Football, and How to Watch it

Percy D. Haughton

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FOOTBALL AND HOW TO WATCH IT

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FOOTBALL
AND HOW TO WATCH IT

BY
PERCY D. HAUGHTON
HARVARD COACH, 1908-1916

INTRODUCTION
BY
HEYWOOD BROUN

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TO THOSE FOOTBALL PLAYERS WHOM I HAVE HAD THE GREAT PRIVILEGE OF TEACHING, AND WHO, IN SPITE OF MENTAL WEARINESS AND PHYSICAL STRAIN, RESPONDED TO MY SUGGESTIONS WITH THEIR ENTIRE WILL, THIS BOOK IS DEDICATED IN FRIENDSHIP AND APPRECIATION

INTRODUCTION

The reader who wants to know how to listen to music or what to observe in a picture gallery may readily find all this information conveniently gathered in book form. Accordingly, it is fitting that to this informative library there should be added a book of football for the spectator. I maintain that football is an art as well as a sport. Percy Haughton belongs without doubt among the old masters. Of course, his position is complicated a little by the fact that he is also in the ranks of the moderns.

Still another difficulty is raised by the question of just which branch of art embraces football. Mr. Haughton realizes its analogies to war, but I think that there are features which qualify the game for a place in the field of liberal arts as well. There is a striking resemblance, for instance, between the best of Harvard football and any characteristic story by O. Henry. To be sure, every football play is in a sense a short narrative. First come the signals of the

quarterback. That is the preliminary exposition. Then the plot thickens, action becomes intense and a climax is reached whereby the mood of tragedy or comedy is established.

But the resemblance between Haughton football and O. Henry is more special than this. Deception is an important factor in the technique of both the coach and the writer. Often there is a well developed feint to fool the reader or the opposing line as the case may be. Everybody thinks he knows how it is coming out when suddenly we have the surprising flash of the trick finish. "By Jove," says the reader, laying down the book, "I never thought of that." And the Yale defensive back, picking himself up, says much the same thing though perhaps somewhat differently expressed. Like O. Henry, Haughton seems to have specialized in happy endings.

Again, it must not be overlooked that Harvard football since the days of Haughton has dramatic values as well as fictional ones. Many of the delayed pass plays demand a histrionic ability upon the part of the participants which would tax the best leading men of the American stage. We were always moved to particular ad-

miration by the performance of the man who didn't have the ball. Here skilful impersonation was frequently animated by the proper note of passion as well. Indeed, we are informed that at times the perfection of technique in a given play, as well as the underlying feeling, has moved the entire Yale team to tears if not applause.

The need of a book upon football for the spectator rests not only upon the many phases of the game unknown to the general public. It is even more important to clear away a little of the mass of spurious information which has gathered around the game. As a newspaper writer I realize that I have done my share toward the creation of misapprehension. The possibility of error in any sort of long range reporting is prodigious and twenty-two active young men upon a gridiron have a habit of wriggling around in such a way that it is hard to keep accurate track of them. At this moment I fancy I hear an aggressive voice demanding, "Why doesn't Harvard number her players?" It is easy for me to answer that. I don't know why. And yet it seems to me only fair to add that numbers do not help nearly as much as they are supposed to. A

vigorous young man can carry a large 29 upon his back and remain almost anonymous as far as the purposes of the press stand go. On muddy days it is a little easier if they don't wear numbers. Dirt often distorts the digits and gives the spectators impressions of knowledge much more false than if he had merely guessed.

But after all it is not entirely the inexact reporting of detail which makes newspaper football so different from the game which is actually played upon the field. It is almost inevitable that the emphasis should often fall into the wrong places. The sporting writer hardly need apologize for this. It is not his fault that the general public is romantic and demands its heroes. The tradition which gave the whole credit of victory to the king or emperor, or at any rate some plumed knight, has descended into our own day and now works to the advantage of the backfield men. If every opposing tackler should suddenly be struck dead by lightning the newspaper story would still speak of the brilliant run of the half-back who walked down the field stepping over the prostrate foe until he had crossed the goal line.

In general, scant attention is paid to those

preliminary plans and deeds which are largely responsible for the long run. All of us watch the man with the ball. Accordingly football has come to be thought of in terms of individuals. The artisans engaged in a manœuvre are forgotten because of the glory of the hero who actually completes a scoring play. All this is good fun. It is easier to talk of football in these terms. The only trouble lies in the fact that it isn't true. This objection has been enough to diminish the prestige of the romantic school in most of the other arts. It is about time for the realists to have their say in football as well. Percy Haughton seems to me to be eminently fitted for this task. His imagination has done much to animate football and make it colorful, but he remains intensely practical. Possibly, it may be felt that enthusiasm about Haughton must be discounted if it comes from anybody even remotely connected with Harvard. In reply to that I can only say—ask Yale.

HEYWOOD BROUN

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PREFACE

WHEN properly understood, Football is both mentally and physically such a glorious sport that it seems a pity that so many who witness it should not be conversant with its salient points.

The word *mentally* properly precedes *physically* because the game has today reached such an advanced stage of development that unless certain well-established tactical principles are closely followed mere brawn is at a discount. Not that the game doesn't demand rugged physique and great endurance, but given two teams of nearly equal weight and strength, mental finesse will usually be the winning factor.

It is extremely difficult to watch and understand football intelligently. It is a good deal like watching a four-ring circus. Accordingly, the author has made no attempt to describe the game in all its details, but has chosen to emphasize certain "headliners" on which the spectator's attention may be most properly riveted. For a thorough understanding of the game, it is

necessary to master not only the cardinal principles, but also a great mass of minute detail. The average spectator for whom this book is written is not interested to that extent.

Plenty of books have already been written on the so-called fundamentals and the technique of individual play. Rather than duplicate these, the author has effaced the individual player save in so far as his performance correlates with that of his fellow players, and has dwelt in the main upon team evolutions and certain other aspects which pertain to the government of the game.

It is his dearest hope that by the sacrifice of many important details he has produced a clear description of the subject in its broadest scope, and that this book may add materially to the enjoyment of the many thousands of spectators who witness the game of American Football.

PERCY D. HAUGHTON

FOOTBALL AND HOW TO WATCH IT

FOOTBALL and How to Watch It

I

HOW TO WATCH AND UNDERSTAND FOOTBALL

"ARE YOU READY, HARVARD?" "Are you ready, Yale?" The referee blows his whistle.

It is a supreme moment. The pent-up feelings of the past year are suddenly released and one is brought face to face with the realization that within the coming two hours the pendulum of the Fates will swing either to victory or defeat.

Oh, the glory of victory! The heroes it produces, the congratulations it calls forth! The supreme happiness and intense satisfaction entailed more than repay all the preparation and the strain of a season's work; and besides, the world loves a winner.

In utter contrast, consider the sting of defeat. We have all seen the crestfallen players limping dejectedly from the field, but the real, dull pain of defeat comes after the physical weariness has worn off, when the mind persists in reverting to that everlasting "if." "If," soliloquizes the Coach, "I had not been swayed by others but had only planned my defense according to my own judgment, that winning play of our opponents would never have been successful."

"If," moans each of the players, "I had only done so and so, they would never have licked us."

So the wound is constantly kept open and before a healthy cure can be effected there follows a distinct tendency toward misunderstanding, lack of confidence, and sometimes actual dissension in the camp of the vanquished. It is a wretched situation.

If it is one of the big final games of the season to which we are going, I trust we have allowed plenty of time on account of the congestion of traffic—the neck of the bottle—which always occurs at the approach to the field, and have arrived at least twenty minutes ahead of the scheduled time of the game.

Now this is an extremely difficult feat to ac-

complish, as our gracious hostess insists on delaying luncheon until her entire party has arrived, and our convivial host will not be dissuaded from "showing us a little attention." Other little five-minute delays keep cropping up and before we realize it, we are caught in the maelstrom of the crowd and, after a thorough bumping about among people who all seem to be unusually large and good-naturedly rough, we arrive too late for the opening play of the game.

Let us assume, however, that we have arrived in good season. The choicest seats are naturally considered to be at midfield, although if one has drawn a goal-line seat great consolation is often derived from the fact that the most vital play of the game happens right "under one's nose."

Few people realize what a tremendous coigne of vantage is gained by viewing the game from a height sufficient to obtain an aero-view, so that one player's body does not hide another's. The players are thus diagrammed, as it were, and seen from a position far enough removed to include in the field of vision all the members of both teams when lined up in scrimmage formation,

Plate II. A PLUNGE PLAY

THE *offense are seen advancing from left to right. The line has through a superior charge obtained a distinct advantage over their opponents and formed a pocket into which the runner is darting. One of the defense (1) threatens to spoil the play but as the runner is moving fast it is doubtful if he is stopped by this player, especially as he is tackling high.*

Certain of the line and backfield may be seen as interferers on the second line of defense, and the offensive player on the extreme right is going ahead on the third line, the shadow of which is here represented.

Had the spectator been watching the runner only, he would have failed to see the complete development of this play.

Harvard vs. Centre College 1920.

***Note:** In all pictures the team having possession of the ball will be mentioned first.*


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PL III A
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Plate III. (a) A SLANT OUTSIDE OF TACKLE

TWO *interferers have put the left defensive end (1) completely out of commission. He may be seen on the ground at the left of the picture. Two more interferers are protecting the runner from the left tackle (2) who is recovering from contact with the line.*

As the runner is swerving outward these interferers will probably go against the defense halfbacks and the player on the extreme right will also be menaced by the lineman who is approaching him.

Two of the defense may be seen following in the wake of the runner. Neither will catch him but their position emphasizes that offensive speed is of vital importance.

The offense here have acquired tremendous superiority over the defense.

Yale vs. Harvard 1921.

(b) A SWEEP FROM OPEN FORMATION

THE *results are very similar to those shown in the upper picture. Here again the offense have shut off the defensive right end (1), have boxed the left tackle (2) leaving three interferers free ahead of the runner. Notice the splendid piece of interference against player (3).*

The runner is carrying the ball in his hands. He has evidently "faked" a forward pass, which accounts for the hesitating positions of the second and third line of defense. They have been forced to guard their respective zones until they could diagnose the nature of the play. They will now have a difficult task to stop the runner who is so thoroughly screened by interferers.

This play gained fifteen yards, the runner being forced out of bounds on the farther side of the field.

Harvard vs. Centre College 1920.

except those players of the defense who are stationed thirty or forty yards back of the scrimmage line. But one should understand that, at this distance, the speed of the players is not so apparent, and one does not see individual facial expressions nor hear the impact of contending players as plainly as from the sideline seats. Nevertheless, for a comprehensive view and understanding of the game as a whole, I strongly recommend the elevated location.

When once in your seat note the position of the score board so that when the game begins you can readily ascertain what down it is and how much distance must be gained; then, when the teams come on the field for preliminary practice, pick out the noted players by comparing the numbers they wear with your program. Watch the style and performance of the various punters and, when the elevens line up for signal practice note the offensive arrangement of the two elevens.

While the teams are warming up, it is interesting to consider that those players out there, although they look like gladiators in their football togs, are mere boys from eighteen to twenty-two years old. They have been through weeks of

steady practice under the direction of expert coaches, sometimes hard taskmasters, gruelling drills in fair and foul weather, and long scrimmages which have tested the temper and calibre of each man. They have kept strict training. They have been told what to eat and what not to eat, smoking has been forbidden and regular hours insisted upon. In short, they are in as perfect physical and mental condition as careful supervision and common sense can insure.

The mental attitude is of extreme importance. Many hours have been spent by the coaches on the psychology of the game and in getting the boys into the frame of mind that knows no fear, in instilling the spirit of fight, clean, manly fight, without which no big game is ever won, and in giving them confidence in their own ability, yet stopping short of the point of overconfidence, always a very difficult thing to do.

It also should be remembered that those boys know something more than how to kick a ball and run with it. They have been chosen for their brains as well as for their brawn. It is obvious that they know their own plays and can execute them like clockwork; but it is not always appreciated that for many weeks before the big game,

those men, besides perfecting their own play, have to learn and absorb the style of play of their opponents. That knowledge, of course, is brought to the coaching staff by those who have seen the opponents in action, and it is imparted to the players by means of blackboard talks with elaborate diagrams, and, frequently, in the larger colleges, for a week or two before the big games, the second team is schooled in the style of play to be used by the opponents and is sent against the varsity in practice games every afternoon.

When the brief preliminary practice is finished both teams usually withdraw from the field until within a few minutes of the scheduled time of play, while the cheering sections have their turn, followed by a general settling down in anticipation of the game. Look about you in this interim. Behold the serried tiers of humanity, every seat occupied by an intensely partisan spectator. Observe the color effect of flags, ladies' hats and the flowers worn by both men and women slightly dimmed by a film of smoke from thousands of cigars and cigarettes. It is a most impressive spectacle.

As the time aproaches "zero" hour, there are a

few minutes of awesome hush which spreads rapidly over the amphitheatre and one can feel one's nerves beginning to tingle in anticipation of the appearance of the teams. Of a sudden there is a slight stir about the portal where the players are to make their entry. Those nearby crane forward. The police push aside the crowd and, like lions loosed, one team—forty strong—bounds into the arena. On the instant pandemonium breaks loose. In the midst of and above the tumult an organized cheer—the best of the whole afternoon, one that rakes the spine and vibrates in every nerve-center—is given for the heroes.

Few spectators realize what a tremendous inspiration this is to the players. Many people think that cheers are only stage-play. They are not; in fact, well-conducted cheers at the proper time are indispensable to the morale of the players.

A moment after the entrance of the first team a like scene is enacted on the opposite side of the field, and after the respective captains have shaken hands in midfield and the referee tossed a coin for choice of goal, the two teams rush onto the field and take position for the opening play.

Before the game actually begins, however, it

may be helpful to describe briefly some of the principles upon which football is based and some of the fine points—sometimes termed "inside stuff"—not readily understood by the average spectator. Note that I say "average" and the term is used advisedly, for it includes men who have not made a study of the game and an ever-increasing number of women who witness football contests in blissful ignorance not only of the higher technique, but even of the simplest rudiments. To them I trust these points will not only be enlightening but will add zest to their interest. I should mention that this section contains only a brief description. The full subject with reference to its history and present status, the offense and defense, and the mental, moral, physical and medical aspects of the sport, will be discussed later.

I warn you that parts of this chapter may appear to be frightfully serious and complex, but we are dealing with a game properly described by these adjectives and if you really want to enjoy the game you had best make up your mind that certain principles must be clearly understood and a great many A B C's digested before you really "know what the game is all about" and

before you can recognize good play from bad.

So let us start our lesson with the following explanation. The team in possession of the ball is termed the "Offense" and the side not in possession of it the "Defense." These expressions will be used throughout to designate the team referred to.

The tactics employed by the offense to advance the ball are known as the attack, which is made by means of (1) Rushing, (2) Forward Passing, (3) Kicking and (4) by Deception, or by a combination of any two of the above. These salient arms of attack are subdivided as follows:

1. The Rush, into:

a. Plunges, which comprise all plays of a straight-ahead nature, the great majority of which are directed at or between the two guards on the defense and usually executed by the heaviest player in the offensive backfield. Plays of this class should gain a short distance consistently.

b. Slants, those plays which are directed on either side of the defensive tackles, the majority of which should gain a greater distance, but not so consistently as plunges. Small losses occur at times.

Plate IV. A RUSH WHICH FAILED

THE *runner (3) is seen firmly tackled by two of the defense on the line of scrimmage. However, the faithful interference has rightly assumed the play will be a success and is attempting to clean up the secondary defense. The defensive player (1) in foreground has succeeded in dodging the interferer. In this respect as much cleverness is often shown as in the case where the runner tries to evade the tackler.*

Defensive player (2) is well prepared for the impending shock from interferer. He is not only ready to dodge, but has both hands extended with which to prevent the interferer getting close to his body. All of the defense are trained to rid themselves of their opponents by these methods.

Princeton vs. Harvard 1920.

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Plate V. A SUCCESSFUL SWEEP

THE *offense are here depicted flanking the defense. The defensive left end on his hands and knees has evidently missed his tackle, as there is no interference near him and the runner (No. 1 on his back) is well outside of him.*

The defensive left wing halfback is attempting to tackle the runner, but notice that the latter is awarding off the impending tackle by the use of his left arm. In this case he was eminently successful and the play gained twenty yards. This "straight-arm" used in conjunction with a dodge is the most effective method of eluding the defence in the open field.

Yale vs. Harvard 1921.

c. Sweeps, which are, as the word indicates, plays directed at the flanks of the defense wherein the fastest back is used to carry the ball. Sometimes called "long gainers"—lacking in the consistency of slants and subject to greater losses.

d. Reverse plays, which comprise all plays which change their direction and are of a deceptive character, to which may be added trick plays that have for their chief value the element of surprise. Wholly lacking in consistency, they are eminently successful in a small percentage of the number of times tried.

2. The Forward Pass, which may be grouped into:

a. Short, swift tosses to a point about on the extended scrimmage lines.

b. Throws directed into spaces or zones between the wing halfbacks on the defense.

c. Long heaves directed away from such defensive players as are stationed say twenty-five to thirty yards back of the scrimmage line.

Forward Passes are all dangerous as they are susceptible to interception by the defense. They are, however, an invaluable weapon of attack not only as a means of gaining distance, but also as

a constant threat, thus weakening the defense against rushes and kicks.

3. The Kick, divided into:

a. The Punt, which is usually executed at a point from eight to ten yards back of the scrimmage line. It is invariably employed in lieu of the surrender of the ball on downs. It should average say thirty-five yards net gain.

b. The Drop and Placement Kicks, made from a similiar position and for the purpose of scoring a field goal. The placement kick is also used after a fair catch for try at field goal. At the start of the game, the second half, and after every score it must be used as a means of putting the ball into play, but no goal can be scored from it.

A team is well equipped if it has in its repertoire about twenty-five plays, apportioned as follows:

16 Rushes, consisting of 10 plunges, slants and sweeps, 3 reverse plays, and 3 tricks,

7 Forward Passes.

2 Kicks.

Some teams have as many as forty plays, but far better is it to have a few plays well learned, for it is the execution rather than the nature of the play which makes it successful.

Plate VI. A PUNT

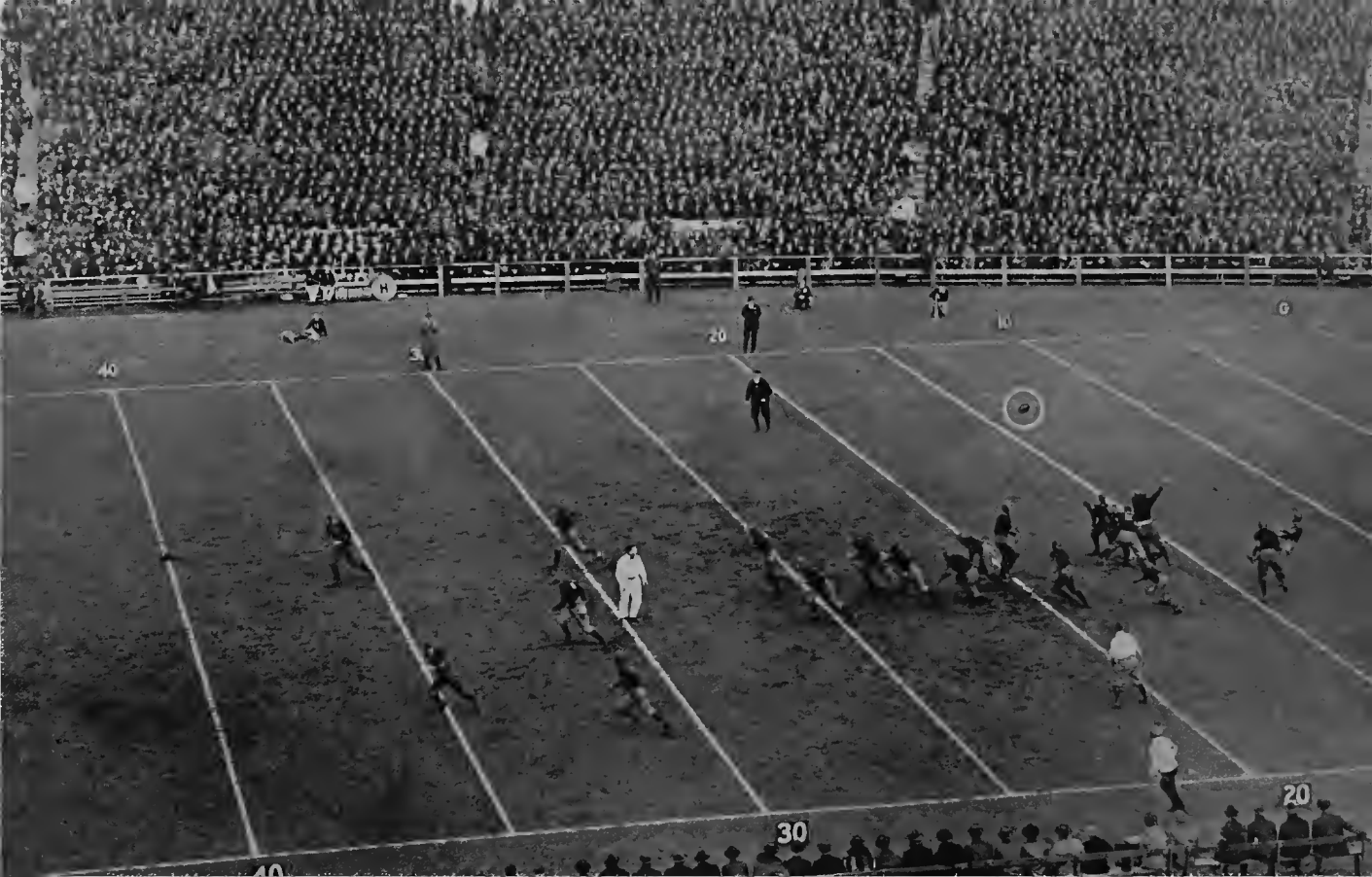
THE *offense have kicked from right to left. Less than three seconds has elapsed since the ball was put in play. The defense have made a valiant attempt to block the kick (see player with upraised arms), and how nearly successfully may be judged by position of the ball.*

On the 30 yard line are seen two offensive ends and a tackle on their way downfield to tackle the recipient (not shown in this picture) of the kick. The two defensive wing halfbacks (35 yard line) may be seen beginning their hindrance against the two aforementioned ends.

The remaining linemen, having checked their opponents until there was no possibility of a blocked kick, are just getting under way near the twenty-five yard line.

Please note that all four officials are intently watching the actions of the players as is their duty. If the spectator will do likewise he will not only see the most interesting part of the play but may know the reason why certain penalties are sometimes inflicted.

