from this position ensures maximal balance so that a boxer can return, with all possible rapidity, to the on-guard position again at the finish of each punch. Becoming regimented in this procedure is not only essential for defensive purposes, but also for deception.
If all punches are thrown from the same stance then, naturally, an opponent will have difficulty in guessing whether a left, a right, a jab, or a hook is coming.
If on the other hand, a boxer changes his stance or arm positions in relation to the particular punch he intends to throw, a cagey opponent will notice and fire back with counters. For this reason, mastering proper stance early on is a prerequisite for any aspiring boxer’s training.
No matter your individual boxing style, an effective offensive attack must include combination punching. Very few boxers find success in single punches alone. At the professional level, many will remember “Sugar” Ray Leonard’s use of combinations to overwhelm opponents with his blistering hand speed. Others, like Mike Tyson, conceal powerful knockout shots within a series of punches.

Combinations are perhaps even more important in amateur boxing when punch quantity – not quality – serves as the primary scoring factor. Defending swarms of incoming punches is difficult for boxers at any level, so the odds of landing scoring blows on an opponent dramatically increase when, as the old saying goes, “you throw punches in bunches.”

“Hitting in boxing, like hitting in baseball, is got to be done in combinations to be effective.”

Jack “Chappie” Blackburn (Joe Louis’ Trainer)

Obviously, in order to throw successful combinations, you must first be able to throw fundamentally sound single punches. Frequently refer back to the Basic Punches section to hone these skills. Always work on staying balanced and shifting your body weight from one movement to the next throughout your combinations. Your goal is to allow every punch you throw to put you in position to comfortably throw another punch.

This is done by sliding your feet into the correct position for the punch to follow and keeping the your non-punching hand held in the proper on-guard position.

For example, when throwing a straight rear-hand punch, your back hip twists forward and your weight shifts to your front foot. From this position, a left hook naturally follows for orthodox boxers while, for southpaws, it’s a right hook. The hook thrown by the lead hand generates a great deal of power when you push off your front foot, rotate your lead hip inward, and shift your weight to your back foot. The finished position of a straight rear-hand punch puts you in the right position to twist in this fashion.
Although certain punches transition from one to another more easily than others, such as the rear-straight to the lead hook, it can actually be detrimental to become overly focused on specific combinations of punches during training. The traditional combinations should, of course, be learned but the boxer shouldn’t become robotic in attempting to “look” for opportunities to use the combinations he or she has learned.

Each opponent brings something unique to the contest, so your mastery of combinations should be flexible enough to adjust and take advantage of any flaw in your opponent’s technique. Simply put, this means reacting to any opportunity your opponent presents with the combination of punches that best exploits the specific mistake or circumstance, rather than mechanically throwing rehearsed combinations like an automated computer-boxer.

Some of the most commonly used combinations are:
- Left jab followed immediately by the straight right hand punch. This is almost universally described as the “one-two” combination.
- Double jab followed by straight right
- Left jab, straight right, left hook
- Left hook, straight right, left hook
- Left jab, left uppercut, straight right, left hook
- Left jab, right uppercut, left hook

There are nearly an infinite number of possible combinations due to the number of punches as well as the sequence of punches that can be delivered. Since our premise is that a boxer should learn basic combinations, but not become a slave to using them robotically, we only list some of the more common and basic combinations of punches.

Boxing is a “flow system,” meaning the boxer transitions seamlessly and effortlessly from offense to defense as the situation before him changes. The circumstances at any given moment determines the action a boxer employs.

We have purposely described the punches by their actual name and function rather than assigning them numbers since different trainers and gyms frequently use different number systems. For example, Cus D’Amato used a non-traditional number system while training Mike Tyson and many others.

Perhaps you’ve noticed that we typically advise to finish all combinations using the lead hand: This is because it naturally pulls the body back into the basic stance. In the fast-paced action of a match or sparring, this will not always be possible but should still be stressed in training so that it feels natural.

It must be emphasized that a boxer should move his head or his feet immediately after throwing a single punch or combination of punches. He or she must always be cognizant of where their head is in relation to the opponent at all times since they are most vulnerable to an attack or counterattack during or immediately after punching. This is as important as knowing the punches and how and when to use them. In fact, we believe it is actually more important and is the primary skill to be learned and mastered. Effective boxing is generally described, at the most basic level, as the ability to hit and not get hit in return, but we believe it should be taught in a slightly reworded manner: Avoid getting hit as much as possible and land your punches on your opponent to outscore them.

**TIPS FOR PRACTICE**

Shadow boxing is an excellent way of working out combinations. Before attempting to use the combinations in a competitive setting, practice them with slowly with proper form and finish with full-speed shadow boxing. Visualize an opponent’s mistake and react with the appropriate combination. This practice will not only help work out the mechanics of the combinations, but also with developing a relaxed state of mental clarity. A relaxed mental and physical attitude is necessary to improve hand speed and rhythm. It is also vital to become proficient in delivering accurate and powerful punches in combination since you will be dealing with an opponent attempting to score his own punches.