Yale vs. Harvard 1920.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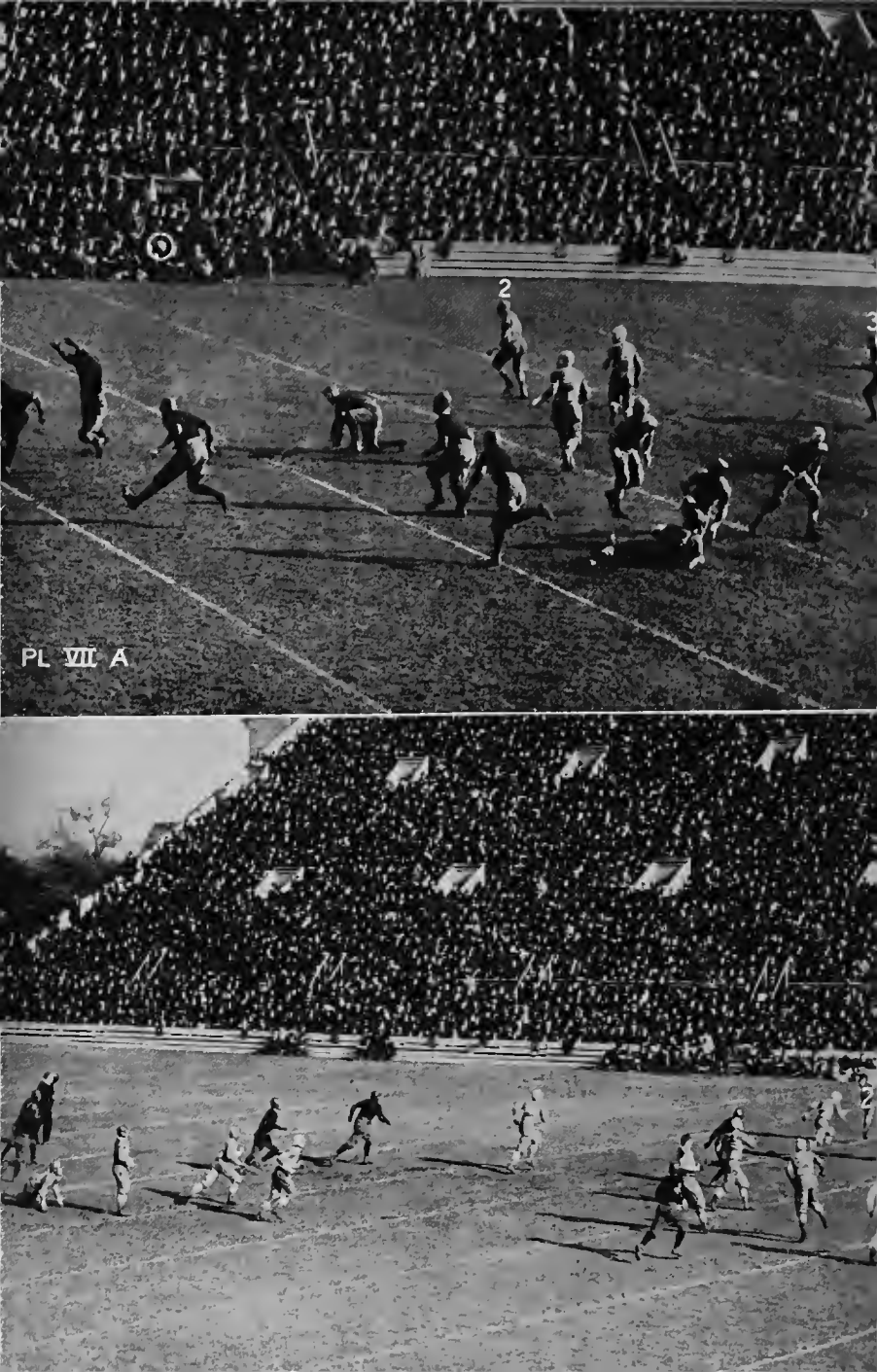
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PL VII A

Plate VII. (a) A FORWARD PASS

THE *player (1) at extreme left of the upper picture has made pretense of kicking thus drawing several defense linemen towards him. He has succeeded further in "freezing" the defense backfield, i. e., causing them to remain stationary until the nature of the play has been divulged.*

Meanwhile, an offensive player (2), who is eligible to receive the pass, may be seen sneaking towards the opposite sideline.

The defense backfield (3) have just recognized this fact and are on their way to recover their momentary disadvantage.

The ball is already in flight and it would appear that, provided the pass were accurate, a long gain would result.

(b)

THE *lower picture shows the same play from a different angle at the moment when the receiver (2) caught the ball.*

The time consumed while the ball was in flight gave the defending halfback (3) opportunity to make up for his shortcomings of a few seconds earlier. Thus he was able, although menaced by an interferer, to tackle the recipient of the pass for a gain of only five yards. Had he sensed the nature of the play earlier, he might have intercepted the pass.

Forward passes of this species are for this reason hazardous because when they are intercepted there are no players of the side which put the ball in play in position to prevent a long run against them.

Centre College vs. Harvard 1920.

In order that the above plays be utilized to their utmost effectiveness, it is usual that the offense employ three to four different formations as follows:

1. Close formation, from which a strong running attack by rushing is to be expected, but from which forward passing may develop (Diagram 1, p. 52).

2. Open, or kick formation, which has wider cope in rushing, notably sweeps, but which maintains inherent strength both in plunges and slants as well as forward passing (Diagram 2).

3. Loose formation, wherein one or more of the backfields are placed where they can be of better service as interferers on slant plays and also to better advantage for receiving forward passes (Diagram 3).

4. Wide formation, used by certain teams to throw defense into confusion, thus obtaining an opening for either a forward pass or a rush (Diagram 4).

We have now reached a point where it is necessary to consider some of the rules which govern the game. I regret this for it is dry stuff (so is law or the rules of any game) but I'll omit much and skip through the rest as briefly as possible.

Be it understood then that in the use of their weapons of attack, the offense are confined by many rules in the deployment of their players, the chief of which are that when the ball is put in play:

a. At least seven men must be on the line of scrimmage.

b. Only one player may be in motion and that one under certain restrictions.

c. If a forward pass is tried, only the players on the ends of the scrimmage line, and such other players as are at least one yard or more behind the line of scrimmage when the ball is snapped, are eligible to receive such pass, and further:

d. The pass must be delivered from a distance of at least five yards behind said scrimmage line.

In the conduct of their players the offense are also hampered by rules which state that:

a. When contact with opponents takes place, i. e., blocking and interfering, they shall not use their hands nor arms except as part of their bodies. This rule, however, does not include the player carrying the ball, usually termed the runner. An infraction of this rule constitutes holding.

b. "Thou shalt not clip, trip, nor crawl," to say nothing of minor rules whose infraction

brings penalties involving the loss of distance ranging from five yards to fifteen yards.

c. "Thou shalt not fumble," roars the Coach.

These manifold and severe penalties incurring loss of distance, and fumbles causing loss of the ball, to say nothing of intercepted forward passes, create a "bugbear" for the offense. In fact it is so difficult for eleven men on the offense to conduct themselves within the many rules which confine them, with the possible loss of ball through fumbles and intercepted forward passes plus the stubbornness of the defense, that it is improbable that one team can gain in a series of plays more than thirty-five to forty yards. This fact must be seriously considered among the general principles of offense as applied to the theory of the attack.

In striking contrast to the confinement of the offense is the freedom of the defense, which may take position in any form desired, nor are they restricted in the use of their hands, except of the closed fist, in their endeavor to avoid their opponents, provided they make actual attempt to reach the player who is carrying the ball.

To be sure, the defense as well as the offense are subject to penalty for being offside, for un-

necessary roughness, and for hindering the opponents from catching a forward pass, unless in so doing they are making an actual attempt to catch the ball themselves; but aside from these minor restrictions they are practically immune from penalties.

However, just as there are offensive strategic principles, so the defense are governed by certain tactical axioms which must be added to the factors which cause victory or defeat (see Diagrams).

It is quite impossible in this chapter to give a full description of offensive strategy, nor are there at all times set rules which govern the quarterback's decision, but it is well to point out a few of the salient principles on which the theory of attack is based. Although at times the reasoning is somewhat close, yet it is essential that the spectator obtain a brief outline of the subject, as without it the whys and wherefores of the various offensive manoeuvres are meaningless.

Let us, then, begin with the statement that unless the offense advance with the ball in their possession ten yards or more in four or less consecutive attempts, they must surrender the ball to the defense. Having this as the sole object,

how had they best proceed to accomplish the desired result?

In the discussion which follows, it is assumed that both teams are of about equal strength in the various departments of the game. If this be true, how, then, can one team ever defeat its opponent? By errors of commission and omission which creep into the play of one or the other. An axiom which has held true for years is "Other things being equal, the team which makes the fewest mistakes usually wins." Let us at once add this to the growing list of factors which result in success or failure.

Now let us for the moment step into the shoes, or rather look into the brain, of the offensive quarterback and view the kind of precepts which are stored there. Mind you, this is only the A B C of quarterback training, which varies in elasticity even as the conventions of Auction Bridge. In Auction, conditions are constantly changing because not only are there different cards in every deal, but one's decision is always dependent upon such things as whether the player is dealing, or sits number two, three, or four position, also upon the score and whether it is "free double," and so on.

Or again, perhaps a better comparison is the similarity of strategy employed in baseball, wherein the actions of the pitcher and batter are governed with reference to the number of strikes and balls on the batter, the ability of the next batter, how many and on what bases the runners are, how many are out and what is the score and inning.

Apply these principles to football and we get the elasticity of judgment required of the quarterback. It always devolves upon him, with a warp of long training and a woof of common sense, to weave the various component factors into a fabric which shall fit the exigencies of every situation. With this as a background the quarterback's Bible begins as follows:

In the selection of each and every play he must consider:

1. Climatic conditions which include the direction and velocity of the wind, the position of the sun, and the condition of the field of play, i. e., whether the footing is sure or slippery.

2. The position of the ball on the field of play, i. e., with respect to the goal line and side lines.

3. Which down it is and how much distance must be gained in order to obtain a first down.

4. What the score is, and how much time there remains before the close of the half or the game.

5. The distribution of the defense and its physical condition.

Considering only 2 and 3 in combination the quarterback is further burdened with a table of field tactics, which has been drummed into him daily since the beginning of the season, a brief outline of which runs as follows:

"Unless the wind is blowing against you," reiterates the Coach, "whenever you are inside your own twenty yard line punt on the first or second down, because should a fumble occur and the enemy recover the ball, they have at once a golden opportunity to score.

"Between your own twenty and forty yard lines, utilize your various kinds of sweeps, which, though not consistent gainers, may result in good yardage, but don't dare to use any forward pass which may be intercepted, nor any of those double passes for fear of a fumble. And remember, always punt on fourth down with more than two yards to go, because although you are theoretically surrendering the ball to your opponents, you gain thirty to forty yards in doing so.

"From your own forty yard line to your opponents' thirty yard line you are allowed a greater choice of plays. Use your running attack and, by manipulating your formations, threaten at once the three salient arms of attack —the rush, forward pass, and kick. If your rushing tactics are successful don't vary from them, but if you get held up on third down with five yards to go, slip a forward pass or one of those trick plays. But under no circumstances be held for downs.

"If you reach your opponents' thirty yard line remember you are within scoring distance and concentrate on that word 'score.' Use your strongest rushing plays and when the defense stiffens, play your 'ace of trumps,' and if on fourth down you are doubtful about gaining the required distance, get your three points by shooting a drop kick."

Such advice, when thoroughly digested, taken in conjunction with the general principles which have been mentioned, constitute a basis for a correct selection of plays at the proper time.

Having waded through this theoretical side of the game, let us rest our wearied minds some-

what by the application of these theories to practical demonstrations of what actually happens during a game.

In watching a football game, I strongly advise the spectator to cultivate the habit of always knowing the down and distance, either by memory or by reference to the score board which we located when we first arrived at the field. In this way you can often anticipate the nature of the ensuing play especially if you will apply the doctrines which have been so forcibly impressed upon the quarterback. If we know it is fourth down and five yards to go, we can assume that the quarterback will order a kick. When it happens, we not only feel a certain satisfaction in having "called" the play, but through our fore knowledge we are enabled to see the play with far greater detail than otherwise. I cannot emphasize the importance of this suggestion too strongly.

The greatest failing of the average spectator is that he keeps his eyes glued to the ball, or the runner, during the progress of a play. In this way he misses entirely the eternal conflict between the offensive interferer and the defensive tackler. Now let it be thoroughly understood

that the very essence of ground-gaining by rushing lies in this interference, i. e., clearing a path for the runner by other players of his side. That you may visualize the truth of this statement, let us for the moment assume that the offense consisted merely of a player to put the ball in play and a lone runner. The unhindered defense would overwhelm the runner before he could run a yard, kick or even pass with any accuracy. From this illustration, we can now see that it is solely through the co-operative efforts of all the eleven units of the offense that the various arms of attack can operate successfully. Thus when a plunge play is executed, it is the offensive line from tackle to tackle which enables the runner to reach even the line of scrimmage, and by its superior charge against its opponents enables him to squeeze through the first line of defense. (Plate II) Again, when a sweep is attempted, notice that usually two of the backfield are detailed to put the opposing end rush "out of commission." At the same time our offensive end and tackle are endeavoring to "box" or flank the defensive tackle. The remaining back, with perhaps the assistance of a linesman, rushes through the gap outside of this tackle to attend to the

rush-line halfback who represents the second line of defense. In this way, the offense have thrown six interferers against the three of the defense, who are most likely to stop the runner without gain. (Plate III) Meanwhile, other linesmen, after they have performed their protectionary assignments on the line of scrimmage, may be seen, ahead of the runner, harassing the wing halfbacks, or third line of defense. Time after time, you may see these interferers continue these tactics after the runner has been thrown. (Plate IV) The average spectator misconstrues their action either as unnecessary roughness or as wasted effort. Quite the contrary. It is their duty to engage certain of the defense at the moment when the runner, if untackled, arrives at that locality. Their eyes and attention being directed against their opponents, they are quite unable to tell whether the runner is tackled or not. In other words, they are performing their assignments irrespective of the fate of the runner, on the assumption that he will need their assistance if his path has been cleared to that point. Only on rare occasions does this occur, but when it does this interference on the third

and even fourth line of defense converts a gain of say ten yards into a really long run which often as not results in a touchdown.

From the Coach's point of view, these interferers are the real heroes of a successful offensive play, albeit the runner often shows skill in eluding opponents either by clever dodging or by the use of a "straight-arm." (Plate V) One frequently sees a brilliant run by a noted halfback, but he who attributes a good gain entirely to the runner not only does injustice to his teammates, but also misses one of the really fine points of football. Therefore, let me urge that you keep the runner in the tail of your vision, as it were, and direct your main attention on what transpires ahead of him.

Again, there is a strong tendency to watch the ball in its flight after it has been punted. In the interim, what occurs on the field of play? Note, before the ball is actually kicked, the rugged conflict between the onrushing defense and the offensive backs, who act as protectors for their kicker. (Plate VI) Were it not for the wall these backs thus form every attempted punt would be easily blocked. Even with their assis-

tance the kicker is forced to perform his skillful act in a few seconds of time, else disaster will follow.

On another occasion, when on account of your knowledge of the down and distance you are reasonably sure a punt will ensue, watch the offensive ends begin their mad rush downfield at the snap of the ball, to be followed a second later by the tackles, while the guards and center hold their ground until all possibility of a blocked kick is eliminated. As the ends proceed, you will see the defensive wing halfbacks, after they have made sure that a rush or pass is not forthcoming, make every effort to impede the progress of the offensive ends, ending with a final lunge at them just as the ball is caught. Here is interference in another form which often enables the player catching the punt to gain yardage otherwise not possible. To counterbalance this interference on the ends, many teams send a tackle downfield at the snap of the ball. (Plate VI).

Difficult as it is to see either a rush or kick in its entirety, it is quite impossible to visualize the great majority of forward passes. Not only is the intended direction and length of the pass unknown to the spectator, but often the very

nature of the play is concealed by a pretence of the passer to do something else. The commonest form of thus outwitting the defense and deceiving the spectator as well, is a pretence of punting by the kicker, until the defense have been lured away from certain zones of territory, when by suddenly desisting from his punting motions, he is able to pass to one of his side at the point left vacant by the deluded defense. (Plate VII) Another trick which distresses the defense and spectator alike is when a clever player gives every indication of passing in one direction, and then suddenly hurls the ball to an unnoticed player in quite an opposite direction. Still again, a play which to all intents and purposes is a bona fide attempt to rush, will suddenly develop into a forward pass to the utter surprise of the defense. (Plate VIII)

Failing then to obtain regularly a comprehensive view of plays of this nature, the best we can do is to keep the tactical situation constantly in mind, i. e., down and distance, and thus try to anticipate the play or be content to watch the passer closely and marvel at his cleverness and the skill of the receiver.

Plate VIII. AN UNUSUALLY SUCCESSFUL FORWARD PASS

RARELY *does the offense succeed in deluding the defense to such a marked degree. The play had all the appearance of a rush at its inception but by the clever passage of the ball from one player to another changed its aspect in a twinkling of the eye—not until, however, it had drawn the defense backfield away from the zone into which the pass was thrown.*

The receiver was evidently entirely unnoticed by the defense, for he is seen in the act of catching the ball with no one near him. The play naturally resulted in a long gain, the runner finally being tackled by the defensive player whose shadow appears at the extreme left of the picture.

Harvard vs. Princeton 1921.

PL IX A

Plate IX. (a) A CRISS-CROSS RUN

IN *the top picture, the play was taken at the moment when the ball was being passed from one player (1) moving towards the camera to another player (2) going in the opposite direction.*

Notice that the defense line has been momentarily blocked in order that the players engaged in the delicate operation just described might be thoroughly protected.

Meanwhile interference is forming against the defensive right end (3). The defensive backfield are shown in various degrees of uncertainty.

(b)

THE *lower picture shows the same play, after the runner (2) is well under way and the defense in full cry after him.*

The defensive right end (3) and tackle (4) are seen sprawling on the ground, leaving the runner with a valuable interferer ahead of him, to combat finally with the three defense backfield who are now fully aware of the final direction of the play. The play thus resolves into a race for the farther side line between them and the runner.

Note apprehension shown by attitude of man with white hat.

Centre College vs. Harvard 1920.

So far we have considered certain phases from the offensive point of view only. We have learned that although practically every player on the offense is subject to a tremendous phsyical exertion in every play, yet he has the great advantage of knowing, through the medium of numerical signals, which of his team is to handle the ball, where the play is to be directed, and in case a starting signal is used, when the ball is to be put into play.

The defense, on the other hand, have no knowledge of any of these all-important factors which in itself constitutes its greatest problem. Although the linemen are subject to great physical strain during every play, yet they and the entire backfield undergo at all times tremendous mental uncertainty as to what the offense are going to do next. By reference to the diagrams we can see how the various offensive formations are at once answered by a corresponding shift in the distribution of the defense, but having thus theoretically prepared for any move the offensive may make, the moment the ball is put in play they are at once subjected to many pitfalls. Could they but recognize the signals, no offensive move would be successful. They must however, re-

main in ignorance of its nature not only before the play begins, but for an appreciable time after it starts.

It is this necessary hesitancy of action which gives to the offensive an initial advantage best illustrated by the cohesive charge of the offensive line. Were the opposing linemen certain of a plunging type of play they could easily meet the attack with little or no gain, but the defensive tackle, for instance, has learned that he cannot afford always to plunge headlong at the apex of a play apparently aimed well to his left, because bitter experience has taught him that the play may, by a change of direction, develop to his right. So also an end must always beware of the dreaded criss-cross play which starts toward one end and by the concealed passage of the ball from one player to another develops in the opposite direction. (Plate IX)

Consider the predicament of a wing halfback who sees the runner dashing toward the flank which he is guarding. If the play is really a rush, he should move forward to tackle the runner before he has gained material distance. If, however, the play develops into a forward pass, it is his bounden duty to locate the player who is

PL XI A

Plate XI. A DROP KICK

(a) A SUCCESS

THE *ball was put in play on the five yard line and was kicked from the fourteen yard line. It can now be seen on its way toward the goal posts.*

Most of the defensive line have been successfully checked on the line of scrimmage. Others have met the wall of offensive backs, who protect the kicker. One (with upraised arms) made a desperate attempt to block the ball but was too late.

Notice position of kicker's right leg, denoting that he used simply the "snap of his knee" to impart impetus to the ball.

Note also the look of utter helplessness of the defensive backfield.

Yale vs. Harvard 1921.

(b) A FAILURE

IN *all respects, save one, the offensive have performed their various assignments in excellent form. The line has blocked four of the defense on the scrimmage line. Defensive right end (5) is held up by protecting back, and a player with upraised arms and another behind him are about to be blocked by another offensive back.*

The ball however, was not elevated sufficiently by the kicker. It may be seen apparently between the knees of player with upraised arms. In reality it is several feet nearer the camera.

Because drop kicks start from the ground they are easier to block than punts, which are delivered from a point two or three feet from the ground and with greater elevation as well.

Harvard vs. Penn. State 1921.

to receive the pass and to be in a proper position to intercept it. He is between the devil and the deep sea. In fact were it not for the rule which compels the offense to execute a forward pass at least five yards behind a line where the ball is put in play his position would be quite untenable.

At other times, when the forthcoming forward pass and the apparent receiver are patent to him, by following the receiver, who in reality is simply a decoy, he is enticed away from the locality where the pass will be caught by another and real receiver. That plays of this nature may not be consistently successful the defense, although sacrificing material strength on the line of scrimmage by so doing, are rapidly learning to withdraw their center some five yards from the line and thus support the wing halfback in question, under such conditions as described.

This man who occupies the center position is well worth watching, individually, for he is called upon, against close running plays, to cope with the rugged work in the line. He must be fast enough to render immediate support to both tackle and end if playing as a rush line halfback,

and under certain systems he must be sufficiently wise to control correctly the entire scheme of defense. In this respect, whether under his direction or not, the defense are governed by the same principles which determine the offensive strategy. We have learned that the offense quarterback is constantly influenced in his choice of plays by the down and distance to be gained, that if on fourth down there is but a scant yard to go for first down he will most likely rush and presumably use a plunging type of play. If third down and more than five yards to go he will tend towards the use of the forward pass. But if on fourth down and ten yards to go, unless some unusual circumstances exist, he will order a punt or else look forward to a bad half hour with an enraged coach.

Conversely, the defense are trained in the same line of thought, so that whatever formation the offense assume, the defense not only respond with the proper theoretical formations, but direct their main attention towards coping with the kind of play (kick, rush, or pass) the offense will probably employ.

Reference to the diagrams shows the usual

variations of defense, but all teams do not assume the positions as drawn, so that the spectator should be constantly alert in noting the defensive formations, particularly when the offense threaten to punt. See if the defense respond by placing one or two men back to receive the kick. The main reason why they do not always put two men at full distance is for fear of a forward pass into a zone some ten to fifteen yards directly back from the line of scrimmage. A player is sorely needed at this point when a play of this nature is executed. On the other hand, one man alone against a punt cannot cover the width of the field, and an accurate punter will always take advantage of this fact by placing his kicks to one side. Or, should the punt come to him on the fly and he muff it, none of his side are near enough to render immediate assistance in recovering the ball. The spectator should realize that this "handling" of punts is of the most vital importance to the defense. Under the most favorable conditions it is an extremely difficult feat, but when the catcher is pitted against a spiral punt with wind and sun to complicate matters and fully aware that the instant he catches

the ball there will be two or three opponents ready to bang him to the ground, know that it takes skill and a stout heart to combat this play successfully during the full hour's play.

If a muff does occur and the offense recover, it constitutes what is termed a "Break," that is, when the usual scheme of play is marred by an error of commission or omission of one of the players. As has been stated it is mistakes of this kind which often win or lose a football game. Perhaps the worst break which can happen against a team is for the opponents to block a punt and recover the ball. It is not only the actual distance lost, but the psychological effect upon the offending team which plays such havoc.

Another type of break occurs when a team is gaining steadily and as they are approaching the enemy's goal (or third down) are penalized for holding. It often happens that the rush during which this infraction occurred gained a good ten yards and would have made a first down. Instead, the offending team is set back fifteen yards and the down remains the same, so that instead of first down on the opponent's fifteen yard line

it is now third down on their forty yard line with twenty-five yards to gain. Thus the opportunity of scoring has been completely wiped out by the mistake of one individual.

Intercepted forward passes are the most spectacular form of break, because the play, from being a near success, sometimes results in utter disaster. It is because of this "boomerang" effect that the offense use the forward pass so sparingly in their own territory.

At every game of football there sits, usually within earshot, an individual who persists in venting his feelings against the players on the field by a continuous line of "chatter." His creed appears to be that if his team gains or prevents their opponents from gaining, all is well. But when one of his team apparently misses a tackle, he sums up the situation by the word "rotten." That man, and, thank Heaven, this kind of person is confined to the male gender, either has never played football himself, or else is ignorant of the fact that tackles have been, are, and will be missed as long as football is played. Further, he fails to discern that most tackles are missed, not through the clumsiness of the would-be tack-

ler, but through the cleverness of the runner. On another occasion when our interferers fail to "clean up" the opposing end rush, he caustically remarks "pretty bum attempt," not in the least recognizing that the end in question had by the use of his hands on the interferers' bodies, succeeded in ridding himself of them and, by a superb tackle, downed the runner for a loss. The lesson he should learn, then, is to give credit when and where it properly belongs.

A penalty for holding is incurred by our team. The referee, with ball in hand, starts pacing off fifteen yards. "Robber!" yells our sportsmanlike neighbor. Aside from his unseemly remark, he is evidently ignorant of the fact that it is the umpire who inflicts penalties of this nature and that in this case, the referee is simply carrying out the verdict of the umpire. Be it known, then, that the main duties of the referee have to do with the movement of the ball, while those of the umpire, assisted by the field judge, have jurisdiction over the conduct of the players. The decisions of the officials are always given honestly and, in the great majority of cases, correctly. Booing or complaining of their actions

Plate XII. A SHORT LATERAL FORWARD PASS

(a) INCEPTION

THE *ball was put in play at the point X. The offense were in open formation. The ball was snapped to quarterback who, by running backward and laterally toward the camera, drew all seven of the primary defense after him. He is now in the act of passing the ball to another back seen in foreground.*

To show that the offense are well aware of the danger of the play (note proximity of defense) the player at extreme left is so placed that if the defense intercepted the pass he could tackle the runner.

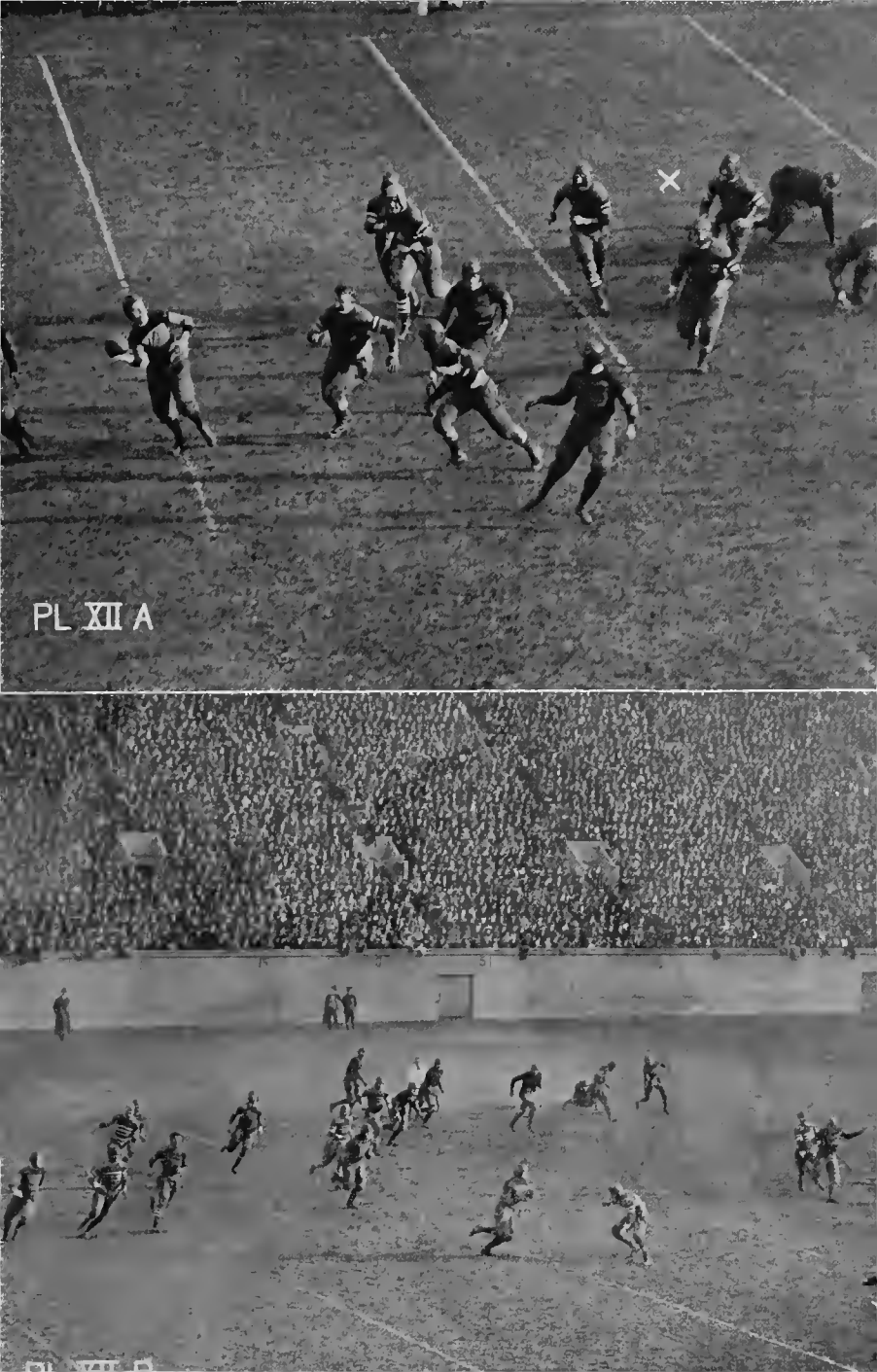
(b) COMPLETION

THE *lower picture shows the same play just after the receiver caught the ball, but before he has had time to tuck it safely under his arm.*

He has not yet reached the original line of scrimmage (about opposite pail on further side line) but is already menaced by the defensive wingback who has advanced to meet him. Another back is still following a decoy player (on extreme right), who was sent ahead of the play for this purpose.

In the background a thirdback is seen in the act of dodging an offensive interferer. This picture emphasizes the lateral ground covered during the play.

Harvard vs. Centre College 1921.


PL XII A

PL XIII

Plate XIII. THE BOOMERANG

JUST *prior to the taking of this picture Harvard had possession of the ball. From open formation she attempted to gain (from left to right) by a forward pass which should have been thrown to a point about on the line of scrimmage (see stake on further sideline) and ten yards in from the sidelines. The pass was inaccurate and the defensive right wingback (1), sensing the play, dashed forward and intercepted it.*

He is seen in the act of catching the ball. The intended offensive receiver (2) attempted to tackle him but just failed, leaving a clear field for the runner, who was finally overtaken by a player not seen in the picture after a fifty yard run.

For this reason forward passes directed at the extended scrimmage line, i.e., lateral forward passes, are extremely dangerous though occasionally productive of long gains.

In this same game, with less than five minutes to play and the score 3–0, against her, Princeton, on her own twenty yard line, completed a pass of this nature (from a wide formation) and with the aid of superb interference converted it into a touchdown after a run of eighty yards. On this latter occasion, had the defensive left end, who was in proper position, elected to tackle the receiver after he had caught the ball, instead of attempting to intercept the pass, he could have prevented the ensuing run and score.

Princeton vs. Harvard 1921.

has no place in any amateur sport, albeit that it seems to have become a privilege for the frenzied fan at professional baseball games.

This same individual is also apt to criticise loudly the quarterback for not doing otherwise than he did. Comes a critical situation. Which of the three arms of attack shall our quarterback employ? A kick, run or pass? He decides on one and the defense completely foil the attempt. Mr. Know-it-all at once shrieks his disapproval, "punk judgment."

To him I address the following: Kindly realize that the quarterback is a mere boy of twenty odd years; that, like as not, this is his first championship game (under the present eligibility rules, it cannot be more than his third); that he has been playing almost an hour against a rough and rugged team and has received many blows and hard falls that would have made either you or me quit long ago; that although he has had intensive training in the comparative quiet of secret practice, yet please know that it is quite a different matter to put into effect what has been taught him when eleven burly opponents are, figuratively speaking, endeavoring to

beat his brains out and fifty to seventy thousand people are helping him to think straight by yelling their heads off.

And, finally, Mr. Smarty, that you may to some small degree appreciate the stress under which he is working, I give you for correct solution the following problem: Assume that you are standing in that quarterback's shoes; that your team has, by virtue of superhuman effort, or through your own cleverness, if you prefer, reached the enemy's two yard line. The position of the ball is unfortunately well toward the sideline; it is the fourth down and the goal line to go. The score is 6 to 3 against you and the Field Judge has just told you that there is less than two minutes to play in the final period of the game.

Let me assist you in your reasoning, as you stand there with your reputation quaking in the balance. You will notice that the enemy's line is greatly reinforced by two halfbacks who have quite rightly stationed themselves directly behind their two tackles, and look at the do or die expression on the faces of those three center men. The flanks are also strengthened by two wing

PL. XV

Plate XV. A DEFENSIVE TRIUMPH

THIS *aero-view portrays all the defensive players, in proper position and using their hands to keep free from the opposing players.*

The offense are attempting to flank the defensive left end, who can be seen in foreground with his right hand on an interfer's head. He has successfully met the shock of the other interferer, as he is still on his feet and in a strong position. The defensive left tackle is foiling the attempt of the offensive right end to "box" him by the use of his left hand. The two guards on his right are in strong position had the play been directed against them, while the right tackle and end have crossed the line of scrimmage and are ready for any reverse or criss-cross play. (Contrast this plate with Plate IXa.) The center and halfback constituting the second line of defense are moving laterally with the runner and are both free of interference.

Note the illegal use of arms by several of the offense. The Umpire (in white shirt) has detected it and is in the act of blowing his horn to signify that holding has taken place. Although the runner was thrown for only a small loss the ensuing penalty cost fifteen yards.

Centre College vs. Harvard 1921.

halfbacks, who because the forward pass zone is restricted to ten yards beyond the goal line, have wisely taken position much nearer the scrimmage line than usual. But "take it from me" all four of the enemy's backfield are on the alert for a forward pass into that narrow strip of legal territory, and remember it is only necessary for them to bat the ball away from your receivers to constitute a touchback, in which case your goose is cooked. Somehow, the space between the goal posts appears unusually narrow as you consider trying to tie the score by kicking a drop goal, just as that golf hole looks the size of a pin head when you have a four-foot putt for a halved match on the eighteenth green.

"I have it," you say, in faked calmness. "Even if I fail in my rush, the enemy will be compelled to punt from an awkward position, and we can make a fair catch and then tie the score by kicking a goal from placement."

"Well, as long as you have decided on a rush, which one are you going to use? Go ahead and do something quickly, or the referee will penalize you two yards for delaying the game, and finally remember that of the three arms of at-

tack, only one can be used in this last remaining try; therefore, theoretically, the odds are two to one against your successfully accomplishing whatever you attempt. Good luck to you!"

Diagram I

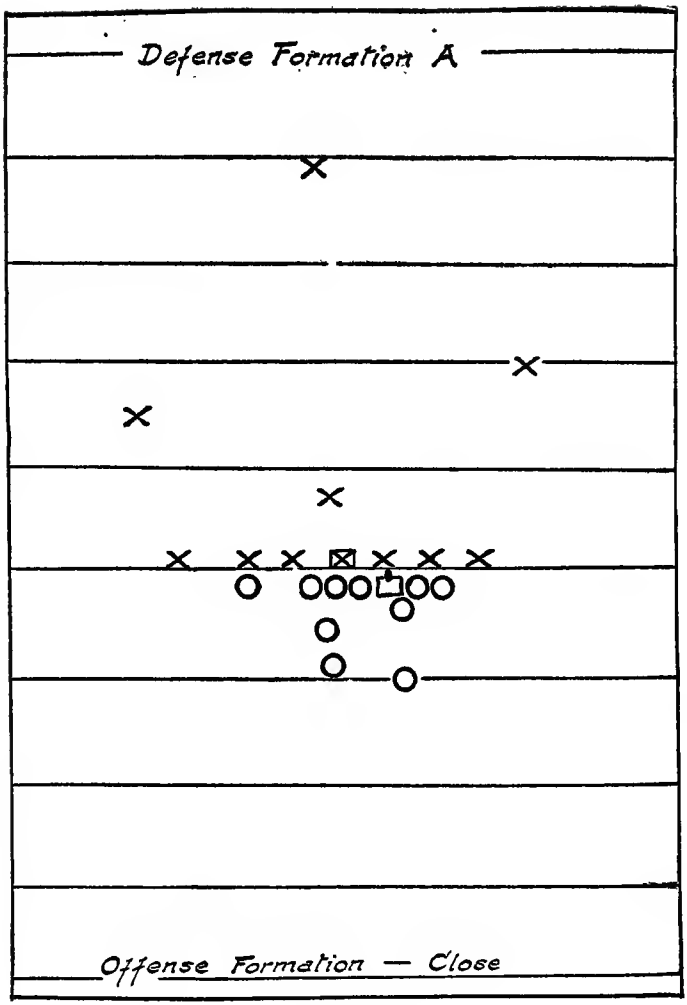


Diagram I

THE *offense in close formation are able to attack by rushing all points on the primary line of defense. For this reason the latter, unless they anticipate a forward pass, usually place seven men on the line of scrimmage to combat the weight of the impending attack upon it.*

A player of rugged build is stationed from three to four yards back of the first line of defense, opposite the apex of the offensive formation. This player, known as a rush line halfback, supports the line from tackle to tackle and constitutes the second line of defense. The other halfbacks (usually termed wingbacks) are forced to take position sufficiently removed to be on equal terms with possible receivers of the forward pass.

Owing to the predominating running strength of the offense on their left side, the defensive right wingback is called upon to support his end on all plays run in his direction. He, therefore, plays somewhat nearer the scrimmage line than the left wingback, whose main duty is to watch for a forward pass until he is certain that it is not forthcoming, after which he should assist his second line in preventing gains by rushing. The wing halfbacks are known as the third line of defense.

The remaining player, the fourth line of defense, is placed from twenty to thirty yards in the rear to cope with a possible quick kick or any pass or rush that reaches his territory.

Diagram II

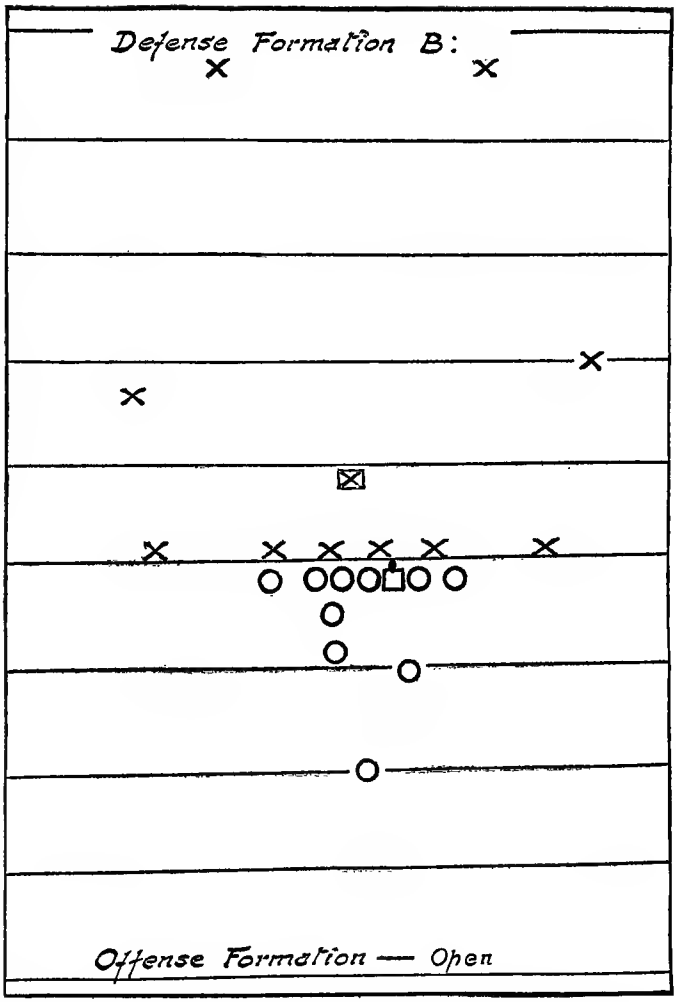


Diagram II

THE *open formation is used primarily for kicking (the diagram is drawn for a left-footed kicker). From it, however, are run plunges, slants and sweeps, the last type being so formidable as to cause a widening of the defense rush line. Forward passes of various kinds are also used, so that the defensive center is forced to fill the gap left vacant by the necessary changes in the backfield, caused by the threatened kick.*

Versus this open formation the defense is thus stretched in width and depth. If too far in either direction, the offense at once takes advantage of the weak spot. Both the offense and defense vary considerably from the diagram in accordance with the immediate circumstances.

Diagram III

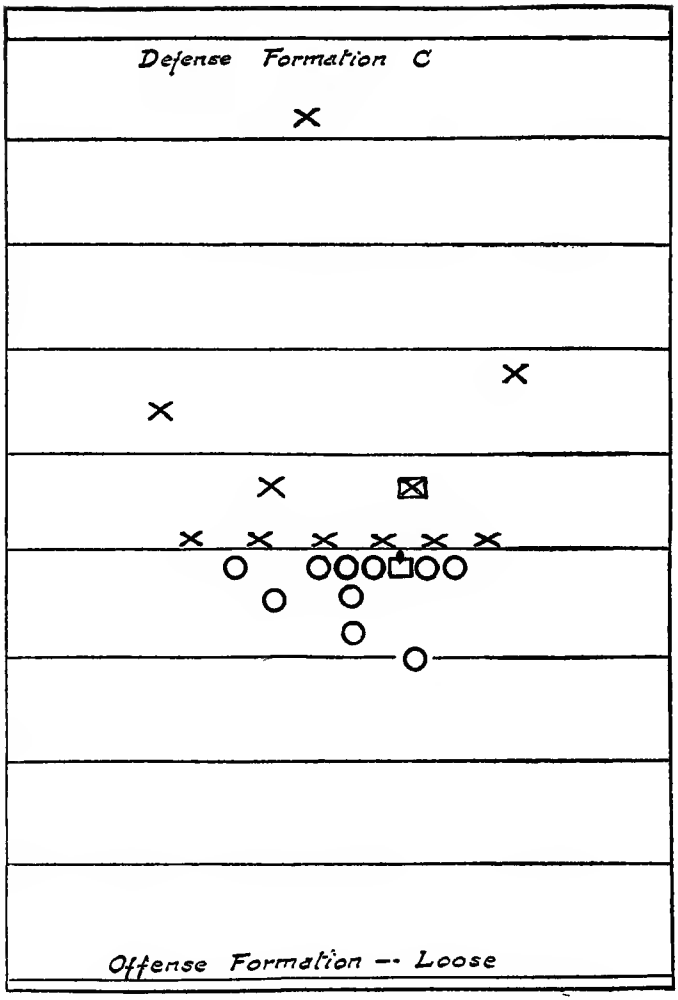


Diagram III

THE *offense have loosened the distribution of their team laterally in an attempt to flank the defensive right tackle. By this arrangement also they have so grouped their backfield as to enable them the more easily to wend their way through the opposing line in order to receive forward passes.*

For this reason the defense, although sacrificing material strength on the primary line, are forced to withdraw their center rush who is thus able to assist his backfield not only against plays of this nature but also to lend much-needed support to the weakened scrimmage line.

The third and fourth lines of defense remain unchanged.

Diagram IV

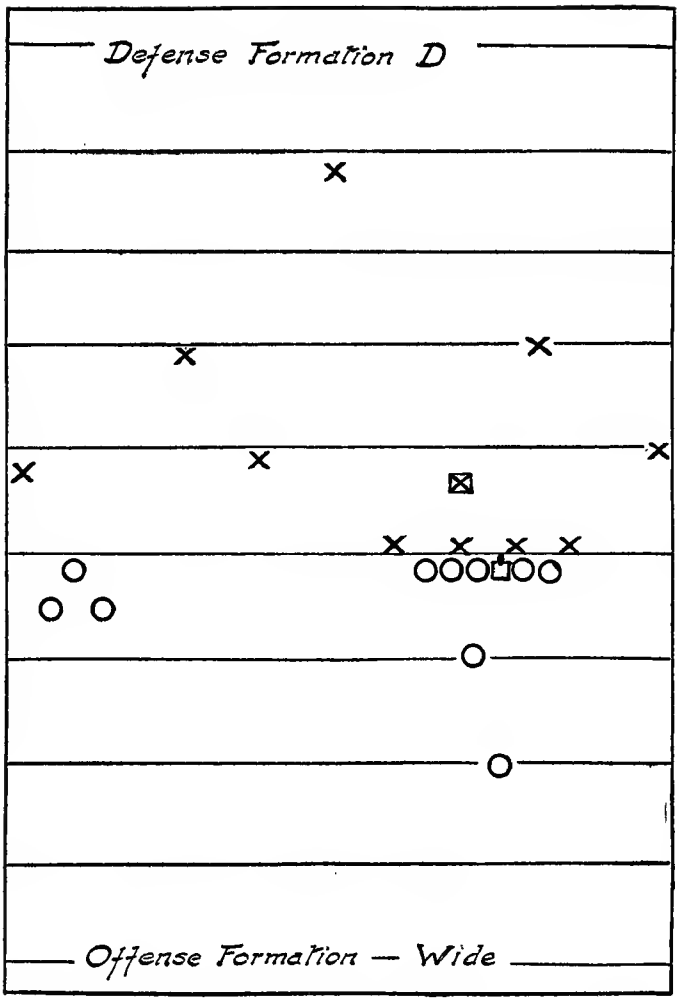


Diagram IV

THE *offense have now assumed a formation in which there remains so little rushing strength of a plunging nature, that the defense leave only the two guards and two tackles to combat with it. The rest of the team is so placed as to best cope with forward passes or wide runs.*

On account of the width of the offensive formation it is so difficult for the defensive backfield to cover laterally their respective zones, that the defensive ends are called upon not only to protect the flanks against sweeps, but also to guard flat zones on or about the extended line of scrimmage, into which the offense are apt to make a forward pass.

To adequately accomplish these two important duties, they are compelled to take station some five yards back of the scrimmage line.

The backfield are thus allowed to maintain the same relative positions as shown in Diagram III.

II

THE FIFTY-YEAR BATTLE BETWEEN THE OFFENSE AND DEFENSE

THAT full appreciation of the tremendous developments which have been wrought in the game may be realized, let us revert to the origin of football in this country, follow the various changes in the playing rules, and note their effect upon the tactics of the offense and defense.

Unlike the English game which for years has retained its most distinctive features, American football has shown constant advancement in new directions, so that at the present time it so abounds with innovations and new ideas as to be fundamentally different from that played in the various football epochs of the past.

By far the most interesting aspect of football is the struggle between the offense and defense. Superiority has lain first with one then with the other, the reasons for which we will now trace

from the time when the game was divorced from the English Rugby. In the early seventies, when the game was played under English rules, there were fifteen players on a side. There was no successive possession of the ball, no downs, no signals, no interference for the runner, and no penalty for failure to make distance. After the number of players had been reduced to eleven, the first American legislation was to allow one team possession of the ball when an offensive play was to be attempted, in other words, an organized outlet of the scrimmage. In this lies the backbone around which the entire body of American football is attached.

Having allowed the offense possession of the ball a problem soon arose as to the proper method of preventing what was then called the "block game." As there were no rules relating to the number of downs, or distance to be gained, it became the practice of the offense to keep the ball continuously in their possession, irrespective of the distance gained or lost, so that even if a team was forced behind its own goal-line, the ball was taken out to the twenty-five yard line, at which point play was resumed without penalty.

Thus, in 1881 Yale and Princeton played a

0-0 tie, in which Princeton had possession of the ball during the entire first half, making a gain of only ten yards in forty minutes' play. Yale started the second half with the ball, and never once relinquished it until the game was finished.

To prevent the continuance of these tactics, rules were adopted in 1882, the first of which declared that if the offense were forced over their own goal-line, two points should accrue to the other team. More important was another rule which provided that the offense must, in three successive rushes, advance the ball five yards or retreat with it ten yards, failing to accomplish either, the ball to be surrendered to the defense. Not only did these rules prevent the monotonous tactics of the block game, but they were the cause of the present-day five yard lines which, striping the field of play, have earned for it the name "gridiron."

This five-yard rule so weakened the offense that the rule makers about the same time abolished the English rule which forbade an offensive player to block opponents while in advance of the ball. Thus the last vestige of Rugby was cast aside, and the corner-stone of our present system of interference was laid.

With this new agency at its command, the offense made great strides in strategy and tactics, and we find that through the adoption of signals, crude as they were, the defense soon crumbled before what were really the beginnings of an organized attack with the attendant importance of the quarterback to direct it.

In order to bolster up the defense, an innocent looking rule was passed in 1888, which legalized tackling the runner from the waist to the knees. As it turned out this low tackle introduced into the game a defensive weapon so powerful that the day of individual end running and dodging was doomed. In its stead the offensive rush-line was now contracted until the men stood shoulder to shoulder, and the halfbacks were moved up to within four or five yards of the scrimmage line to cope with the quick plunges into the line that the new game required.

Thus passed the beautiful open style of running which is so fondly remembered by the older generation of today; and in its place came the ugly, uncouth beginnings of mass play.

Ingenious inventions at once appeared along this line of tactical development. Yale utilized the new interference idea by sending a player

Plate XVI. AN OFFENSIVE VICTORY

IN *utter contrast to Plate XV the offense have succeeded in rounding the left flank of the first line of defense and still has one interferer free for the second defensive line. Note the extended condition of what remains of the lines of scrimmage showing that the runner travelled a considerable distance laterally before he was able to flank the primary line of defense.*

Although the offense appears to have gained a great advantage, the runner was forced out of bounds by the third line of defense, who can be seen approaching.

The stake, top of which can be seen in lower left hand corner, designates point ten yards in advance of place where ball was put in play.

Centre College vs. Harvard 1921.