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4 All hooks can be delivered to the head or the body or even quickly “doubled up” first to the body then to the head.
The sport of boxing is founded on the principles of distance, leverage, and timing. Though, it is the control of distance that precipitates and enables the latter two. Indeed, it can be said without hesitation that the art of good boxing is the art of correctly judging distance. Often, the difference between absorbing the full force of a blow and escaping its impact comes down to mere millimeters. This point is best exemplified by former Heavyweight Champion of the World, Muhammad Ali. Even the most casual boxing fan must be familiar with the famous still shots depicting Ali narrowly slipping what would have been a devastating punch. Although Ali will rarely be referred to as an exemplar of boxing fundamentals, his adroit mastery of spacing and distance is worthy of attention by any student of the game.
In the heat of competition, distance is experienced as a continuously shifting relationship that is dictated by the speed, agility, and control of both boxers. For this reason, establishing your distance is probably the most difficult skill in boxing.

Distance pertains to three main zones:

1) **The outside (of your opponent’s range of attack):** This is the safest place to be in the sport of boxing. However, this also places you out of scoring range, unless you have a vastly greater reach than your opponent.

2) **Critical distance:** At the critical distance, your opponent is within the reach of your arsenal of punches. However, you are also in your opponent’s range and, therefore, most vulnerable to his or her attack. As a general rule, the best strategy is to quickly and purposefully move in and out of the critical distance. Otherwise, stay either inside your opponent’s reach or outside it, while remaining poised to exploit the slightest distance change. When you are at the critical distance, it is imperative that you avoid keeping your head in the center of your opponent’s attack. After punching or exchanging punches, you must move your head off the center. note! add photos or illustrations

3) **The inside** (of your opponent’s range of attack): The “inside” is just what it sounds like: you are inside the reach of your opponent’s extended punch. This can be a purely defensive maneuver to avoid being hit or a tactic to get inside an opponent’s longer reach so that you can deliver your own short crisp punches to his or her midsection and head. This “infighting” is a skill on its own merits but is generally not as useful to the amateur boxer because of the difference in scoring as opposed to professional boxing.
SECTION VII: DEFENSE

In this section:
USING THE HANDS
(Blocks and Parries)
EVASIVE ACTION FROM THE WAIST
(Ducking and Slipping)
DEFENSIVE FOOTWORK
(Breaking Ground and Side Steps)
Most defensive movements can be used against a wide variety of punches. Ideally, you should strive to acquire as many defensive techniques as possible. This way, you will have a multitude of tactics to select from in order to utilize the one best suited to frustrate and neutralize the offensive tendencies of your particular opponent.

The most important aspect of any defense-oriented movement is proper timing. Beware of a feinting opponent — one that utilizes deceiving movements. Generally, to avoid being baited by a feint, it is advisable to wait until your opponent has committed before attempting a defensive maneuver. At first, each technique should be practiced separately and at half-speed. Gradually, as proficiency and confidence increases, practice defending against full-speed punches.

The descriptions and examples of the defensive techniques explained in the following pages have been grouped into three main variations: defense using the hands, evasive action at the waist, and defensive footwork. Once you have learned a particular defensive technique, practice it against a variety of punches.

**BLOCKS**

Simply defined, blocking is the deflection of a punch using the back of the gloves, forearms, elbows, arms, or shoulders.

Blocking can be thought of as absorbing an opponent’s punch so that its force is effectively negated.

**PARRIES**

A parry, sometimes referred to as a deflection, is the action of meeting the knuckles of an incoming punch with the open glove so as to catch or deflect it.
Evasive Action from the Waist

(Ducking and slipping)

As we learned earlier in the section regarding proper stance, a boxer’s head should never move independently of the trunk. For this reason, if you want to move your head out of the way of an incoming punch, the movement must start at the waist.

Ducking

A duck is a defensive maneuver in which the legs are bent and the upper body drops below the usual line of attack so that the opponent’s punches miss overhead. This defensive move, if properly timed, opens the opponent’s body to a counterattack.

Slipping

Slipping is an evasive maneuver in which the head and upper body are quickly removed from an opponent’s line of attack. The legs are bent and a timed, evasive dip (laterally) to either side at the waist is used to avoid incoming blows. Like ducking, slipping is often used to set up a body punch. The idea is to move just enough, to remove your head and upper body from the line of attack, while still maintaining the balance and concentration needed to fire back. Mike Tyson’s frequent and exemplary use of the slip to evade an opponent’s punch and return a vicious lead left hook to the body is one that is hard to forget.

Defensive Footwork

(Breaking Ground and Side Steps)

Breaking Ground

Breaking ground is an invaluable defensive tactic in which a quick backward foot shuffle is used to create distance or escape from a charging opponent. When breaking ground, the movement must be efficient so that your reaction time is not hindered. Keep both feet on the canvas, at all times, and remain ready to plant and fire back at a lunging opponent.

The Side Step

The side step quickly and efficiently removes you from your opponent’s line of attack by changing the angle. This defensive movement to the side of an opponent - and out of his or her line of attack - can present you with a favorable angle for offensive maneuvers.

Defensive Tactics

Coaching Tips

Whenever possible, remove yourself from your opponent’s line of attack, as in the side step.