PL XVII A

Plate XVII. (a) A FINE PIECE OF INTERFERENCE

THE *upper picture (taken from sidelines) shows the offense sweeping the right flank of the defense. Right end has been completely overpowered by interference and may be seen on the ground. Two more interferers are now assailing the defensive right tackle who has so far been able to keep laterally abreast of the runner. By the use of his left hand, he rids himself of the first interferer who is using his right arm illegally, but the second knocks him clean off his feet, as is shown in lower picture taken a second later from a higher elevation.*

(b)

Note how much more comprehensive the lower picture is. The defensive right end is still on the ground, the right tackle is approaching it rapidly, but the second line of defense looms up ominously and will tackle the runner on the chalk line between the two.

Man with white hat on sideline evidently bears malice against someone.

Centre College vs. Harvard 1920.

through the line in advance of the runner, commonplace now, but irresistible when first disclosed. Princeton, equally constructive, devised the play now familiarly known as "boxing the tackle." Simple now, but surprisingly formidable when first used against Yale in 1888. The defense soon met these innovations by placing a halfback, who before stood ten or fifteen yards from the scrimmage line, immediately behind each tackle, thus presenting a new invention called the "secondary defense," which was the beginning of the co-operative relationship between the defensive halfbacks and the line, which in turn accelerated the detailed development of position play and rush-line tactics.

During this period the game opened with the time-honored "kick-off," such as is in vogue today, but the rules then did not stipulate the distance which the ball must be kicked. This loophole was eventually utilized by some strategist at Princeton, who instead of kicking the ball well down the field as was the custom, merely touched it with his foot, thus meeting the technical requirements of the rule, and then passed it to another of his side for a rush. The formation used for this play resembled a V, with

the runner within the wedge thus formed. Although this play was, of course, formidable, its ultimate strength was not disclosed until the opening of the second half of the Harvard-Yale game in 1892. Yale had begun the game with the orthodox wedge play, but when Harvard's turn came in the second half, instead of the players grouping near the ball as heretofore, the two sides of the V in groups of five men, took station fifteen yards to the rear and well toward each sideline. One man was left in control of the ball, who, when all was ready, waved his hand and the two sections started on the run, so converging as to form at the time they reached him a perfect "flying wedge." Meanwhile the ball remained upon the ground, thus preventing the defense from advancing beyond the restraining line until the last moment, when it was legally put into play and passed to a player within the walls of the V. The Yale line was naturally overwhelmed by the weight and speed of this play, and had not the runner tripped over one of his interferers at Yale's twenty yard line, he would have undoubtedly scored a touchdown. No innovation has ever been devised as spectacular or sensational as this play. Having been

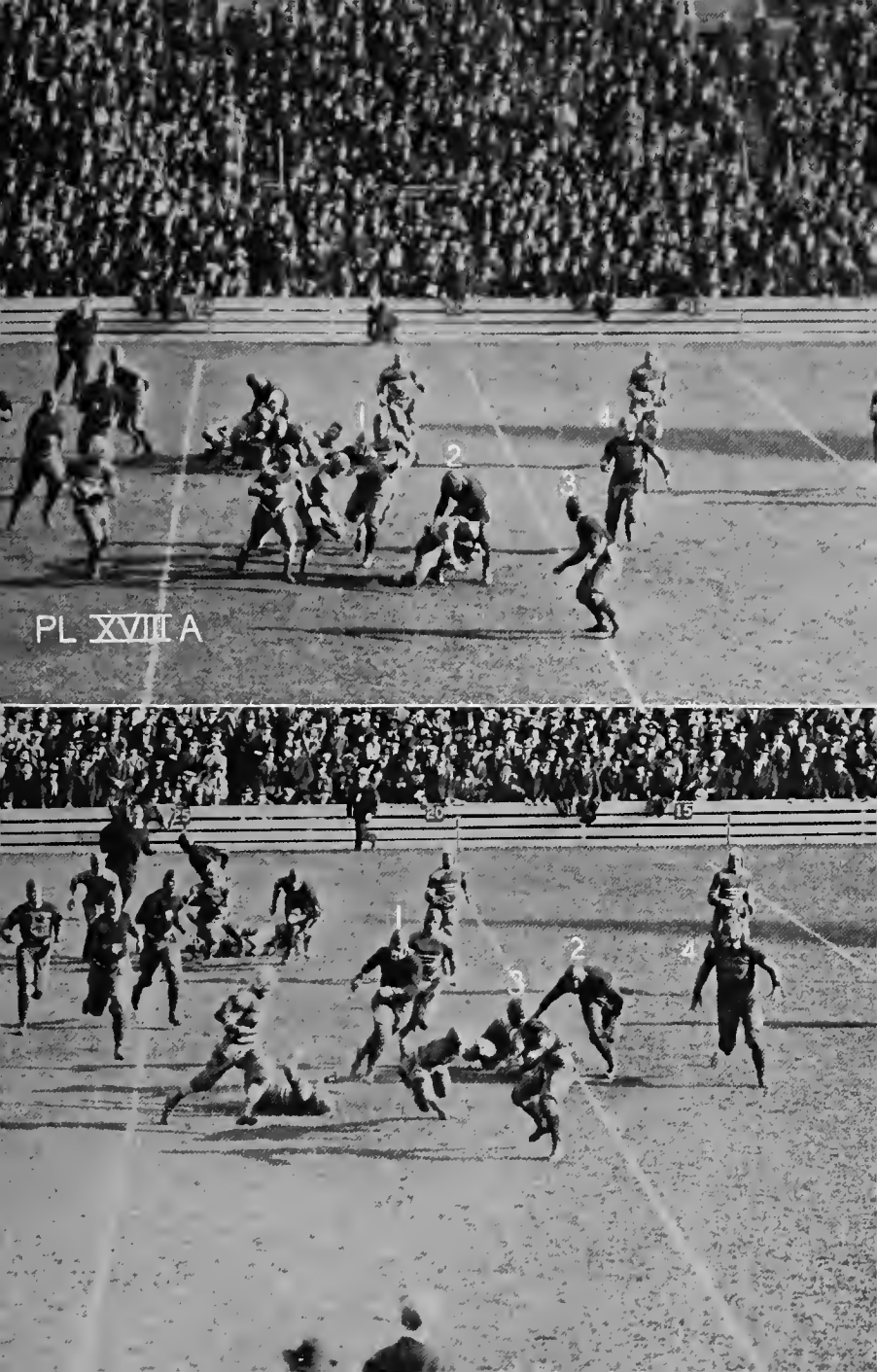
Plate XVIII. (a) CLEVER DEFENSIVE METHODS

IN *the upper picture, an offensive sweep around the left flank of the defense is well under way, with three interferers ahead of the runner. One is in contact with defensive player (1), another appears to have the advantage of player (2), while a third is aiming intently for player (3) and player (4) is not abreast of the runner. It would, therefore, appear as if the offense were on the threshold of a good gain.*

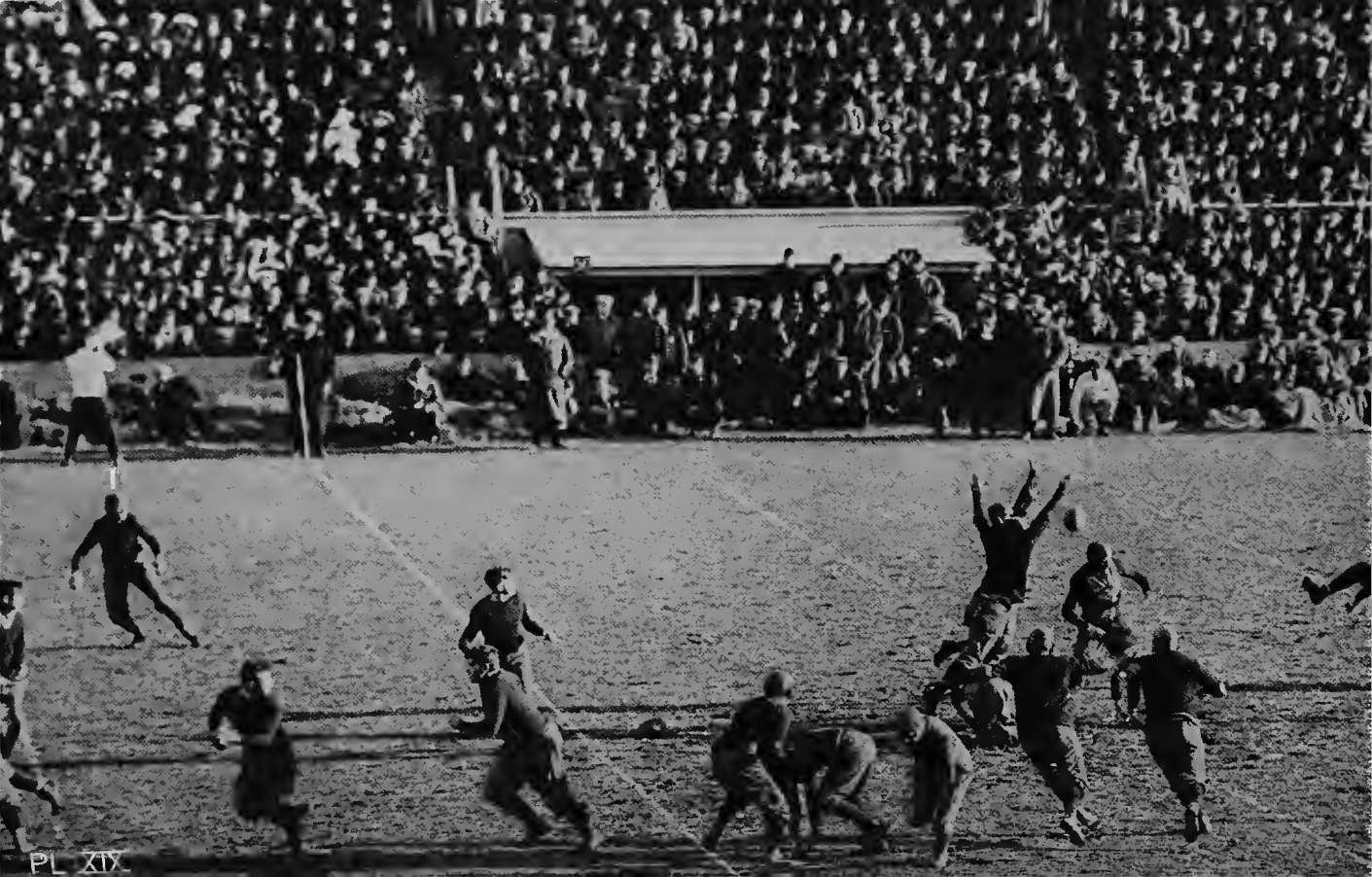
(b)

HOWEVER, *the lower picture of the same play, taken less than "two steps" later, shows a decided change of complexion. To be sure the runner has advanced a whole yard, but player (1) maltreated the interferer (now stretched on the ground) who was menacing him. Player (2), by using his hands on the body and head of his opponent, is now free from him. Player (3) has wisely kept on the outside of the runner and although he is about to receive the full shock of an interferer, he caused the runner to turn in, where he was met by player (2), the very man who a second ago appeared to be out of the play. No doubt player (4) would have tackled the runner, but then again he might not.*

Centre College vs. Harvard 1920.



PL XVIII A



PL XIX

Plate XIX. PRESSING THE KICKER

THE *ball was originally put in play from open formation on the forty-five yard line (designated by white stake on further sideline.) It has been passed back to player on extreme right who has just executed a punt. When he received the ball from center he was standing ten yards back, but in the act of kicking has evidently taken two steps forward instead of one. This brought him dangerously near the onrushing defense.*

Two defensive players (with uplifted arms) have made a valiant attempt to block the kick, which they failed to accomplish as the ball passed between their upraised arms.

It can be seen that, had they succeeded and the ball bounded backward, the offense would have small chance of recovering it as most of their players have started down-field. Two of them (without headguards) looking back over their shoulder, are evidently worried as to the ultimate success of the play.

This "pressure" by the defense upon the kicker not only results sometimes in a block kick, but always tends to hurry his stroke, as it were, with corresponding inaccuracy of performance.

To thwart the defense, the offense resort to a "fake kick" in which the kicker makes pretense of punting or drop-kicking, thus causing the defensive linemen to converge toward the ball. Then by suddenly desisting in his kicking motions, he darts toward either flank.

In this picture it will be seen that the defensive left end and tackle (players with arms upraised) have committed themselves to blocking the punt, thus leaving the left flank exposed, but the defensive left wingback (1) warned by signal of the fact that his team-mates were "going for the kicker's foot" has given up his usual assignment of blocking the offensive right end in his attempt to tackle the receiver of the punt and has advanced to a position near the scrimmage line to guard against a possible sweep in his direction.

Yale vs. Harvard 1913.

perfected in secret practice it came as a total surprise to all except the Harvard team, and for years after spectators have vainly looked for some similar sensation.

To this one play can be attributed all of the so-called "momentum-mass plays" which thereafter rapidly came into vogue. The new possibilities thus revealed soon took the form of "flying interference" from scrimmage formation, wherein the majority of the offensive side started before the ball was put in play to act as interference for the runner. So overwhelmingly powerful were these offensive principles that in 1896 the Rules Committee wisely abolished them entirely.

Although stripped of its strongest weapon of attack the offense was not long in devising plays, the salient feature of which was hiding the runner in a mass of players who formed a "revolving wedge," usually on tackle. The exact outlet was left to the judgment of the runner, who, following "the line of least resistance," was often unwound into a clear field. In order to add more power and deception the offense began the withdrawal of first one and then several line men to re-inforce the backfield.

The most successful offense of this type, pro-

duced at Pennsylvania in the early nineties, was called "guards back." This system, which was the first of what was termed "a steam roller" attack, held sway over the defense with eminent success for several years. Harvard, however, in 1898 finally overcame this style of attack by adding one of their defensive halfbacks to the rush-line, which was thus able to envelop the formation before the runner reached the line of scrimmage. In 1900, Yale, recognizing the fundamental weakness of the guards back formation, modified it so that it was not vulnerable from the flanks, and thus came to the game the wonderful "tackle back" system of play. In 1901, Harvard, not to be outdone, added deception to the power of this formation, and once again the defense lay helpless before the grinding process of mass play.

During the succeeding years, variations of this type of offense produced so many injuries to players that in response to an insistent public demand the Rules Committee in 1906 took drastic measures toward cleaning house of all kinds of mass plays, by restricting the number and positions of such players as were not on the line of scrimmage when the ball was put in play.

Not only was the offense thus stripped of all real rushing power, but it was called upon to gain ten yards in four tries as against the previous five yards in three tries.

As compensation for the loss incurred two wholly new offensive features were by law introduced into the game—the forward pass and the onside kick, but both were surrounded by so many complicated restrictions that neither was seriously considered as an integral part of the offensive scheme. Yet the Committee naturally thought that the defensive tackles would be relieved from the weight of the rushing game. It so turned out, however, that the wing halfbacks were forced to give up their support to the rush-line and station themselves ten yards to the rear in order to cover the forward pass zones. Taking advantage of this fact the offense learned, in succeeding years, that linemen could be utilized in assisting the runner by pulling him along after he had reached the line of scrimmage. Thus, in 1909, we find a system of mass plays as deadly as its predecessors. In reality, then, it was the "threat" of a pass which defeated the aims for which the forward pass was introduced.

However, rather than give up this salient arm

of attack, the Committee in 1910 went to the core of the trouble, and prohibited any bodily assistance to the runner. In consequence of the check thus abruptly placed on the offense, scoring through the medium of the rushing game was all but stopped and the forward pass and onside kick were of such a haphazard nature that although advances were possible in the middle portion of the field, yet the offense was left without the punch necessary to carry the ball over the goal-line. It was during this trying period that the offense, in dire need of a play which would supply this deficiency, resurrected the drop kick, and made of it the prime scoring play.

During 1910 and 1911 it was apparent the offense had been stripped of too much power, so the Rules Committee was once more called upon to restore the proper balance to the game. Fearful of strengthening the rushing game directly, lest mass plays should again appear, they wisely directed their attention in 1912 towards bolstering up the offense through the medium of the forward pass, which was then made a practical weapon by removing the complicated restrictions which surrounded it, and in order that it could be used more successfully as a scoring play, a

zone of ten yards was created beyond the goal line in which a forward pass could legally be completed as a touchdown.

Not only has this proved feasible, but on account of the constant threat of a forward pass, the secondary defense are subtly held at arm's length, thus allowing the rushing game to share again its proper proportion of ground gained.

Throughout the vicissitudes of the rushing game, caused by the ever-changing rules, the art of kicking has always remained the back-bone of the offense.

To be sure the rule which allowed the direct pass from centre to kicker naturally so reduced the period of time from the snap of the ball till the actual kick took place as to make it far more difficult for the defense to block both punts and drop-kicks. Also the methods of protecting the kicker against the onrush of the defensive line were vastly improved by a contraction of the offensive line, thus forming an impenetrable wall of players and the proper utilization of the other backs in warding off the opposing ends and tackles.

Still another indirect method of protecting the kicker lay in the adoption of "fake kicks" (a

pretense of a kick developing into either a plunge, slant or sweep) which caused the defense to hesitate before committing themselves blindly towards the kicker's foot. Contained in these plays were the beginnings of the so-called "threats" which became still more effective after the introduction of the forward pass and which today are the basis of holding the defense in check until the offensive maneuver is well under way.

Hence, instead of the constantly recurring blocked kicks of the early nineties (in the Princeton-Harvard game of 1895 there were eight kicks blocked during the game) only on rare occasions does a well-drilled team of the present day experience this humiliation. For example, in 1909 Yale blocked a punt in the Harvard game, but from that time Harvard's kicking game was so perfected that not a single punt was blocked in a championship contest until the Princeton game of 1920.

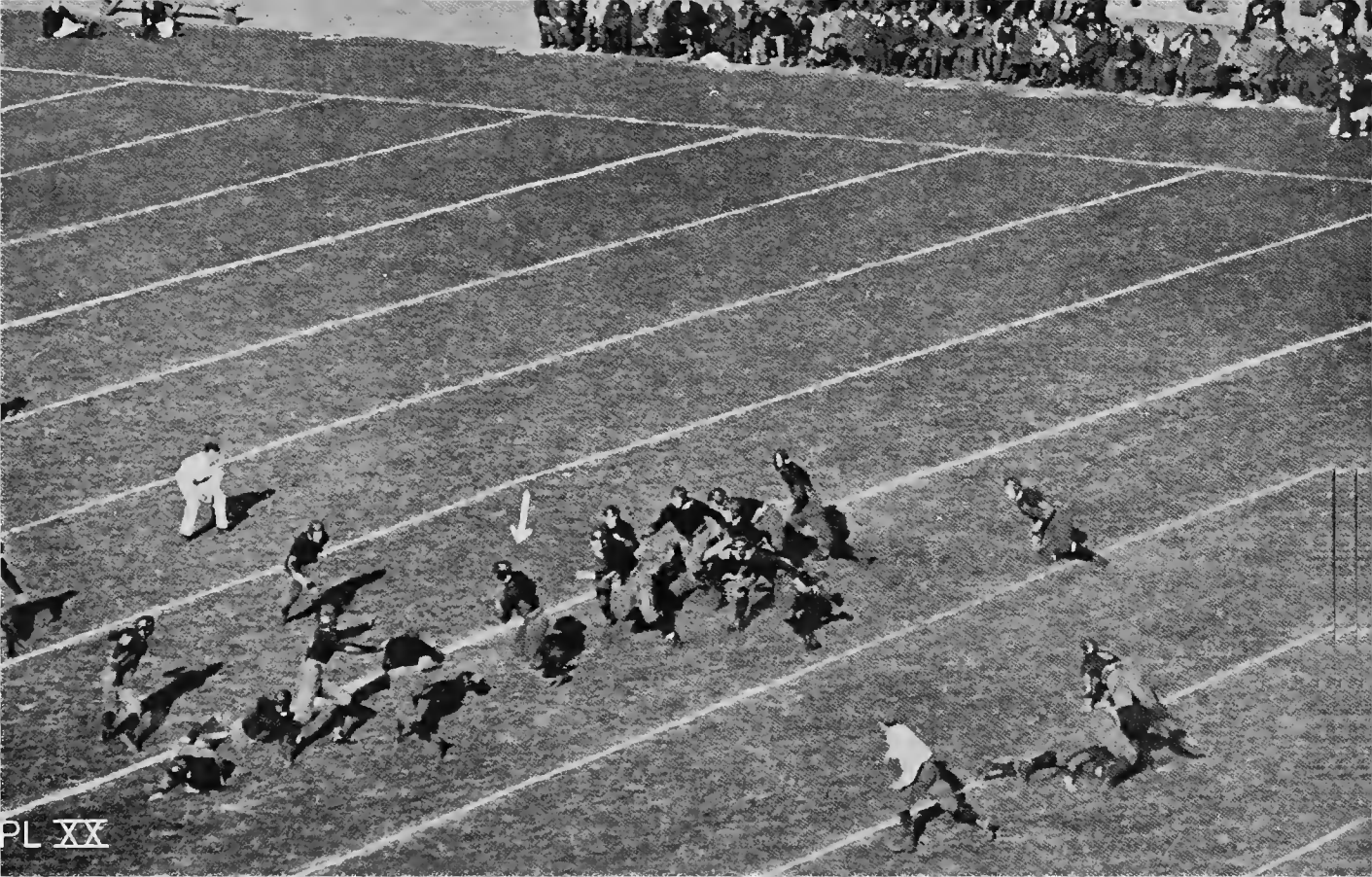
However, in individual skill the old-timers were as good, if not better than the present generation. Such men as Moffat who punted with either foot and who scored several drop-kicks while on the run are not to be equalled to-

Plate XX. AN OPENING IN THE LINE

THIS *picture shows the value of the second line of defense when the primary line has been overcome or split apart. The offense, by faking a sweep toward their left, opened an enormous hole in the opposing line. The runner (see arrow) is taking full advantage of the opening but a defensive back blocks further progress. Had the offensive player who was assigned to "clean up" this hindrance carried out his assignment the runner, by swerving to his right, would have enjoyed free territory.*

Because of his importance to the defense, a player of rugged build and possessed with natural ability to tackle is detailed to "back up" his linemen.

Harvard vs. Princeton 1921.



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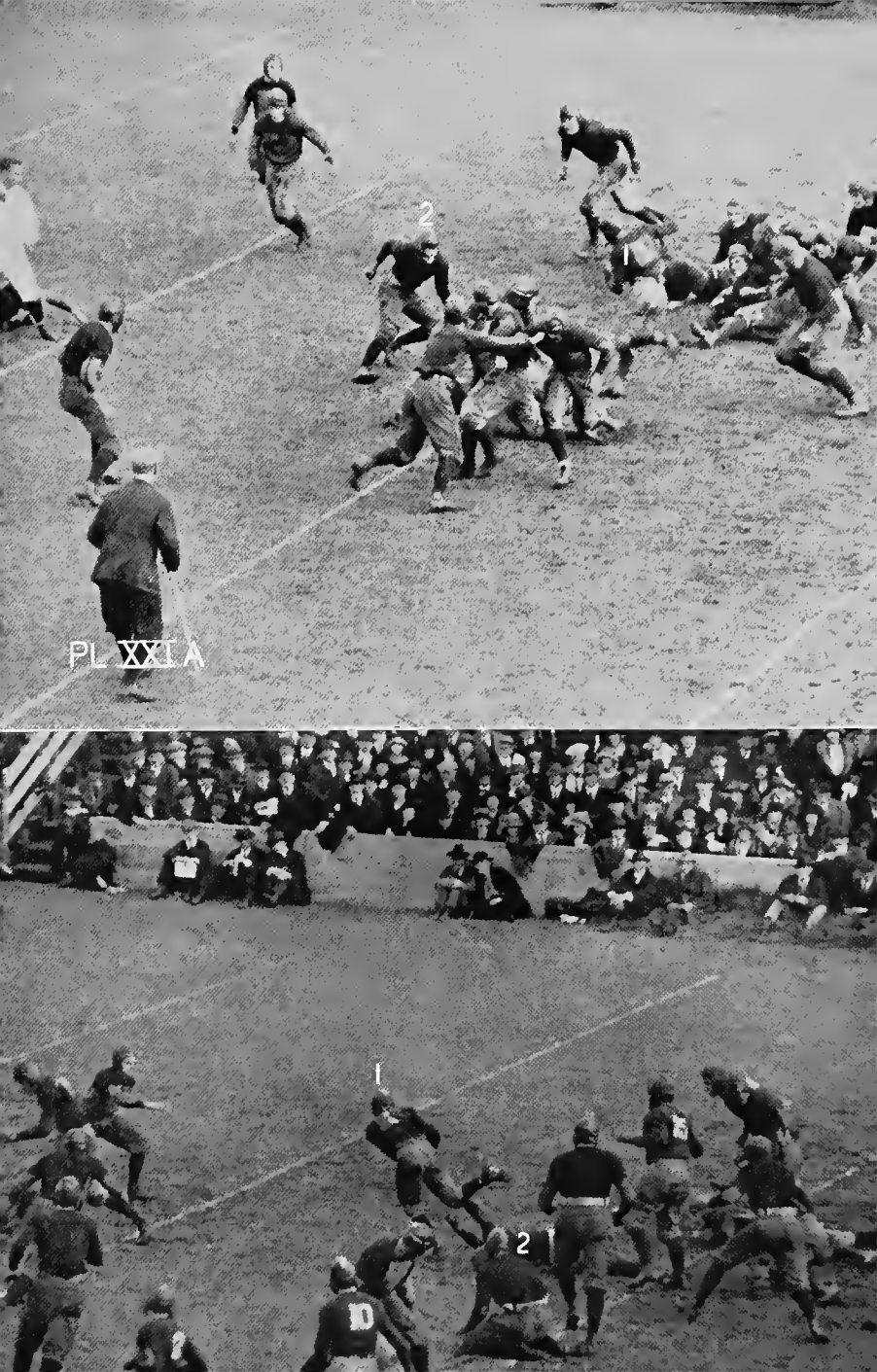
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PL XXI A
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Plate XXI. A FINGERNAIL TACKLE

(a)

THE *upper picture shows offense advancing from right to left. The play started as a wide slant on defensive right tackle, but the runner (1), seeing a large hole inside this point, decided to take advantage of it and is now in the act of changing his direction for this purpose. However, defensive player (2), by digging his heel in the ground, abruptly changed his direction also, but in tackling the runner he failed to obtain a firm hold, the true nature of which can be seen in the lower picture, which was snapped a second later.*

(b)

AND *yet he maintained his "fingernail" grip and, had not others of the defense come to his aid, would have actually downed the runner single-handed. Had this tackle been missed, the runner, who had already "reversed" the opposing backfield, stood a good chance, by continuing to his right, of crossing the opponents' goal line, which is only seven paltry yards ahead of him.*

Yale vs. Harvard 1921.

day. Such kickers as Bull, Butterworth, Trafford, Brooke, O'Day, Kernan, Coy and Felton showed such marked superiority over their opponents that the punt was used not only to kick their teams out of their own territory but, by a continuance of the same tactics, to reach a point well within the opponents' territory (sometimes referred to as "scoring distance") when the rushing game for the first time was brought into action.

Those were the days when the punting duel between two evenly-matched kickers was the outstanding feature of the game. It was not unusual for each team to punt eighteen to twenty times, hoping not only to outdistance its opponents but to cause a "break" by recovering a muffed punt. Many a championship game was won or lost on this point alone and as many more through the imperfect performance of the kicker. Great responsibility then rested upon the punter who was to a football team what a pitcher is to a baseball team today.

Since the standardization of the present game, referred to later, there has been a decadence in the art of punting. This has been caused by the increased use of the forward pass which because

of its importance has usurped the time devoted heretofore to the training of punters with corresponding deterioration of effective results. To sum up, then: whereas punting used to be a full half of the offensive strength, now it represents less than one third of its collective power.

In the art of drop-kicking, however, there has been a distinct tendency towards increased skill. Although a few of the old-timers made notable records as drop-kickers there were in later years many games lost for want of a reliable drop-kicker. The writer can well remember the games between Yale and Harvard in 1897 and 1899 both of which resulted in 0-0 ties, because Harvard missed easy chances for field goals in each game. He can also recall even more vividly Kennard's goal from the field in the Yale-Harvard game of 1908 which was the only score of the game.

As has already been stated the rules of 1910–11, under which scoring by rushing was all but prohibitive, acted as an incentive to the drop-kick which reached its climax in the performances of Brickley in 1912–13. Although his record was extraordinary yet it was somewhat magnified by the fact that in those days the per-

Plate XXII. THE ELUSIVE PIGSKIN

(a)

IN *attempting to rush from their own twenty yard line, the offense (playing from left to right) fumbled the ball, which it would seem (in the top picture) was about to be recovered by either of the offensive players who are nearest it.*

(b)

BOTH *dived for it at the same time and in so doing interfered with each other so that the ball eluded them and bounced merrily backwards toward their goal line, with four defensive players (Y) hot upon its trail (see middle picture). Note also a burly form (black arrow) which happens to be the offensive left guard, sitting on the ground.*

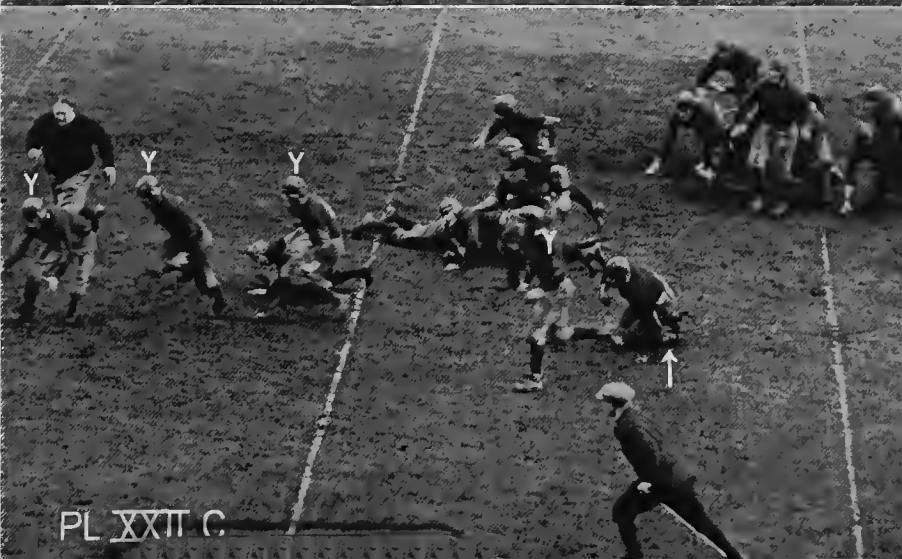
(c)

THE *bottom picture, snapped perhaps a second later, shows one of the defense actually reaching for the ball, with the other three rapidly approaching. The burly form appears to be leisurely rising from his sitting posture. But history relates that in spite of repeated and frantic efforts by all four of the defense to pick up the ball, it remained free from their grasp and continued its elusive antics until the burly form (referred to above) pounced on it at a point some ten yards distant from where he is last portrayed. . . .*

Harvard vs. Yale 1921.

PL XXII A

PL XXII B



PL XXII C

PL. XXIII

Plate XXIII. WHERE IS THE BALL?

THE *author cannot resist the temptation of allowing the observer to solve this mystery alone. However, to assist the uninitiated, the plate depicts the offense in the act of executing a forward pass from left to right.*

The ball has been thrown by the player on the extreme left of the picture. The pass was completed and gained fourteen yards. Twenty-two players are shown and the ball is in plain sight.

Where is the ball? Which player will catch it, and who of the defense will tackle the runner? One further question: Find an empty seat in the grandstand.

Harvard vs. Penn. State 1921.

sistent use of the drop-kick as a means of scoring was somewhat of an innovation. Nowadays most teams have drop-kickers, either as regulars or as substitutes, all of whom are remarkably consistent in their performances.

The drop-kick taken in conjunction with the beautiful forward passes or rushes which ensue from a threatened kick are today an integral part of every well-devised offense.

How well the rule makers did their work in 1912 may be better appreciated by the statement that with minor exceptions no changes have been necessary since that time. The mere fact that the principal rules have remained unchanged has had an enormous effect, not only in popularizing, but also in standardizing the game. Whereas a dozen years ago the large stadia at Harvard and elsewhere were filled only on the occasions of championship games, it is a question now how to accommodate the enormous crowds which swarm to their fields on each succeeding Saturday. The increase in popularity of the game is due to two causes.

First, the small colleges, or those which heretofore had not been prominent in football, in many cases have obtained the services of a com-

petent coach, so versed in the proper principles and methods of play as to develop a team as good, and better than many of the so-called leading colleges. Thus, the mid-season games between large and small colleges often develop into close contests which not infrequently end with the defeat of the larger college. The old days, when it was a disgrace to be scored upon, or even to lose a game, are gone. Accordingly, the very evenness of the contest is pleasing to the spectators.

Second, by far the most popular feature of today's game is the frequency and increased skill in the use of the forward pass. So potent a factor is it that already protests are heard that it should be curbed in some degree. Yet, from the spectator's point of view, its use has opened the game enormously. People can really see what is going on, and because of its long gaining qualities, it adds greatly to the excitement.

The standardization of the game has given coaches throughout the country time to distinguish between sound and unsound methods of play, the result being that very little bad strategy is consistently pursued at any of the colleges. The good coaches are content to perfect

the known qualities of offense and defense, rather than attempt to "upset the apple-cart" by some untried method of attack.

The most radical departure from the beaten path occurred during 1914, at Yale, when an adaptation of the Canadian or Rugby principle of the lateral pass was introduced. Until the final game was played, this system of attack swept the defense off their feet, but Harvard devised a defense wherein only four men were stationed on the line of scrimmage, the other seven being so placed as to cope not only with the lateral but forward passes which had baffled Yale's other opponents. In spite of suffering a 36-0 defeat, Yale on two occasions had the ball within Harvard's five-yard line, proving the unusual ground-gaining qualities of this scheme of attack.

Contributory to a better calibre of play is the fact that, allowing for three years of school experience, there have been three football generations, all playing under the same set of rules, the result being that the incoming varsity players have far better groundwork and higher technique than ever before. Furthermore, the present game calls for a far more athletic type of

player than in the old days, because the backfield and the ends must be adept in handling forward passes, and the other linemen are called upon to cover more territory than heretofore. Hence, the two-hundred pound fat boy is fast disappearing, and in his place appear strong, versatile athletes who must of all things be possessed with that quality best described as ability to handle themselves with dexterity and even grace.

Coincident with the increase in skill of coach and player, there has developed a competent corps of officials who have also greatly benefited by the continuance of the same rules. No one factor has done more for the game than these fearless, fair-minded officials. They have imposed law and order upon the game, not only by virtue of their thorough knowledge of the rules, but also by their dominant personality on the field of play.

From a scholastic view-point, a great majority of colleges bar from varsity athletics those students who are on probation, or delinquent in any of their duties toward the college office. Closely allied to this rule is the one year resident rule, which bars not only freshmen, but those who have

transferred from other colleges. These rules should be adopted by all institutions of learning. Certain universities also debar those students who are enrolled in any of the so-called graduate departments, leaving eligible for varsity teams only sophomores, juniors, and seniors of the Academic Department. Many people are deceived by the total enrollment of a college, as to the number of men who are actually eligible to represent it in athletics. Thus, Harvard with over 6000 students has between sixteen and seventeen hundred eligible for varsity teams. Yale, with less total enrollment, has about the same number, while Princeton, with a much smaller body, has between fourteen and fifteen hundred students from which to choose. On the other hand, Cornell has over four thousand students eligible for varsity teams, and some of the western colleges even a greater number.

Although there is no universal code of eligibility rules for all and a consequent inequality of standards between various colleges, yet there is a marked improvement in the ethical code of athletics in all colleges and schools throughout the country. On the whole, then, although there is still a tendency at certain institutions of learn-

ing to capitalize football for commercial and publicity purposes, yet politically, ethically and athletically, the game is at present conducted upon sane and sound principles, destined to be maintained for many years to come.

III

PRE-SEASON PREPARATION

FOR FORTY YEARS Germany planned her attack on France, convinced that as a result of her careful preparations she could crush her adversary within a few months. Not only did she mobilize in an incredibly short space of time a vastly superior number of troops and equipment, but her strategy, based on illegal tactics, i. e., the invasion of neutral Belgium, gave her through the element of surprise the tremendous advantage of the initiative. By these means she all but gained her objective, or in football parlance, the goal line.

At the larger universities one football season begins the day after the last season ends. This may seem an exaggerated statement, but few people realize the amount of preparation necessary in order to be "there" for the final game of the season. This expression is a term to denote complete fitness and is here used to include the

managerial, as well as the physical phases pertaining to the game.

To this end it is of the utmost importance to decide upon a head coach who should at once obtain complete data relative to the past season while this information is still fresh in the minds of those who have had charge. Only in this way may the pitfalls of the past be properly guarded against for the future. Treading upon the heels of this all-important work comes the election of a new captain and a manager, who at once undertakes to arrange a suitable schedule of games for the following autumn. Unless older heads are consulted in this matter serious mistakes may be made, because a thorough knowledge of the prospective playing strength, together with the methods employed by the proposed opponents, must be considered and balanced with the material which will be available for the home team.

One of the fine influences of football and other varsity sports upon all candidates is an honor system which exists regarding their scholastic standing at the college office. At all colleges and schools of good standing a student who is deficient in his studies is barred from representing

his school in all athletic endeavors. Hence, it devolves upon the captains and managers of the various teams to supervise the scholastic work of all students who may be of value to their respective sports. When the number of students engaged in athletics is considered, these duties of the captain may appear to be onerous, but a realization has taken root among the students that to fail mentally at the college office is as disgraceful as breaking training physically. Thus all students who have the honor of being "listed" for any sport have an added incentive to keep up to the mark in their college studies.

At some time during each winter, representatives of the leading colleges meet for the purpose of regulating the rules which govern the game of football. As has been seen in a former chapter, the game so abounds with new methods of play and innovations that it is necessary to keep careful watch, lest, through the ingenuity of some coach, certain tactics be introduced which would wreck the delicate balance of strength between the offense and defense.

It is amazing how many carefully worded rules are required to cope with the exigencies of the game. A perusal of the Rule Book will confirm

this statement, but in spite of the untiring efforts of the Rules Committee most unexpected things have happened on the field of play. Perhaps the most peculiar incident transpired twice on the same day, in two different games. In each case, the kicker, in attempting a drop kick from scrimmage, "half topped" the ball, which just cleared the opposing scrimmage lines, rolled along the ground and then proceeded to bounce up and over the cross-bar of the goal post. At that time there was nothing in the rules which covered such exotic behavior of the ball. So the officials decided a field goal had taken place, which in one case won the game for Princeton over Dartmouth by a score of 3 to 0. It is perhaps needless to add that the wording of the rule has since been changed to prevent a score resulting from a similar occurrence.

A memorable play, involving doubtful ethics, took place some years ago in a game between Harvard and the Carlisle Indians. Carlisle received the kick-off and the whole team gathered about the player who caught the ball. Behind this screen the ball was quickly tucked under a jersey, fitted with elastic bands for the purpose, on the back of another player. The group then

scattered, and the man carried the concealed ball unmolested through the entire Harvard team for a touchdown.

To show to what extremes unscrupulous coaches will go, the following incident which actually took place during a game will suffice. At the beginning of the second half, the team whose turn it was to receive the kick-off took position with only ten men in uniform. The eleventh player, dressed in civilian attire, which included derby hat and pipe, was naturally not observed by opponents or officials, as he casually paced up and down the sidelines. After the kick-off was run back, on the first play from scrimmage, a forward pass was thrown to this individual, who meanwhile had stepped within the field of play and thus complied with all the requisites of the rules. Being totally unaware of his presence as a player, the defense naturally left unprotected the territory in his vicinity, with the result that he ran some forty yards before he was overtaken by one of the unsuspecting defense. He then doffed his hat and pipe, stripped off his civilian clothing, and emerged in the regular uniform of his team.

Through a subsidiary of the Rules Committee, called the Central Board, officials are furnished for practically all the important games, thus saving an enormous amount of work for the various colleges involved, to say nothing of avoiding petty wrangles between narrow-minded coaches. All told, then, the work and influence of the rule makers is of inestimable value to the proper and efficient conduct of the game.

In the spring, then, the coach finds himself with a set of rules already established, and a series of games arranged with suitable officials for each. The next question is who are going to play on the various teams, who are to act as assistant coaches and upon what lines is the campaign to be conducted.

The value of spring practice is a much-mooted question. At small colleges and schools, where the number of candidates is small and a sufficient number of coaches is lacking, it is questionable if any marked advantage accrues; but at the larger colleges where from one hundred to one hundred and fifty candidates report, spring practice is an annual custom. Briefly, the objects are:—

1. To familiarize players with the rules and fundamentals of the game, and with the functions of the individual.

2. To acquaint the coaches with the ability and character of the material at hand.

3. To experiment with whatever offensive and defensive theories the coaches deem worthy of consideration.

Spring practice usually lasts from three weeks to a month, and the results accomplished are:—

1. Added experience for the players and an opportunity for the incoming management to familiarize themselves with their various duties.

2. Grading of material, which is of great value when the season proper begins in the autumn.

3. Thorough conviction by the coaches that the great majority of plays which appear effective on paper are in practice fit only for the ash-barrel.

During the summer months it is hard to continue concerted action, but the head coach is always a busy man during this period. It is always extremely difficult to obtain voluntary coaches for the first part of the season. The "loyal graduate" will gladly lend his assistance just prior to the final games, but he is of far

greater value during the early stages of development. In impressing this fact on the men whom he wants, the coach must show great tact and much perseverance.

His greatest task, however, lies in sorting data relative to offensive and defensive methods which he has accumulated from time to time from various sources of information. This work requires a vast amount of time and logical thinking; but the wise coach will determine upon his offensive and defensive plays at this time, when his judgment is clear and untrammeled by the many suggestions which will always be offered during the heat of the season.

For example, there is always the much-mooted question whether a quarterback should play in his regular position, linked to the center rush, or as one of the halfbacks in a so-called four-man backfield. There have always been two schools of thought in this matter. One objects to the quarterback's removal because many clever plays, such as a quick dive by the quarterback through center, delayed plunges, and certain plays which involve hidden passes, can be used only when he plays his regular position. Again, if the quarterback is removed the ball is no longer weaved

Plate XXIV. TOO MANY DEFENSE

THE *offense (playing from left to right) have succeeded in slipping a back past the defensive right tackle. The two defensive players in front of the runner were swept aside by the one offensive interferer (with outstretched leg). However, the defensive left tackle (No. 21) sensing perhaps the nature of the play, ran behind his own line, thereby breaking one of the cardinal principles of line play and tackled the runner for a small gain.*

Thus, by unorthodox methods, the defense spoiled an offensive maneuver in which every assignment was perfectly carried out.

Harvard vs. Yale 1921.

PL XXV

Plate XXV. A POWERFUL RUSH

THE *defense resemble a spiral spring with the goal line as its base. The greater the compression, the stronger the resistance. In spite of this truism this play gained nine yards straight through the heart of a strong defense.*

The runner, who received the ball from another player while faking a forward pass pierced the scrimmage line at a point just inside the player lying at full length on his stomach.

The second line of defense (the middle one of the three players sitting on the ground) was completely overpowered by two interferers, and the runner is now seen still ploughing along dragging No. 2 defense after him. No. 1 defense finally brought him to earth on the four yard line, making a first down for the offense. From this point the defense stiffened to such an extent that it took four tries to reach the goal line. See Plate XXVIII.

Harvard vs. Yale 1921.

from center through the quarterback and handed into the lap of the back for his line plunge. Moreover, the man best suited for quarterback seems to be brainy rather than brawny and to possess a personality which cannot fail to impress his adversaries, as he stands giving his signals above his center and almost upon the line of his opponents.

On the other hand, it is argued that the backs should be so placed that at least four are capable of alternating in the running attack, threatening a more varied attack from a regular formation. By this formation more effective interference can be brought to bear at different points, and greater weight is added to the backfield. This school of reasoning maintains that there is no more fumbling under this arrangement than when the ball goes through the quarterback; but they fail to recognize the terrible disaster which a mistake in signals entails. If it so happens that the backs start, or the center passes in the wrong direction, the ball probably goes through the entire backfield and rolls merrily towards the offensive team's goal line with little chance of recovery.

Other questions which may well be decided at

this time are:— Whether to play one defensive player or two in the extreme backfield to handle punts. The employment of two men lessens the danger of losing the ball, but at the same time weakens the second line of defense. Shall the defensive ends sacrifice themselves to break up the interference well back of the line of scrimmage, or shall they keep their feet, merely hamper the speed of the play, and endeavor themselves to tackle the runner? Shall the defensive formations of the team be ordered by signal or left to the application of a few general rules?

These considerations merely indicate how much preliminary spade-work must be done; and can best be done in the summer. When the season begins, the wise coach has already decided on a definite outline of his entire autumn campaign.

IV

THE CAMPAIGN

THE FOOTBALL season proper is a race against time. Its duration is approximately ten weeks, but allowing for seven or eight games there remains only time enough for some fifty practice sessions, which average not over two hours daily. It follows that the total time allowed a coach to carry out his program of preparation is roughly one hundred hours.

The training of a varsity crew, which involves autumn practice as well as three to four months' trial in the spring, resolves itself into teaching eight men to perform the same thing some seven hundred times (for a four-mile race) at the same time and in the same way. The author fully appreciates the difficulties which beset the crew coach, but in contrast to the comparatively simple program of the crew let us consider the problem of teaching a varsity football team. Thirty or forty players must be taught to exe-

cute between twenty and thirty different offensive maneuvers most of which may be run from three to five different formations, in which each player does something different in each play. The program is further complicated by a plan of defense which entails from four to seven separate team formations in which the duties of the various individuals differ radically. Moreover, during the course of the season both offensive and defensive assignments are often changed in order to meet the varying styles of play of the different opponents encountered. However, the crux of a course in football lies in drilling a team so intensively in the theory of tactics that each individual will instinctively select the correct move at the right time according to the existing circumstances.

What, then, is the best procedure to accomplish these results in ten short weeks? Mention has been made of the difficulty of obtaining voluntary coaches for the outset of the season. Many and competent men are needed at this time to assist in sorting and grading the material, which at the larger colleges often numbers one hundred and fifty candidates.

That there may be no conflict of ideas among

the coaches, regular meetings are held throughout the season, for purposes of discussion and instruction by the head coach. An eminent football strategist once said that forty percent. of the effectiveness of a certain Harvard team was due to the proper coaching of the coaches. This is not obtained without protracted discussions and heated arguments, but with the observance of certain parliamentary decorum which all sensible coaches respect. The author attended one football session which lasted from seven P. M., until two A. M. Adjournment then took place until ten A. M. next day, when the meeting continued until eleven o'clock that night. During that time there was no deviation from the subject of "offensive line methods." As a result of the deliberations certain decisions were reached which had a marked bearing on the successes of Harvard teams for many years.

A coaching corps being organized, the next step is to get the candidates into such physical condition that they can stand the wear and tear of daily scrimmages. This stage may be termed the period of the individual, because all effort is directed toward drilling each player in the art of quick starting, handling and falling on the

ball, tackling, interfering, blocking and breaking through for the linemen, kicking and passing for the backs and ends.

Gradually a semblance of team play emerges from this chaos. The quarterbacks and centers link together, and combine with a backfield. Finally, a team is completed by the addition of a set of linemen. These impromptu elevens are furnished with simple signals and a sufficient number of plays to indulge finally in short scrimmages with each other. After a thorough try-out of all candidates in the fundamentals and simpler forms of team evolutions, the material is divided tentatively into varsity and second squads. The men, retained in the former group number about forty players, consisting of three centers, six guards, six tackles, eight ends, four quarterbacks, and twelve other backs. In this way three complete elevens can practice separately, with a fourth "skeleton team" left over,—a quarterback, three backs, and two ends, with perhaps an assistant manager to act as center. The objects of retaining so many men on the first squad are, first, because sickness and injuries make serious inroads into the ranks when hard scrimmages and games begin, and, second, because frequent substitution

is necessary, both for the physical welfare of the men and in order that the coaches may judge of the ability of all of the players. Moreover, this plan maintains keen competition throughout the season.

The second squad is organized along similar lines, having its own coaches, signals, and plays, and a separate schedule of games. In order that no player of promise shall be overlooked the second squad is kept intact throughout the season. It is divided into teams A and B, each having a full set of substitutes for each position. Although there are constant changes in the personnel, the total roster will probably average fifty players. Besides the varsity squad and the second squad there is also a freshman squad, which starts the season with practically the whole freshman class as candidates and is gradually reduced to about fifty men, organized on the same lines as the varsity and second squads. The sum total of the three units is about one hundred and fifty men, who are actively engaged in football throughout the entire season. The coaching policy of all three squads should be under the supervision of the head coach.