At all times, balance must be maintained.

Keep defensive movements efficient. Don’t reach with the block, slip just inside or outside of the punch, break ground just enough to relieve pressure.
Once the fundamentals of the basic punches along with proper stance and footwork have been learned and thoroughly practiced, a boxer has progressed to a level in which he or she is ready for sparring. Sparring is the most vital part of developing your fighting skills. Whereas training on equipment develops your technique (i.e. punching a heavy bag), sparring gives you the chance to apply those skills against a live opponent. It is the time to develop the skills that are used during a competitive match.

The concept of sparring is revealed by the wisdom of an old boxing axiom: “make your mistakes in the gym, not in the ring.” This simply means that sparring is a great opportunity to practice skills that you would, otherwise, not feel comfortable attempting during a sanctioned bout. A good sparring session affords both athletes the chance to experiment with new skills and strategies without the pressures of winning or losing.

“Sparring is the laboratory. It is your opportunity to learn like a scientist. You experiment with the material that you have studied during shadow-boxing and work on the heavy and speed bags. You work with your fellow scientists to test for strong and weak points.”

Chuck Bodak (former coach of Muhammad Ali)
The following tips should be stressed while sparring:

**Be constructive, NOT destructive.**
It is important to spar productively. By this I mean consciously trying to implement the skills and techniques practiced on the bags and mitts and while shadow boxing. It is not productive or beneficial to use sparring as an opportunity to outclass or embarrass another boxer. A truly skilled and experienced boxer knows that “winning” a sparring session is not a concern. Rather, sparring should be a controlled learning experience for both participants; its primary aim should be to improve the skill and fitness levels of both boxers. This is achieved by ensuring that the intensity and duration of the sparring session is tailored to the skill level of the participants.

**Sparring should be supervised.**
Sparring without proper supervision is dangerous and can lead to unnecessary injuries. At all times, sparring should take place under the direct supervision of a registered USA Boxing coach or instructor. This rule is for the safety of both participants: these coaches have been trained and certified to administer the necessary medical treatment in the event of an accident. Additionally, the watchful eye of an experienced coach will help to ensure a productive sparring session by pointing out mistakes and providing instruction.

**Use proper safety equipment.**
As is the case in all contact sports, certain safety measures must implemented during practice sessions to decrease the chance of accidental injury. Before sparring, always make sure that both you and your opponent are equipped with the necessary safety equipment: Properly fitted headgear, foul protector, and mouth guard are essential. Also, it is recommended that heavier gloves with extra padding (compared to competition gloves) be used. Generally, 16 ounce gloves are an ideal weight for most amateur sparring.
In amateur boxing, safety gear is used while sparring to mitigate avoidable injuries. However, the best safeguard against injury is responsible participation. Despite the many technological advancements of modern safety equipment, the safety of a sparring session quite literally rests in the hands of its participants. Too often, beginners engage in a sparring session under the false impression that they must prove themselves worthy of the ring. This is a dangerous mentality. Far too many prospective boxers walk away from the sport due to a bad first-sparring experience.
The United States Intercollegiate Boxing Association (USIBA) was formed in 2012 by college boxing coaches and student leaders who sought the most ethical, safe, and utmost positive experience for their teams. USIBA's mission is to be the preeminent competitive intercollegiate amateur boxing league in the United States. By re-introducing boxing back into the college and university system, USIBA seeks to reestablish boxing as an ethical, important, and relevant collegiate sport while increasing the overall competitiveness of the entire amateur boxing system in the United States. USIBA will develop programs and recast the narrative surrounding boxing by using the sport as a pathway to educational and life success.

Visit http://collegeboxing.org for more information.
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I have been writing this book all my life and intend to keep on writing it, but it would have been impossible to complete this particular project without the assistance of certain friends—namely, Dylan Patterson, James Rivas and James Cassar.

In a boxing manual, a good picture is truly worth a thousand words. To that end, a special acknowledgement is owed to Dylan Patterson. I have always admired Dylan's artistry as a photographer, and his work for this manual was no exception. All authors ought to have the pleasure of collaborating with such an extraordinary photographer, and many authors should find someone like Dylan for their own needs.

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Kevin Ferguson
Fall 2014

REFERENCE MATERIAL

SUBJECT MATTER EXPERTS
Wilson Pitts, Peter Hobbie, Luke Runion

BOOKS
The Art of Boxing by Jimmy Wilde
Boxing by the Aviation Training Division, Office of Chief of Naval Operations, U.S. Navy
Boxing by Edwin L. Haislit
Boxing Basics by Chuck Bodak and Neil Lambert
Boxing Illustrated by Alan Sanigar
Boxing Simplified by John J. Walsh
Championship Fighting: Explosive Punching and Aggressive Defense by Jack Dempsey
Coaching Olympic Style Boxing by U.S. Amateur Boxing
Guide to the Basic Fundamentals of Boxing by Chief Instructor and Coach Kevin Seiman
How to Box by Nat Fleischer
Know the Game - Boxing by Kevin Hickey, MBE
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Tao of Jeet Kune Do by Bruce Lee
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