Not infrequently a player who shows unex-

pected ability is promoted from the "scrubs" to the varsity squad. It often happens that some players "show" well at first, but cannot stand the mental and physical strain of the season. Others flourish on hard work and seem to possess the ability to perform at their best when under stress. It therefore behooves the coach to study constantly the characteristics and personalities of the candidates. In some cases, if a player is of recognized skill, it is well to treat him leniently and to encourage him, in order to instill and maintain self-confidence. In utter contrast, others have to be driven at all times to bring out their latent possibilities. It is only by thus differentiating the treatment of individuals that the best is obtained from all. Herein lies a subtle factor which often makes or breaks a football team.

As in the training of all other groups of human beings for any concerted action, it is necessary to establish and maintain strict discipline among football players throughout the whole season. This not only applies to punctuality and a close observance of training rules, but also to the ingraining into each player of instantaneous and instinctive obedience to the word of command. These two adjectives have a distinct bearing on

offensive team maneuvers. It is comparatively easy to teach a team to start in unison at the snap of the ball, or, if a starting signal is used, on the proper number; but it takes weeks of intensive rehearsing to reach a stage of development where each player performs his various assignments subconsciously. This asset is of particular value in the final games of the season when the atmosphere of excitement and noise of the cheering tend to distract the player's attention and when physical exhaustion dulls his brain and prevents quick reflexes. If, however, the subconscious mind has been sufficiently impressed by previous training, it will respond instinctively, with natural speed and precision. For example, players have been known to have no recollection of the last part of a bitterly contested game, yet they played in perfect form until the final whistle blew. Again, a player is sometimes struck on the head, sustaining a mild concussion; and although he is unable to answer simple questions which do not pertain to his immediate duties his subconscious mind holds him to a surprisingly accurate execution of his various tasks.

A dress-parade by the cadets at West Point is the most perfect co-ordination of human units

the author has ever witnessed. The complicated maneuvers are executed with such precision that the eye can scarcely discern that the battalion is composed of human individuals; yet, upon being questioned as to the amount of work necessary to obtain such perfection, a cadet answered, "Yes, we have to drill a good deal to get everything just right; but I am now so used to the various moves and commands that I spend my time during dress-parade rehearsing my part in the play we are giving next month." So the football player must learn his tasks so thoroughly as to perform them subconsciously. This leaves his conscious mind free to cope with the unforeseen exigencies which occur constantly during a game.

Because of the short time in which so much must be learned, there is grave danger that the players may be given more than they can assimilate. The coach, who has probably had years of experience in studying as well as playing the game, is apt to assume that the players know more than they do. Until they are thoroughly versed in their assignments by repeated performance, they may know perfectly in theory what they should do under certain conditions, but fail

in their efforts to put into effect what they have been taught. Moreover, the fact that all candidates are working under great pressure which often causes them to "lose their heads" must always be kept in mind.

The author can vividly recollect an incident which occurred at Cambridge in 1908 during a practice scrimmage between the first and second elevens. It so happened that a certain man, who had been playing regularly for the previous month with the second team, had that day been promoted to the varsity squad. That the two teams might be more easily distinguished, it was the custom for the first team to wear red jerseys, and the second black. During a hot scrimmage the ball was fumbled and bounced directly into the arms of the player in question. Seeing the abhorrent red jerseys about him, he instinctively fled from them, straight for his own goal posts. The black-jerseyed team, recognizing his mistake, promptly became his ardent interferers. His own team-mates, as soon as they recovered their senses, vainly tried to tackle him; but by this time the black interferers had formed such a perfect cordon about him that not a single comrade reached him until he fell exhausted between

his own goal posts, scoring a safety against his own team. Yet that same player later in his college career made the varsity team.

The coach and spectators must also realize that their viewpoint from the sidelines is far more comprehensive than the player's in the heat of strife. To illustrate:— One of Harvard's opponents in the early part of the season scored a touchdown by a play which started like an end run. The ball was "slipped" to another of the runner's side, who then made a long, diagonal forward pass in a direction opposite from which the play had started. The Harvard backfield was outwitted completely and the receiver crossed the goal line unmolested. That the episode might remain vividly impressed upon the Harvard team, the author asked each player to diagram the play as it had appeared to him. Not a single man diagnosed the play correctly, nor had many of them the slightest conception of its details. But later in the season that same team, after the play had been explained and they had received instructions in the proper defensive methods against it, foiled two attempts of the same play by different opponents.

Mention has been made of the fact that often-

times players are fed information faster than they can digest it. From the experience just related, the author next tried the experiment of requiring all players on the squad to diagram all the plays which the team was then using. The results were again disappointing. A great majority knew their own duties in the various plays, but only the captain and two quarterbacks drew the correct assignments of players other than themselves. It is not essential that a given play should be as thoroughly known as this examination required, but far greater interest, with corresponding perfection of technique, is aroused among the players if the subject is thus studied in all its details.

Should the spectator peep into the notebook of a football coach, he might find a schedule of a day's practice, as follows:

Tuesday, October 12. Squad assembled at 3.30 dressed in uniform.

3.30 to 3.50, Blackboard demonstration.

a. Additional plays No. 14 and 15 diagrammed and explained.

b. Change in assignments of plays No. 5 and 6 diagrammed and explained.

c. Outline and theory of defense vs. "shift plays."

3.50 to 4.00, Squad at tackling dummy. Three tackles per man, right, left and head on. Accent on the man "beyond."

4.00 to 4.15, Practice at a walk additional plays and change of assignments.

4.15 to 4.30, Offensive and defensive assignments of punt and drop kick.

4.30 to 5.00, Scrimmage teams A vs. B. Accent on new plays and assignments.

5.00 to 5.30, Scrimmage team C. vs. second team. Accent on defenses 4 and 5.

The nature of practice varies greatly from day to day. If there has been a hard game on a Saturday, the following Monday is usually devoted to correcting the mistakes made during the game, with perhaps a part of the afternoon spent in coaching the individual. Tuesdays and Thursdays are the best for hard scrimmage. On Wednesdays the great portion of the time may be spent on kicking and forward passing. Fridays are taken up with a thorough signal drill and a sort of dress rehearsal for the game on the following day.

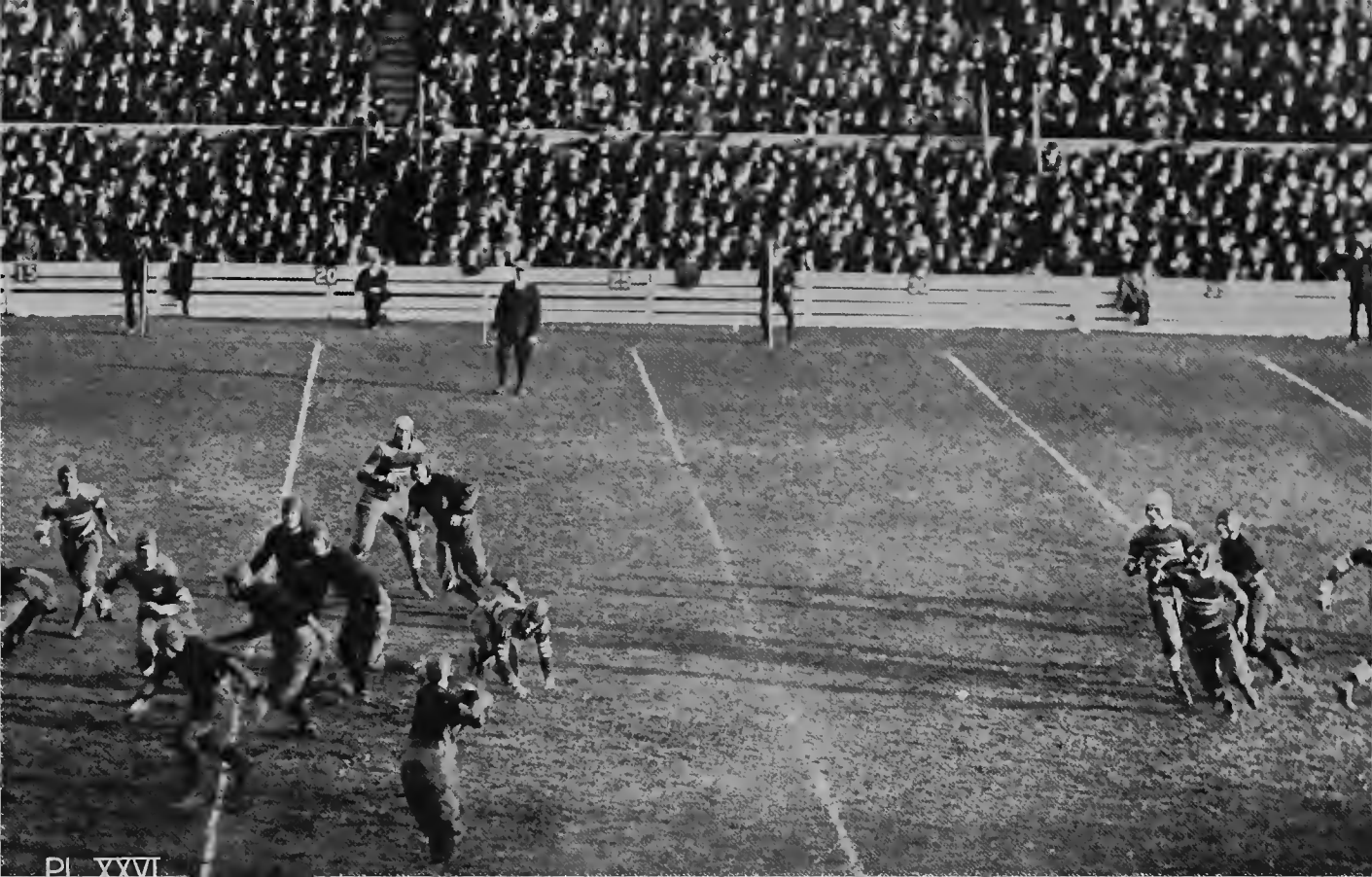
Plate XXVI. PASSIVE INTERFERENCE

THE *offense (playing from right to left) put the ball in play at a point in line with official standing in background. From open formation it was passed to the kicker (not in picture) who first made pretense to drop kick, thus drawing opposing linemen toward him. (See group at right). He then passed the ball forward to a back (seen in foreground catching the ball) who meanwhile had run laterally toward the camera.*

Certain of the offensive linemen may be seen in position to offer assistance for the ensuing run. They are not allowed (by rule) to interfere with opponents until the ball has been caught. In this respect note to what a nicety the player on extreme left has "timed" his interference. As a result of this and later interference the runner was enabled to make material gain on this play.

Harvard tried the same play against Centre in 1921. The play was beautifully executed and the runner scored a touchdown after a forty yard run. However, Harvard's right end was offside, so the play was not allowed and a penalty of five yards was inflicted upon the offending team. This was the big "break" of the game, as the score at that time was 6–0 in favor of Centre, with less than five minutes to play.

Harvard vs. Centre College 1920.



Pl. XXVI

Plate XXVII. A DECOY

WHEN *the offense attempt a play the nature of which at its inception is not clear, the problems of the defense are, first, ascertain the nature of the play (kick, run or pass); second, if a pass, to locate the players eligible to receive the pass; third, to assume positions best adapted to the interception of pass.*

In order to conceal the ultimate development of the play, the offense often resort first, to a pretense of a play other than the intended one; second, to faking a forward pass in a false direction; and third, to sending ineligible players toward vacant zones to make demonstrations as receivers.

This play started from an open or kick formation. The ball was snapped back to the player at extreme left of picture, who faked first a punt, thus drawing the defensive line toward him, second a forward pass to ineligible player (1), hoping to divert the defensive backfield in that direction, and finally passed the ball (just leaving his hand) in a different direction to player (2).

Fortunately for the defense, player (3) was in such a position as to enable him to tackle the receiver of the pass for a small gain.

Centre College vs. Harvard 1920.

It has been stated that the schedule of games is arranged with respect to the playing strength and methods employed by the various opponents. Emphasis should be made of the fact that the preliminary games are considered by the coaches as merely the best means of developing a team for its so-called "championship" contests. The winning of these games is of secondary importance. In this respect, a great deal of misunderstanding exists regarding the performance of the larger college teams in their practice games. It has been found good policy to play more evenly contested practice games than heretofore. For several reasons this course greatly handicaps the larger colleges. First, with a large squad much more time is required to separate the wheat from the chaff. Second, the great emphasis laid on coaching the individual retards the development of team play. Even in mid-season an important team may find itself with a defense developed only sufficiently to cope with a simple type of offense, and with its complete offensive program partly learned or kept in reserve for final games.

As a rule, then, the large college team during this period is furnished with only that portion

of an offensive and defensive scheme which in the opinion of the coach will be sufficient to win, in its stride as it were, the succeeding preliminary games. In contrast, a small college, naturally wishing to make better than a good "showing," against its big brother, "points" for this game by developing team play early; planning an offense replete with "long gainers" and tricks, and employing field tactics which experience has proved to involve great risks but which may sporadically produce good results. In other words, with everything to win and nothing to lose, the small college often upsets the apple-cart.

Under these circumstances responsibility for defeats in mid-season should be charged to the coach, who should admit this fact frankly to the players. Overdue emphasis is sometimes placed upon the victories of small over large colleges. Usually such a victory can be traced to the miscalculations by the coach of the development of the two teams at the date of the game, and can seldom be considered a criterion of the final playing strength of the respective elevens.

In the closing weeks of the season all football camps resemble a colony of ants. Everywhere

there is apparently a great deal of needless bustle and running about, but arrangements for big games require a deal of preparation. Extra grandstands must be built and tickets allotted to a demand far greater than the supply. There are mass meetings where unbounded enthusiasm is ever present. Transportation and housing facilities have to be improvised for the horde of spectators. Within the enclosure where secret practice is held, although all are somewhat affected by the atmosphere of excitement, perfect order and a determined singleness of purpose prevail. Coaches and players are now so thoroughly organized that a general "speeding up" of operations takes place. All concerned plainly show the mental and physical stress of the campaign, but a bond of sympathy is aroused wherein the power of the will predominates. All gloom is discarded, and in place of joy the mental attitude of the players is poised between full recognition of the enemy's strength and a grim determination to win. *Esprit de corps* displaces discipline, and masters and pupils now form a brotherhood, working with one accord for a great cause.

In such an environment, it is amazing how

quickly a team will develop. All groundwork which has been practised so patiently in early season now forms a visible foundation upon which is constructed the finesse of team play. Each individual player, now become a veteran, fits snugly into each offensive and defensive move; and the whole team, realizing of a sudden its completeness and strength, resembles a beautiful animal tugging at its leash, mentally alert, lean of body, and possessed of an indomitable spirit to reach its objective.

V

MEDICAL ASPECT OF THE GAME

"TIME OUT," yells the referee as twenty-one players untangle themselves from a seething, struggling mass of humanity. The twenty-second man lies flat on the ground, to all outward appearances dead, while one of his team-mates tries to loosen his head guard and apply first aid. By this time the doctor is on the field. He takes one look at the player and returns to the side line, where he says to the head coach, "He is all right." The player meanwhile is still flat on his back, apparently just as dead as ever. You can hear the people in the stands saying, "He looks badly hurt. I wonder who will take his place?" The whistle blows. The man is on his feet and ready to resume play. What has happened? How did the doctor know that the man could play? It was all over in two minutes.

Again the game is stopped by the whistle. This time our doctor is asking permission of the referee to go on the field. Having obtained it

he goes directly to one man. To the spectators nothing is wrong with this player yet he is coming off the field with the doctor—not, however, without visible protests. A substitute takes his place and the game goes on.

Later in the game a player is knocked down by the interference. He gets up limping, tries to walk, and after a few seconds manages to hobble around, although plainly showing that he is suffering great physical pain. This time the doctor gets up from his seat, watches the man intently for a moment and then returns to his place. The game is resumed and our supposedly injured man shows no effects from his recent injury. Again what has happened? The man had apparently been badly hurt yet his actions now show that the doctor was right. How did he know that the man was not seriously injured? He surely gave more outward signs than did the other player who was removed from the game for no apparent cause.

These are but three typical examples of happenings during a football game, which every spectator notices but in the majority of cases forgets. What has happened in each of these cases?

In the first one the man flat on his back made his own diagnosis. "Just my wind, Doc." To make sure that it was not a blow on the head resulting in slight concussion, a few simple questions such as, "What is the score" and "What period is it?" usually suffice to give an accurate account of the man's mental condition. It has been observed many times that the man who can tell what his injury is, and does so, is usually not the man who causes the doctor needless worry on the field. It is the player who insists that he is all right and refuses to admit that anything has happened to him that makes the doctor's work difficult. In the case at hand previous experience has taught that if a player's wind is knocked out the injury is temporarily very uncomfortable but is not permanently disabling. A few minutes' rest is all that is necessary to effect a complete cure.

In the second case where the man was removed by the doctor for no apparent cause), if you had been watching the man as closely as had the doctor you would have noticed that twice he had lined up in the wrong position and each time had to be straightened out by one of his team-mates. He was confused when the signals

were given, and did not carry out his assignments during the play. When the doctor asked him the day of the week, the score, etc., he did not know, but insisted he was all right. He had received a blow on the head. He had what is called, for the lack of a better term, a slight brain concussion. From the time he was removed from the game until he was in bed in the college infirmary he was never left alone. The following morning he answered all questions clearly but remembered only going to the field to play. He did not remember the game at all, and he did not know how he got to the infirmary. There was a blank of several hours. As time passed the forgotten hours were accounted for except for a few minutes following his actual injury in the game. This period will always be a blank, but no permanent injury will result.

The third man with the limp had received a blow on his shin which although very painful for the time being is not lasting. That the man was able to resume play a few minutes after the injury was proof that nothing really serious had happened.

The work of medical advisor to a football team consists of first, the actual care of the players

during a game and the subsequent treatment of their injuries, and second, the supervision of their training.

Throughout the game the doctor watches eleven individual men. He sees very little of the game itself. He must watch twenty-two legs and twenty-two arms and know at a glance whether a limp that suddenly develops is serious or not. On the field he has but two minutes to make his diagnosis. In this short time he must decide if this man can perform his duties efficiently. If allowed to continue to play will he injure himself still more? In answering these questions the doctor must always keep in mind, that he is responsible to the player's family and to the college. On no account can he allow a man to play after being hurt if doing so will cause a more serious injury. He is responsible to the coaches for the effficiency of the team, as one man physically incapacitated may lose the game on the next play, because he cannot fulfil his assignment.

Barring the inevitable accident which is omnipresent on the football field, the two chief causes of serious injuries are first, improper protection from lack of padding, and second, allow-

ing men to continue play after they are physically exhausted. With reference to the player's uniform, twelve years ago a majority of the players wore no headguard and the amount of padding they used was left to their own discretion. In contrast, at Harvard, no player since 1907 has been allowed to scrimmage or play in a game without a properly fitted headguard. Furthermore, the same rule has been applied to the pads which protect certain vital muscles and joints. The doctor personally supervises the fitting and use of this "armor."

Experience has also shown that when players are exhausted they become prone to injuries because they no longer have full control of their muscles. Therefore, during all practices and games the doctor carefully watches the condition of each player, and should be the sole judge as to how long he should continue to play. In this respect, throughout eleven years of Varsity coaching, the author never once thwarted the doctor's judgment.

After every practice and game the doctor sees every man who has taken part. He notes in writing all injuries, however slight, prescribes treatment, and orders the injured men to report

for further examination before the next practice. Each day he sees the men who have been hurt the day before. If they are fit to resume practice their names are taken off the "Injured List"; if not, they are given the necessary treatment and the progress of recovery of the given injury is recorded.

The second part of the football doctor's work, the supervision of training, begins when the college closes in June. At this time a printed list of instructions is sent to each prospective football player. The sum and substance of this pamphlet is, do not go into such training during the summer as to return to college down to weight. It is better to return overweight. Exercises or games that tend to increase speed and develop accuracy of the eye are best, such as tennis, squash racquets, handball, etc. Swimming is an excellent all-around exercise, but gymnasium work is not well suited for the football player as it tends to make a man muscle-bound.

Many players erroneously think that they should report for football in September "trained fine," and therefore spend the preceding summer months doing some form of hard physical labor

so that when the season opens they are "down to weight." Quite often this method ends disastrously. The player goes "stale" and becomes useless to himself and to the team. Here is an example. John Smith, after the spring training season, followed the advice of some friends and went to work on a farm to get into good shape for football. He reported for practice thirty pounds under weight. He was nervous and restless. His appetite was poor, and he was not sleeping well. He was not allowed to play football. He was told to rest, to get at least ten hours' sleep a night, eat three meals a day and exercise in moderation. In three weeks he gained eighteen pounds. At the end of another month he had gained twenty pounds more and admitted that he never had felt better. Here was an athlete who had over-trained—or gone stale. This may sound like an extreme case but you may rest assured that every year some boy turns up who has been as badly misguided as John Smith.

The football season proper starts two to three weeks before the first game. This period of time is required to bring the men into condition to do the physical work necessary during a contest.

When the players report for practice in September every man is given a careful and complete physical examination, and is required to report any bone or joint injury that he may have received in the previous four months. After practice begins all players are instructed to report every injury, no matter how trivial, to the doctor in charge. They are not to assume that a scratch or a bump is nothing and "will be all right tomorrow." It is not the player's province to decide whether he is physically fit. The doctor is the Supreme Court on this subject; and all concerned, coaches as well as players, must abide by his decision.

Thus a man reports a slight sprain or bruise. His name goes on the "Injured List" and stays there until the doctor thinks he is physically fit to resume practice. That no mistake may be made in this matter a copy of the "Injured List" is sent at the beginning of each practice to the head coach, who can then tell at a glance which players are not available.

The early days of practice are taken up largely with conditioning exercises which limber up the muscles and accustom them to the more strenuous work that is to come. After a short time the

soreness and stiffness disappear and the men find that their "wind" is improving. However, at this stage they are still far from ready for the rough and tumble of the game. Even one bad fall now would cause unnecessary bruises and very sore muscles. Later on, after the players have had a few scrimmages, a severe bump or fall will produce scarcely any effect. Accordingly, then, conditioning of the men may be defined as so exercising the whole body, muscles, lungs, etc., that they will perform their respective functions under stress without fatigue; and so toughening the body to blows and falls that they do not produce sore and tender bruises that may last for days. Thus the early season work starts easily and gradually becomes more and more strenuous until at the end of five or six weeks a player should be in nearly perfect condition.

It is difficult to define the word "training" accurately, for it includes not only actually learning the plays and their execution, but also developing the physical stamina necessary to carry them out in competition. To bring about these two ends requires time, patience, and great care of the human machine. After the first week or ten days the squad goes into strict training.

Plate XXVIII. A TOUCHDOWN

THE *offense are seen scoring a touchdown. The ball was put in play a yard from the goal line (opposite stake on further side line). The play was directed against the defensive left guard. The left side of the offensive line has been pushed back by the defense, but the right side behind which was the apex of the play is well across the goal line.*

The runner (arrow) by a powerful plunge split the primary line of defense but was stopped short by three defensive backs, who now may be seen trying to push him back.

Plays occurring on the goal line always incur a terrific struggle between the opposing lines. Although a heavy back is usually needed to drive the play home, the success of the play depends primarily upon the power superiority of the offensive line.

Harvard vs. Yale 1921.

PL. XXVIII

PL XXIX

Plate XXIX. HELD FOR DOWNS

THE *offense on fourth down with less than a yard to go for a touchdown very properly chose a plunge as a scoring play.*

The defensive line, however, not only obtained a superior charge under their opponents, but did not leave a single space ungarded. The result was that they carried the entire offensive line back and against the runner, who was thus impeded by his own men.

Certain of the defense appear to be meeting the play in too upright a position. These are the backfield who prevented the runner from advancing over the top of the prostrate lines. The play was stopped without further gain, thus surrendering the ball on downs to the defense.

It was a titanic struggle during which the success or failure of a whole season's work hung in the balance.

Yale vs. Harvard 1919.

This means going to bed at ten o'clock, no smoking or drinking, and regular meals at the training table.

The old-time professional trainers believed that an athlete required a breakfast of fruit, cereal, chops, dry toast and cocoa or milk; and a lunch of clear soup, beef with potatoes and peas or beans and a simple pudding. Supper was much the same, except that chicken and duck occasionally alternated with the ever-present beef. The idea that all fats and sweetmeats should be carefully avoided still persists in many minds.

A more rational way of looking at the problem is to consider athletics as a form of manual labor. The lumberjack in the woods probably does more physical work per twenty-four hours than any other workman. He is subjected to climatic exposure and his hours are long. A look at his diet shows that it is rich in fats and carbohydrates (sugars). Do not understand that by this a diet of "bannock and beans" is advocated for the football player, but rather that a normal, well-rounded diet is better than the old one of beef, mutton, beef, and more beef. Probably the best diet is the simple cooking received at

home. With this end in view some of the present-day training tables produce menus that closely resemble home cooking. To be sure, many rich and indigestible dishes such as pies and various forms of pastry must be restricted. Men in training crave sweets as did the men in the army. This is a sign that the diet is deficient in sugars. Accordingly, at some training tables you will find a small dish of candy at each man's plate. Again you will find salads with plenty of dressing and cheese—the last two supplying the much-needed fats which the lumberjack gets from his bacon and pork. In other words, the modern training-table fare should resemble what the men are used to at home, with some restriction of pastry and fried things and a slight increase in fats and simple sweets.

Before prohibition it was customary to give each man in training a pint of ale once a week after mid-season, and twice a week or oftener during the last two weeks. This supplied a certain amount of additional food and some degree of mental relaxation. Men who were known to have a tendency to go stale were quite often given additional amounts of ale to keep them from going over the edge. Another custom was a glass

of champagne the night before the big game to insure a good night's sleep. Spirituous liquors of all kinds never had any place in the training of athletes.

Over-training, or going stale, are terms familiar to all who have had anything to do with athletics. Some men never go stale while others invariably do. It is more liable to happen to men of the nervous high-strung type. During a particularly hard game, especially on warm days, a player may lose as much as ten pounds in weight. This loss is largely in the form of water and if the man's general condition is good he should resume normal weight at the beginning of the second day following the game. If his weight does not come back it means that he is having too much work and too little play. He is in danger of going stale. A stale man is tired all the time. He does not sleep well and his features become drawn. In practice or in a game he does not perform with snap and precision. He is evidently "off his game." If he is asked what is the matter, the invariable reply is, "I do not know, but I don't feel right."

The cure is a change of environment. He must be sent away for a few days, to be with dif-

ferent people and break training to the extent of a bottle of ale, if such is obtainable. He should not go near the football field or do any practicing. After two or three days of this treatment almost any stale athlete will come back fit. The condition is undoubtedly partly mental and is probably closely allied to the now familiar term, "shell-shock."

In arranging the schedule of games, the doctor's advice should always be considered. From his point of view it is a mistake to play a hard game every Saturday during the season, because it forces the players to over-extend themselves. Preferably the schedule should contain two or at most three hard games; and the other games should be used solely for the purpose of conditioning the players for the championship contests. It often happens that a so-called practice game develops into an unexpectedly hard-fought battle. This tempts the coach to keep his best players in the game for a longer period than was planned. On such an occasion the doctor's advice is valuable, because the coach in his eagerness for victory may easily overlook the costly effect upon the physical condition of the players.

In short, the football doctor's duty does not stop at repairing injuries or healing sickness. He toughens his men for the shock of conflict. He supervises their diet and their rest, and observes their mental condition at all times. Aside from the possibility of injury on the field, the football player's health and welfare are much more carefully guarded than those of the average citizen.

VI

THE INTELLIGENCE DEPARTMENT

I DO NOT know who first applied the title of "scouts" to the men who are regularly assigned to the task of gathering information for the various football camps. It was a most unfortunate designation, because it created in the public mind an entirely false impression, which still prevails and seems to spread in spite of frequent denials from authoritative sources. It leads the public to believe that spying, trickery and improper methods are integral parts of the game. It is true that some twenty or more years ago there was a tendency to conduct all athletics on a win-by-any-means basis and distinctly improper methods were employed in the effort to secure information about a rival. Much might be written about some of the ingenious tricks that were resorted to in these early days, but the results attained by such means were very small.

From an ethical point of view, all athletics

Plate XXX. BODILY CONTACT

LIKE *the schemes of mice and men, football plays often go awry. This picture shows players lying on the ground in utter confusion, showing that the offensive move, though carefully devised, was wrecked by the aggression of the primary line of defense.*

Football players as a rule do not fall down unless they are knocked down. It can be readily seen, therefore, that there has been hard bodily contact during the play just ended.

Consider the wear and tear upon the human endurance during the hour's play, when scenes of this nature are repeated from 140 to 160 times. Little wonder that a rugged physique and heroic courage are required of the players, and perhaps now it can be better understood why, toward the close of a bitterly contested game, some of their performances are not quite up to standard.

But if there are skeptics as to the real merits of the sport, let them question the men who have been through the mill and they will find that the game is distinctly worth while.

Centre College vs. Harvard 1920.

have made great strides in the last ten years. The intelligence departments of the various football teams have kept pace with this progress toward fair play. Today the football scout is recognized as an important part of the coaching staff, and his work is always done in a manner above suspicion and criticism. Among the larger colleges it is now a common practice to send complimentary tickets to all the opponents on the schedule.

The scout who is to observe a given team during a season makes himself known to the proper authorities upon his arrival in town, and before the game begins. He becomes the guest of the team which it is his duty to observe. Not infrequently he actually dines at the rival training-table and is on perfectly harmonious terms with the rival coaches. On his side, he expects and desires to see and hear nothing except what takes place on the field and is open to the observation of every spectator. No matter what the scouts of the olden days may have been, the scouts of to-day are regarded, by those who know the facts, merely as rival coaches carrying out just as honorable and legitimate an assignment as if they were at home teaching their own teams

how to tackle or to throw the forward pass.

There are practical as well as theoretical reasons why the scouts seek no information beyond what can be obtained from observing opponents in open play. It is a firmly established popular belief that football games can be won by trick plays and intricate surprises. In the author's opinion, trick plays seldom accomplish what is expected of them, and indeed often act as a boomerang against the side that employs them. Almost never do trick plays justify the time and drill devoted to them. The elements that insure the victory are the inherent strength of a team and the soundness of its fundamental policy. These factors must be in evidence in all public exhibitions; and it is these, rather than the frills and froth, that the scout seeks to observe and evaluate.

The modern game of football is so highly developed that the time available for coaching does not begin to suffice. To offset this lack of time, in part, at least, the head coach organizes his intelligence department. From this department, through the reports of the scouts, he receives his best information as to the type of play to be expected from each successive opponent. He an-

alyzes the situation as disclosed by these reports, discusses it with his assistants, and reaches a conclusion as to the best method of attack and defense to be employed against the next opponent. This conclusion is imparted to the players, who soon learn to rely on the instruction given them concerning the type of play to expect from a particular team, and cease to puzzle their brains as to what possibilities the next contest will bring forth. Relieved of this worry about the unknown, they concentrate more intently on the daily practice, and the team develops so much the faster.

It should be said here that the scouting system is of direct benefit to the game of football in general. The reports of the scouts keep the coaching staff in constant touch with developments and innovations that appear from week to week in various quarters. This stream of accurate information, digested and discussed, has an influence, conscious or unconscious, on the mind of every coach. It creates a certain uniformity of thought which tends perhaps to narrow the scope of the game; but this very limitation helps its progress toward perfection. It stabilizes the form of the game, and eliminates

unusual and unsound variations of play. By standardization of the game as a test of skill, football is made much more interesting both to player and to spectator.

Many persons have raised the question why there should be any scouting at all. Enthusiastic followers of college games are constantly sending in voluntary reports concerning the strength and tactics of some future opponent. The desk of every coach is littered with such reports; but the coach has no means of determining their accuracy. He dares not use the information himself or pass it on to his players. The players themselves need some definite instruction about the individual peculiarities of the teams they are to face. In the absence of such instruction, the players feel that the coach is groping in the dark, they begin to lose confidence in him; and the seed of failure is sown. The scout fills this very real need. He is so skilled in the technique of the game that he can select the important facts and disregard the rest. He writes his report in the language of the coach, free from irrelevancies and non-essentials. Finally, he submits his report precisely when it is needed, complete to the last minute but in ample

time for use. The scout merely provides a reliable substitute for the rumors and inexact information which always come to the ears of the coach.

There are no hard and fast rules for scouting. The work and the reports vary with the exigencies of the particular case. An expert scout will generally gather far more information than need be imparted to any one man of the coaching staff. In such a case, he tells each coach only what is necessary for his own department. The coach, in turn, passes on to each player only the information which concerns his own position, and keeps his mind free from a mass of irrelevant details.

A contest between two big colleges imposes heavy duties on their respective intelligence departments. The information to be obtained naturally falls under the two main headings of "Offense" and "Defense." Each of these are subdivided into "Mental Possibilities" and "Physical Probabilities." Under these in turn comes an endless mass of minute detail, which changes constantly from day to day.

Some of the more important questions for a scout are as follows:— Is the team well rounded

out in all its branches? If not, what are its weaknesses? Are its offensive and defensive formations sound? How many plays have they shown, and what are their types? What are their best plays? What plays will they probably develop? Of what type is the quarterback, and what field tactics does he employ? What is the ability and speed of the kicker with and against the wind? Does he constitute a triple threat? Are any other backs in this category? Which backs are best at running, and which at interference? What players are best at receiving passes? What defensive line methods are used? Does the team as a whole tackle well? What players show weakness in this particular? What is the average weight of line and backfield? How many and what defenses does this team employ? What type of offense and what particular plays will go best against this team?

The scout must also analyze the individual player. If the player is fast, he can move on the field at least seven yards a second. A slower man can move only a part of that distance. An alert man, quick at sizing up a play, is apt to do the correct thing at the proper time. A man who is mentally sluggish starts slowly, and is

easily decoyed in the wrong direction. Sometimes a man's slowness may prove of advantage to his team. It happens frequently that a cleverly designed play is stopped by a stupid player who has stood in his tracks, unable to decide what to do while the play is getting under way.

Before the big game arrives, and in time to make use of the knowledge, a head coach wants to know whether he can stop his opponent's attack, and whether his own team's offense is strong enough to win. Teams improve gradually, but with ever-increasing momentum. The scout's opinion on what a team has already done is of small importance. What the scout must furnish to his chief is a forecast; an accurate estimate of what the team can do on the day of the big game with the added incentive of supreme effort which only the big game can develop.

Although he is confronted by all sorts of complicated problems, a scout must never let himself wander far from the path of horse sense. The author recalls one team which had been sweeping all opponents before it, and appeared to have an attack so intricate and so perfectly executed that no defense could be built up against it. Every team which had attempted to

analyze it was completely puzzled. Then an experienced scout came forward with a solution that was ridiculously simple. He maintained that in the development of this offense the team had neglected to devote sufficient time to defensive training; and that it was only necessary for its opponent to keep possession of the ball through the medium of a simple, powerful attack. This idea was adopted; and the supposedly invincible offense were so far overbalanced by the weakness of the defense that the opposing team ran up a big score while the offense were starving for an opportunity to "get going."

VII

THE ATTACK

FOOTBALL is a miniature war game played under somewhat more civilized rules of conduct, in which the team becomes the military force of the school or university which it represents. In fact most of the combat principles of the Field Service Regulations of the United States Army are applicable to the modern game of football.

As in combat, decisive results are obtained only by an aggressive offensive, and success follows the combined participation of every available man, particularly in the critical stages of the contest. The fundamental object of the offense is to select a point of attack which, theoretically, is always the weakest position of the defense, and to assault that position with fullest strength, at the same time engaging as many as possible of the defensive players elsewhere to prevent their strengthening the point assaulted. In other

words, the quarterback continually endeavors to attack a defensive position by a numerically and consequently physically superior offensive force.

Of course the importance of this power advantage has been greatly reduced by the introduction of the forward pass, which has materially increased the complexity of the game even as the use of the airplane has changed the whole character of modern warfare. The forward pass definitely increased the element of surprise, in that the possible positions of men eligible to receive the pass added a substantial measure of offensive variety to the old single idea of power superiority at the selected point of attack. Even so, the fact remains that football alone of college sports permits of hard bodily contact between two groups of players, each striving by its power superiority to force the other to give ground at a point of weakness.

As has already been stated, there are three salient weapons of attack—the rush, the kick, and the forward pass. There are also many and various types of offense.

Some teams predominate in the number and strength of their line plays. This type of offense

is termed a "gruelling" attack, because it has the effect of wearing down the opposing linemen; and although the gains are apt to be small, yet the consistency with which they are made materially affects the strength and morale of the opposing team. Other teams adopt end running as the principal form of attack, while still others place great reliance on the forward pass. Again, if a team is possessed of a great kicker, it may be able to punt its way out of its own territory and when it reaches scoring distance utilize the drop kick as the scoring play.

Since 1912, when the present rules with some modifications went into effect, there has been a tendency to decrease the number and type of offensive formations. However, there can still be a great variation in the arrangement of the offensive team. Considering the line alone, perhaps the simplest form is to have three linemen on either side of the center. This is called a balanced formation. Another arrangement places four men on one side of the center and only two on his other flank. The question may be asked why not carry this idea still further and put all the men on one side. The answer is that because the center must give his attention first

of all to passing the ball accurately to his backfield, he is not as effective in other respects as the rest of the line, who are devoting all their attention to their opponents. The territory, then, in his immediate vicinity is theoretically not as strongly held as elsewhere. Therefore, in order to have a strong screen behind which to start plays and both flanks properly upheld, a great majority of teams adopt the four and two formation. Harvard alone has a peculiar method of changing its formations from right to left. Instead of shifting the line along, the long side wheels around behind and the short side in front of center so that each player ends up in the same relative position in respect to his neighbors that he held before. The advantages gained are that each player has the same relative assignments in all plays, whether the formation is right or left.

The offensive backfield is also subject to great variety of arrangement, but with respect to the influence upon the defense certain standardized formations, i. e., open, close, loose, wide (see diagrams), are used by the majority of prominent teams. Of these, the first permits of great variety of sweeps, passes, and kicks, and still re-

tains the inherent strength of the close running attack, in which plunges and slants predominate. In this formation, the defense must pay particular attention to the player who takes position some ten yards from the scrimmage line. Experience has taught that this distance is best adapted to either a punt or drop kick. It has also been found that from this position a speedy halfback can flank the enemy better than from a point nearer the line. Further, in order to gain the proper element of time necessary to deploy the possible receivers of a long forward pass, the passer must be well removed from interference by the opposing linemen. Therefore, if the player in question is adept in kicking, running, and passing, whenever he assumes this ten yard position he constitutes a "triple threat"; and the defense must so arrange themselves as to be properly prepared for a kick, run or pass.

Mention has been made of loose and wide formations, which are effective because of the confusion created among the defensive players as to the proper positions they should assume. Still another type is called the shift formation, because the offensive players suddenly change

position just prior to the snap of the ball. In this way they hope to obtain an advantage over the defense by denying them an opportunity of sizing up the situation before the ball is put into play. This type of offense has two disadvantages. In the first place, a great amount of practice is necessary for its proper execution. Second, the plays are "blind," for the reason that, as they have to be decided upon before the offensive players shift, the ultimate positions of the opponents who change position to meet the shift cannot be determined at the moment the ball is put in play. This type of offense may be termed haphazard, because it may strike the defense at its strongest instead of its weakest point.

The number of plays which can be run from these formations is almost limitless. There are perhaps fifty or sixty good ones, but it is quite impossible to teach that number thoroughly to any team in one season. It is good judgment, therefore, for the coach to select from twenty to thirty and limit himself strictly to that number. It is also of great advantage to run all of them from each formation. In other words, it is ad-

visable so to consolidate the number of formations and plays that they together form a comprehensive unit of attack.

Having decided on the nature and number of formations and plays, how then can the coach best teach them to the players? Few people realize the difficulty of executing even the simplest of football plays. Consider the center rush, who is called upon to pass the ball between his legs accurately to a moving backfield which he sees inverted. The co-ordination between him and the quarterback must be deft, accurate, and performed with the utmost speed. The mere catching of the football by the backfield is made difficult by its elongated shape; and when one considers the trying circumstances under which a forward pass is often caught, when the opponents are also trying to catch it at the same time, handling the ball cleanly is a remarkably skillful feat.

In teaching the various plays it is always best first to diagram the whole team, showing the position of each man before the ball is put in play and his course and duty after the ball is snapped. A signal should be attached to the diagram. Usually each play is numbered.

The theory and use of the particular play in question should then be thoroughly explained.

Having thus visualized the play, an eleven is lined up, the proper signal given, the ball snapped, and each man starts at a walk in his designated direction. When the interference reaches the line of scrimmage all the players stop, and their various duties at the time of contact with their opponents are thoroughly explained and demonstrated. In order to make this more realistic it is well to have another eleven lined up in the proper defensive formation, and each man should act his part as naturally as possible: in other words this team should move as the defense probably would move against a play of this nature. The play should then be practiced at a trot, and when all players have assimilated their assignments it should be practiced at full speed. The amount of rehearsing necessary to perfect a given play is enormous. The author was once reminded that he had compelled an eleven to repeat one play seventeen times before he felt satisfied that it was properly executed.

The team formation in punting practice must not give the play away. In other words, both

ends and the backfield must be so disposed that a running attack or forward pass still appears to be probable.

That the reader may in some degree realize the amount of detail in a given play, the following main points to be observed in practicing a punt are here given:—

a. The center must neither alter the position of his hands on the ball, nor give to the opponents any hint as to the direction or length of the forthcoming pass.

b. The line from tackle to tackle must form a solid wall, to guard the punter from direct frontal attack.

c. The ends must be free from their opponents, ready to start down the field on the snap of the ball.

d. The backs must be placed so that they best protect the kicker, thus affording him sufficient time and space to get off his kick.

e. The kicker must attend to:

1. Assuming the correct stance.
2. Catching the pass from the center and manipulating the ball with the fingers into the proper position.
3. Maintaining this position during the

transit of the ball from hand to foot.

4. Position of the kicking foot when contact with the ball takes place. i. e., toe well pointed.
5. Nature of the blow imparted to the ball. i. e., the action is similar to a golf stroke:—the snap of the knee supplants the wrist motion of the golfer.
6. Proper respect to quickness, height, direction and distance.

The entire play, from the time the ball is snapped till the ball is kicked must be consummated in less than three seconds.

Perhaps another illustration will impress upon the reader the various functions of the players in such a simple play as an end run:—

a. The opposing line from tackle to tackle must be boxed.

b. The opposing end must be put out of the play by two interferers.

c. Second line of defense must be taken care of by two more interferers.

d. Third line and fourth line of defense must be dodged because all available interference has been used up.

e. Pursuers must be cut off.

If any one of the first three assignments is not carried out the play will be theoretically stopped. The spectator may wonder why the quarterback keeps trying the same play over and over again without apparent success. It is in the hope that all the assignments may be carried out perfectly at the same time, in which case a good gain will result.

Before the ball is put in play it appears easy to the spectator to gain ground by utilizing a sweep, but he should remember that the defense move as fast as the offense, so that an attempt at flanking the enemy usually results in a lateral run to the side lines with little gain. It is surprising how frequently the spectator ignores this fact. The author has received many anonymous suggestions in the form of beautiful diagrams, of a runner encircling the opposing end for a forty yard dash to the goal line, with apparently no movement by the defense to impede his progress.

The rules must also be observed. Once a particularly keen observer travelled one hundred miles in order to present to the author a play which he assured him had never been tried. Briefly, his conception of how to score was as

follows:—Upon receiving the kick-off the runner should advance as far as possible and then hurl the ball forward to a player stationed at the opposite side of the field, who, if threatened by a tackler, should in turn again pass the ball forward to another player, who by this time should have reached the opponents' goal line. This well-wisher had entirely overlooked the fact that the rules clearly state that a forward pass shall be made only from scrimmage and furthermore that only one forward pass may be tried during any one play. Otherwise his methods and conclusions were quite correct.

The signals which inform the players of their various moves might be termed a number language. By calling off a series of numbers the quarterback tells his team-mates which man is to take the ball, where they are to go, and, in case a starting signal is used, when they are to start. The system of signals employed should be essentially simple, and yet should have sufficient complexity to baffle opponents in their efforts to understand them. A starting signal increases the mental burden of the players, yet the advantages to be derived from it more than compensate. By a fore-knowledge of when the

ball is to be snapped the linemen are enabled to start, through the agency of the ear rather than the eye, thus allowing them to focus their whole attention on their opponents. Furthermore, if the signal is rhythmic the whole team can by anticipation start more easily and more in unison than if they are left unawares until they actually see the ball in motion. But the starting signal is a dangerous toy. The men are apt to "beat the ball" in their anxiety to be on time; thus causing offside play, and more often upsetting the delicate timing between the quarterback, who has to wait for the ball from center, and the rest of the backfield, who have already started.

To assimilate a set of signals thoroughly takes long practice. To players who are not familiar with a given system they appear like so much Greek, but after a long period of rehearsing they become more effective than spoken directions. An old player, who had graduated twenty-five years before, told the author he could vividly recollect the signals of certain plays in which he took the ball.

After a team has perfected a play in signal practice, the next step is to run the play against real opposition. Scrimmages, whether in prac-

tice or in games, are complicated affairs. There are so many rules and players involved that they should always be carefully supervised. In practice scrimmages it is well to have coaches or managers act in the capacity of officials, to see that the various rules are observed at all times. Only in this way can a proper respect for the rules be instilled.

Rather than plunge into the confusion of a live scrimmage it is well to indulge in so-called dummy scrimmages, until the players are thoroughly conversant with their respective duties and are in good enough physical condition to stand the wear and tear of actual scrimmage. A dummy scrimmage is football minus the tackle. It gives the players a chance to learn their tasks more thoroughly and with a greatly minimized risk of injury.

When the groundwork has been completed by this means, the first real scrimmage can be tried. It is surprising how much confusion ensues. There is always a great deal of offside, or starting before the ball is put in play. The execution of the plays is crude because the men are awkward in handling themselves and also because they have not yet learned the plays

perfectly. Coaches and players make a great deal of noise, and in general there is an undue amount of excitement. Furthermore, a good deal of physical suffering results from bumps and falls, and from the lack of "wind" which all players experience when violent exercise is indulged in for the first time. Added to these discomforts a great deal of dust is apt to arise from the field of play. How, then, can players learn anything in these surroundings? The solution is for players and coaches to keep quiet until an interval occurs in the scrimmage; and these intervals should be frequent at first, decreasing as order is gained and the endurance of the men increases.

When the team has learned the execution of the various plays, the next problem of the coach is to teach the quarterback when and where to use them.

There is always marked difference between theory and practice in football. The greatest precision is planned in the execution of plays, yet in the great majority of cases the defense spoil it. Only by continual striving after a perfect performance can one occasionally be made to occur. At other times quite unwarranted

gains and losses result from the defense not doing as they are expected. In this respect football closely resembles a battle, which has been planned with great preparation, but which, soon after contact between the opposing forces takes place, resolves itself into utter confusion. Unexpected situations develop in unexpected places. New elements of strength and weakness appear on either side. Unlooked-for dispositions of the enemy call for instant changes of tactics. Such conditions can be successfully met only by men whose previous intensive training prompts them instinctively to do the correct thing.

Reference has been made in a former chapter to the A B C of field tactics. Of course, conditions often necessitate changes even in the fundamental principles of field play. For example, if a team is particularly adept in forward passing and weak in kicking, it would be foolhardy for it to adopt the punt as a means of getting out of its own territory. Some teams regularly try a long forward pass instead of the punt, for this purpose. In case the defense are lined up in an unorthodox fashion, the quarterback should take advantage of this

weakness by using the play which fits the immediate situation, irrespective of where the ball happens to be on the field of play. Of course, when the wind is against the offense they are, perforce, compelled to rush the ball when in their own territory, as it would be suicidal to exchange punts, assuming that both kickers have equal ability. Still again, the score must always be kept in mind. If a team is behind, and is in its own territory, it is quite proper for it to indulge in plays involving risks, such as forward passes and tricks, in the hope that one play will take them to a more advantageous position. The quarterback should also use his formations to threaten more than one kind of play, i. e., kick, run, or pass. He can also utilize his star back by putting him in the kicker's position for this same purpose, but he should always endeavor to play to the opponent's weakest point, varying his attack at this point by manipulating his various plays and formations to assault this weakness in different ways.

That the reader may in some fashion visualize the probable results of the various kinds of plays, the following table, which does not pretend to be accurate, but simply approximates the relative

percentage of gains of plays of the various kinds, is appended:

Plunges:—

Should gain two yards, three times out of four. On other attempt, no gain.

Slants:—

Should gain two and one-half yards, three times out of four. On other attempt, one yard loss.

Sweeps:—

Should gain five yards two times out of four. Third attempt, no gain; fourth attempt, two yards loss.

Forward Pass:—

Should gain ten yards one time out of four. On two other attempts, will be incomplete resulting in no gain, on the other try intercepted by defense causing lost ball.

Punts:—

Should average thirty five to forty yards net.

Drop Kicks:—

Of all kicks, an equal number of which are tried from the twenty-five, thirty, thirty-five and forty yard lines, fifty per cent. should score.

Placements from free kick:—

Of all kicks, an equal number of which are tried from the twenty-five, thirty, thirty-five, and forty yard lines, seventy-five per cent. should score.

These figures are used simply for the purpose of demonstrating the relative value of the various plays. In other words, if the offense must gain two and one-half yards in one try to make a first down, the percentage, according to the table, is in favor of employing a slant. To illustrate again, it is easily seen that an employment of plunges from a team's twenty yard line to the opposing goal line is hardly practicable, because the risk of penalties and fumbles is ever present, and the defense would soon find that because no other plays were being used they could concentrate their entire strength on a narrow front. Better judgment would utilize plays which might gain greater distance and in this way arrive at scoring distance with less effort and in a shorter space of time.

There has always been mystery as to why the tackle is so frequently attacked. It should be kept in mind that the tackle has to cover a great deal of ground laterally on either side of his

position. The offense usually so arrange their linemen as to have one man directly engaged with him and another on his outside flank. It so happens that plays run from standard formations against tackle utilize all of the backfield except the runner to best advantage as interferers. In the case of a plunge, one and sometimes two of the backfield are wasted. Furthermore, plays at tackle reach the line of scrimmage quickly enough to prevent many of the defense coming to his rescue. Last, as has been intimated, it is good policy not to vary the attack on a given point provided a sufficient assortment of plays can be used. It so happens that the strongest type of plays can all be used against the opposing tackle position. For this reason quarterbacks are prone to use plays directed at this position, not only because of the inherent strength of the plays themselves, but because of the physical effect upon the tackle in question.

VIII

THE DEFENSE

THE WORD "defense" is psychologically poor, in that it implies that the team is defending itself against an attack. If some phrase could be invented which would denote that a team is not defending itself but is constantly striving to take the ball away from its opponent, it would more adequately express the proper mental attitude of a team not in possession of the ball.

Generally speaking, the theory of all defense against a running attack is to drive the runner toward center, as quickly as possible. In this way the attack is confined to a definite small territory. The salient principle of defense against the forward pass is for the line to force the passer to get rid of the ball quickly. This pressure disturbs the accuracy of the pass, and often so hurries it that the receivers have not sufficient time to get into their proper receiving positions. Against a kick, the line is again called upon

to hurry the kicker on all occasions and to block the kick if possible; but to avoid committing themselves so thoroughly to these objectives that they will not be ready for any other kind of play which may transpire.

In the several methods of defense, there are again two schools, one of which believes that the men from tackle to tackle should stand squarely on their feet, but low enough to meet the charge of the offensive linesmen. At the snap of the ball they should advance against their opponents with their hands on their opponents' bodies. In this position they are ready to continue their advance, but should always diagnose the nature of the play before committing themselves to any one direction.

The other school believes that these same men should assume a crouching position, with both hands on the ground. When the ball is snapped these players should charge into the spaces between the opponents opposite them. In this way they are supposed to fill various chinks between the opponents, and also to carry them back into the offensive play. Against plunging types of plays this method is stronger than the other; but it has the great disadvantage of

committing the players in a given direction, irrespective of the nature of the play, and is also further faulty because the players cannot see the impending play, nor diagnose it as quickly as if they were in the upright position and could use their hands to ward off their opponents.

Pitted against a close formation, the defense really need seven players on the line of scrimmage. To be sure, this arrangement leaves the backfield somewhat weak against forward passes, but on close analysis the offense can, by using certain of the backfield as buffers against the defensive ends, bring all of their linemen to bear on the remaining five defense. More often they bring five against three, and at the apex of a plunge there are apt to be three against one defensive player.

As has been stated it is the duty of the ends to hem in an impending sweep as quickly as possible. To accomplish this they cross the line of scrimmage on the snap of the ball and aim at the outside interferer in order to drive the runner in where the tackle can get at him. As the offense usually detail two interferers against the end, he must be careful not to get pinched between them, thus allowing the runner an outside

course. The best method of preventing this is to use one hand on each of the interferers. In this way the end keeps free from the shock of the interferers' blow. He must also keep his feet, else the runner will certainly flank him. All told, this two against one battle is always worth watching.

Meanwhile the tackle is doing his best to come to the rescue of his hard-pressed end, but the offense before the ball is snapped are apt so to maneuvre an end, especially when a loose formation is used, as to be well on the outside of the tackle in question. Consequently unless the tackle is clever with hands and feet he will be "boxed" by this nimble end, who is re-inforced at the critical moment by more interference from the backfield.

The guards and center are usually outdistanced on a play of this nature but the secondary defense are sure to play an important rôle, in case both end and tackle are vanquished. Although he, too, is usually menaced by other offensive players he enjoys the great advantage of a roving position, thus making it difficult for the interference to locate him consistently and with precision. Furthermore, because of the direc-

tion of the play he meets both interferers and runner obliquely, at which angle it is easy for him to deal an effective blow. All told then, on plays of this nature he is in the great majority of cases the salvation of the defense and the thorn in the flesh of the offense.

On plunges and slants directed inside of tackle, there results a mighty conflict between opposing linemen. Of course the brunt of the battle comes on the two defense between whom the play is aimed. But players removed even two "holes" away can, by a vicious charge and a side lunge, often tackle the runner before he reaches the line. Conversely the offense must always lend lateral support even to plays of a plunging nature.

The cardinal principles of defensive line play in contending against a gruelling attack are to meet the offensive charge in a position strong enough to prevent being pushed back and at the same time to diagnose the play quickly and accurately enough to reach the "core" of the play, i. e., the runner. It is extremely difficult for the average spectator to see and understand the fine points of defensive line play, and it would be equally difficult to describe them in words. Suf-

fice it to state that good line play is of vital importance and that, granted a parity in all other essential factors, a very slight superiority in this one department is sufficient to bring victory in the great majority of cases.

When opposed to an open or kick formation, the defensive line are still called upon to meet a close-running attack minus one player who has assumed a position ten yards back. From this position he threatens sweeps so seriously that both ends and tackles are compelled to move outwardly. Furthermore, the backfield needs assistance to cope with a probable kick or forward pass, so the center often goes to their aid, thus leaving the spaces between the various linemen much wider than when lined up against a close formation. Hence each lineman has to cover more ground laterally than against a close formation. In 1914, during the game against Yale, the Harvard team, with a kicker in position for a drop kick, executed seven consecutive plays, all of which were directed at points which were successively exposed by different members of the Yale team in their anxiety to prevent the drop kick which was never played.

Under these circumstances, the question might

well be raised, as to why the offense do not always assume an open formation. In answer, although the player in kicker's position does cause a widening of the defensive line so that they can be in better position to block a kick and cope with sweeps as well, yet the removal of the player in question robs the offense of an interferer who in a close formation is of vital importance. Again, unless the quarterback fills in the position vacated by the kicker, many strong plays cannot be used, and if he is removed from under center several other plays of equal value must be sacrificed. In either case the backfield (those still remaining in close formation) lacks sufficient weight to supply the necessary "punch" to make line plays consistently successful.

Furthermore, the defense are always alive to the tactical situation, i. e., the down and distance to be gained, so that they do often anticipate the nature of the ensuing play and take position accordingly. Therefore although a great variety of tactics may be employed from the open formation which stretches the defense in width and depth, yet by taking flexible positions with respect to the probable play, the defense are able to cope with it.

The duties and theories of defensive backfield play are so numerous and complex, especially against forward passes, that the author feels the reader can best refer to the descriptions with reference to the diagrams A, B, C, and D, at the end of Chapter I. The diagrams show the chief formations for a defense against close, open, loose and wide formations, but perhaps a few words should be added regarding a defense against an offensive wide formation.

The mere fact that two or three of the offensive team are stationed across the field some ten or fifteen yards usually strikes terror to the hearts of the defense. In fact, the author knows of coaches who believe that twelve men are necessary to cover the ground against the various plays which can be launched from this formation. There is no question but that the defense are stretched, both in width and depth, and that over-emphasis to meet a forward pass lays the defense open to an effective running game. But this has its compensations: (1) When two or three men are removed fifteen or twenty yards away from the rest of the team, its close running attack against the opposing line is materially weakened. (2) Defensive ends can become half-

backs by dropping out and off the line of scrimmage as drawn in the diagram. From this position they can still stop end runs with the help of their tackles, who are now not flanked by offensive men, and can also cover what are termed lateral passes. (3) Wingbacks, relieved of their duty against forward passes of this nature, can play their positions normally. (4) If two defensive backs are placed at full distance, say twenty to twenty-five yards, they can cover all long passes as they do punts, because the longer the pass the more time the defense have to get to it. For this reason such plays are seldom successful and are bound to be haphazard in results.

Besides the standard defenses which have been mentioned, some teams, when driven within their own ten yard line, adopt certain defensive tactics which for want of a better name may be termed a goal line defense. It should be borne in mind that the offense when they reach this territory are somewhat averse to using wide sweeps on the first two or three tries for fear of incurring losses. Rather do they tend toward obtaining the coveted first down through the medium of powerful plunges and slants.

To combat this "savage attack" the defense contract the length of the scrimmage line and move a wingback into the second line of defense, thus re-inforcing both tackle positions. The fourth line, usually the quarterback, takes the place of the wingback just removed, thus apparently leaving ten yards of territory beyond the goal line exposed to forward passes. Again, the reader must bear in mind that if a forward pass is "grounded" within this narrow space, it constitutes a touchback and the ball becomes the property of the opponents on their twenty yard line. It is only necessary for the defense to bat a forward pass to the ground to accomplish this result. Therefore, when a play of this nature is attempted the defensive backfield simply follow the various possible receivers with the sole object of spoiling the play for them. Being relieved of any idea of catching the ball themselves, they are the better able to fulfill this assignment.

There are, of course, many variations not only in all the defensive formations mentioned but in the tactics employed. To illustrate, when it is assumed the opponents are going to punt, the usual assignment of the defensive line is to force

a development of the play, and with this in mind all seven linemen endeavor to get at the kicker's foot as quickly as possible. Quite different tactics are sometimes used if the opposing kicker gets his punts away very quickly and when the tactical situation is such that a kick will in all probability ensue. Instead of trying to block the kick, the defense now devote their attention to preventing the offensive line from getting downfield to cover the punt. Each player from tackle to tackle blocks the offensive player opposite him. In order to check the ends, especially if they take wide positions, it is necessary for the defensive ends to drop back about five yards from the scrimmage line. When the ball is snapped they must judge quickly whether or not a sweep will ensue, and thereafter devote their efforts toward impeding the offensive ends. They are soon joined by their wingbacks, so that each offensive end has to contend with two adversaries. It can readily be seen that when such methods are used, the catcher of the punt has a better chance of running back the kick, or if he muff it, he has more time and opportunity to recover it.

Old-time players are prone to believe that

present-day tackling is far inferior to that which prevailed when they were in college. It is true that today not nearly as much time is given to the teaching and practice of tackling as formerly. It can't be, because many other equally important departments of the game must have their full share of attention.

These critics do not realize how much the art of interference has developed. In the old days interference was placed ahead of the runner and the defense could see what they had to contend with. Today, in addition to this there is added a flanking interference which comes from unexpected quarters. This is especially true with respect to the second and third lines of defense, who often are set for frontal interference, when without warning they are sideswiped from the flank by a lineman whom they never even saw approaching.

This practice constitutes a bone of contention among the rule makers, who must see that tactics which endanger the welfare of the players are curbed, and who must at the same time preserve practical methods of merit.

Another phase of the game of today which did not exist in the "good old days of yore" is the

quick defensive adjustment necessitated by an unexpected forward pass. Even against the simplest form of forward pass the defense are uncertain for some time as to the ultimate direction and speed necessary to prevent the successful completion of the play. Added to this uncertainty is the player's further indecision whether to try for the ball or the opponent after he has caught it. His final decision which often necessitates change of action, must be almost instantaneous, with the result that he is often found in an awkward position at the moment when he is called upon to perform a skillful act, i. e., tackle the runner. No wonder he does not tackle as low as his father did in 1890, nor with that deadly precision, for he has not time for either.

IX

A GAME IN DETAIL

IN ORDER to make the subject more realistic, the author will now describe a hypothetical game between two teams of about equal strength, which have been trained along similar lines of offensive and defensive strategy. It is impossible for any one individual to *see* all that happens during a football game. It is, however, entirely possible for him to *understand everything* that occurs, and through this knowledge, by anticipating what will probably occur, see a great deal more than otherwise. It is in this frame of mind that the reader should follow this description which illustrates many events which usually happen during a football game, and having thus familiarized himself with them it is the author's sincere hope that he will derive more enjoyment from the actual contests which he witnesses.

First period. The opening play is called the "kick-off," and among the rules relating to it is

one which states that the side winning the toss of the coin has the choice of either defending one goal or of kicking off themselves. On the day of this game a strong wind is blowing directly down the field, so that our team, having won the toss, naturally elects to defend, during the first period, the windward goal. The enemy kick off from their forty yard line to our twenty yard line. Our team immediately lines up in kick formation, which has a tendency to spread the opponents' line because they fear an end run by the player standing in the kicker's position. Having thus threatened a sweep and a kick, our team tries what is called a fake kick which in this case consists of a plunge straight ahead through the widened gap between the opposing guards. It does not make an appreciable gain. We line up again in the same formation and this time execute a beautiful punt of forty-five yards, which carries to our opponents' thirty-five yard line, where the receiver is downed in his tracks.

The enemy try three rushes, which gain eight yards, so that it is fourth down and two yards to go to establish a first down. Fearful of not gaining the required distance in the one remaining rush, they wisely kick to our twenty-seven

yard line where the catcher is thrown near the side lines. We now run a play toward the middle of the field, which is called a position play for it is unwise to punt when the ball is too near the side lines, and although this play gains a good six yards yet because of the favoring wind we punt on our second down to our opponents' twenty-five yard line where again the runner is tackled without gain.

The enemy are now in a difficult position, in that they realize that they will be outpunted, yet they dare not try any forward passes or trick plays. After futile attempts to gain by rushing, they punt, this time to our forty yard line, where the ball rolls out of bounds.

Our team, after running two plays from a close formation, changes to an open formation, and because we have been kicking, our opponents' line again widens, this time in order to have a better chance at blocking our punt. Whereupon our quarterback, taking the ball himself, slips through between left guard and tackle for first down at midfield.

We now have a wider choice of plays, because even if a fumble does occur it will not be as disastrous as if the ball were deeper in our own

territory. After two plays our quarterback orders what is called a criss-cross run (Plate IX), a play which starts in one direction and which, by the passage of the ball from one player to another, develops in the opposite direction. In this case, our opponents' right end is completely fooled and we outflank him for twenty yards, making a first down on the opponents' thirty yard line. On third down with six yards to go, we try a forward pass, which is incomplete, i. e., the ball strikes the ground before any player can catch it. The penalty for this is another down, making fourth down and six yards to go. There is little chance to gain this distance by a rush, so we attempt a drop kick which just misses its mark. Except for this mistake each move has so far been according to Hoyle and may be likened to the opening plays of a chess match.

A touchback has resulted from our try at goal, and the ball is now, according to the rules, put in play, with the enemy in possession of the ball, on their twenty yard line. As the ball is snapped for their fourth play one of our team is declared offside, which penalizes us five yards and gives a first down to our opponents. This was a bad mistake on our part because it allows our oppo-

nents to start their rushing game again from first down. Encouraged to continue their rush ing tactics, the enemy make material distance but on second down, with six yards to go, ar finally checked for a two-yard loss. In spite o this they try another rush, fumble the ball, an one of our players promptly drops on it.

Here is a point where the opponents' quarter back should be justly criticised, for with thir down and eight yards to go he had little chanc of gaining the required distance in the next tw tries. Had he kicked on this down, say a punt o thirty yards, the ball would have carried to ou thirty yard line. However, the damage is done This kind of a mistake, when the usual schem of play is marred by an error of commission o omission of one of the players, is called a "break."

The ball is now ours on our opponents' thirty five yard line with materially strengthened mor ale as the result of our good fortune. Conse quently, as often happens under similar circum stances, our offense get going, and in two rushe we make first down on their twenty-five yar line. Three more rushes carry the ball to th fifteen yard line, but it take four tries to mak

the next first down on the opponents' five yard line. "It certainly looks bad" for the defense, except that as a team is driven toward its own goal line it automatically strengthens like a spiral steel spring, with the goal line for its base. On our first try a fumble occurs, as the ball is passed from center to our quarterback, who luckily recovers it with a half-yard loss. The next play, a slant over our opponents' right tackle, is splendidly executed, and results in a three-yard gain. Third down. The following play carries the ball within two yards of the goal line. Fourth down.

What would you do were you in the quarterback's place? Remember that as we approached the goal line each succeeding first down was gained with greater effort. The enemy's line is greatly reinforced by two halfbacks who have stationed themselves directly behind their two tackles. The flanks are also strengthened by two wingbacks who, because the forward pass zone is restricted to ten yards beyond the goal line, take position much nearer the scrimmage line than usual. All things considered, the chances seem to be against our scoring by a rush or a forward pass, and in favor of a drop kick.

Like a flash our quarterback makes his choice, decides upon a kick which he performs himself, and three points are credited to us.

The enemy again kick off from the forty yard line. The wind has increased in velocity so that although a splendid runback carries the ball to our own thirty yard line a punt is straightway called for, and is beautifully executed, high and so well directed away from the opposing backfield that the ball bounces on the ground and rolls merrily along to our opponents' twenty yard line. A beautiful play and well timed for, as the opponents are lining up, time is up for the first quarter.

Let us pause for one minute with the players, who now change goals, while we summarize what has happened.

Summary—The wind allowed us, in two exchanges of punts, to gain from our own twenty yard line, to our forty yard line, where we were able to bring full force and variety of attack into play. However, we were checked after a good advance, on our opponents' twenty-five yard line and missed an opportunity to score by field goal. The enemy, always deep in their own territory, tried to play safe, were helped once by our off-

side, but made the fatal mistake of trying to rush too far, especially when it was third down, eight yards to go on their own thirty-eight yard line. The resulting fumble gave us a golden opportunity, of which we took full advantage and advanced thirty yards. Our touchdown was probably lost on account of a fumble occurring. As slight compensation three points were scored by a goal from the field. A splendid punt by our kicker at the close of the period again put the enemy in a bad position, from which they were saved by time.

Second period. On the opening play, with the enemy in possession of the ball on their own twenty yard line, our line makes the mistake of committing itself too thoroughly to a threatened punt, instead of which there ensues a sweep, which gains some twenty yards. In spite of this success, the enemy, who want to put us deep in our own territory, elect a punt, which is too low for their ends to cover. Our back, who catches on his own twenty yard line, runs a good fifteen yards before being tackled. It is a pretty dash, during which the runner uses what is called the "straight-arm" on two opponents, before he is finally tackled by a third. We

cannot gain by rushing, and a poor kick to only mid-field follows, giving the enemy a long-sought-for opportunity to swing their offense into play. Crash! Bang! To our twenty-five yard line. From this point their second rush gains enough ground to give them a first down, but the umpire detects holding and penalizes them fifteen yards, making it third down on the forty yard line with twenty-five yards to gain. Many a championship game has been lost by such an occurrence. They now try a long forward pass, which is incomplete. Believing that the play should have been successful, they try it again, but our backfield purposely bat the ball to the ground on our ten yard line. As this was attempted on the fourth down, the rules give the ball to us at the point from which the play was attempted. In other words, on our forty yard line. Thus by batting instead of catching the ball, our team gains thirty valuable yards.

It is apparent that we cannot hold our own in the kicking game against the wind, and as our opponents are rather anticipating the rushing game we try a forward pass on the second down, which is successful for a ten yard gain. Emboldened by this success we try the same type of

play two downs later, but one of the enemy's wingbacks this time intercepts the pass and runs to our thirteen yard line before he is finally thrown. This play is typical of a forward pass which goes wrong; it often acts as a boomerang and instead of a successful gain sometimes results, as in this case, in a fearful loss. The enemy line up and in four plays make first down on our three yard line. Our defense is incapable of withstanding the onslaught and they score on the fourth attempt from our half-yard line. In these last eight plays, the strength of their attack lay in the superior "charge" of their line. Although the gains were short there was no slip and consequently a touchdown resulted and a goal was kicked, making the score 7 to 3 in the enemy's favor.

Toward the end of this period by the aid of the wind, the enemy were able to place a punt across the sideline at our nine yard line. With less than two minutes of play we endeavored to advance by rushing, but on fourth down were forced to kick. We should have tried to punt across the side line, but instead a "free catch" was made on our forty-two yard line from which the enemy kicked a beautiful goal from place-

ment, making the score 10 to 3 in the enemy's favor. Almost immediately after time was called for the first half.

Summary. A feature of the early part of this period was the manner in which we escaped from dangerous territory on three occasions: first, by our good runback of a punt, second, through the penalty inflicted on our enemy for holding, third, because on fourth down they unwisely chose to try a forward pass, which was unsuccessful and resulted in the surrender of the ball. However, we soon after made a serious blunder in attempting a forward pass in our own territory, which being intercepted led to the first score for the enemy. Again we should never have allowed the enemy to make a fair catch with so little play time remaining. In other words, this whole period was characterized by bad mistakes by both teams.

Third period. During the intermission, which lasts fifteen minutes, the wind died down appreciably so that when our team, which is again playing against it, kicks off, it is able to send the ball almost to the enemy's goal. On the first play our opponents quite correctly kick, but unfortunately their punter twists his ankle, and is

forced to leave the field. His substitute is an inferior kicker, and perceptibly slower in the execution of his kicks. As a result, the enemy find that instead of being able to punt their way out of danger on the exchange of kicks, they are fighting deep in their own territory; and to make things worse the next kick is short, the ball going to us at midfield.

Then ensues the second of those well-directed marches, which a team is sometimes able to make by superhuman effort, when the score is against it. Intermingling change of direction plays and strong line plays, with one forward pass, which started like a rush, our quarterback drives his team to a first down on its nine yard line, second down on their six yard line, third down on the four yard line, fourth down with only three yards to the goal line and only one more try. It is indeed a critical situation. Once again, what would you do were you in the quarterback's shoes? Kick, run, or pass? In making your choice please remember the score as well as other factors. Our quarterback orders a kick formation and so places the rest of his backfield that the best protection is obtained for a drop kick. The defense are determined to block the

kick and as the ball is snapped their line converge on the kicker's foot. He makes every pretense of kicking but at the last moment whirls and passes the ball diagonally forward to his end, who is speeding toward the side lines. An enemy halfback has sensed the play and just as the ball is caught by our end he tackles the runner. We fail to make a touchdown by less than a half-yard.

Even now the enemy are not "out of the woods," because should we block their kick we would probably score. But their substitute kicker punts well. Our back catches the ball at the thirty-five yard line and starts to run in, but when fiercely tackled he drops the ball and an adversary recovers it. This gives our opponents a first down on their thirty yard line and the mistake constitutes a "break" of the worst sort. The enemy kick at once to our twenty-five yard line so that in two plays they gain seventy-five yards. On this last play, in making his tackle one of their ends is badly shaken up but insists upon resuming play. Still somewhat dazed he is unable on the next play to hold off the interference which is directed against him. The runner, seeing the tackle is well boxed, cuts in. As he is about to be tackled by the secondary

defense another interferer comes to his rescue. He then dodges the third line of defense and after a splendid run of thirty-five yards is forced out of bounds by the one remaining defensive player. This gives us first down on the opponents' forty yard line. We now change our tactics and try three long forward passes, each of which is incomplete. On the fourth down the punter, by kicking diagonally across the field, tries to place his kick outside, near the opponents' goal line but the defending back anticipates his move and intercepting the ball runs to his thirty yard line before he is finally tackled. Time is now called, and in the one minute of rest which follows the teams change goals.

Summary. In contrast to the preceding period this quarter was marked by excellent play, especially our offensive march of forty-seven yards ending in a failure to score by an eyelash. To be sure, that fumble of ours was a bad blemish, but the long run directly after, which almost scored, compensated greatly by taking us out of our own territory. Had any of the long forward passes been completed we should have tied the score.

Fourth period. The enemy in possession of

the ball on their own thirty yard line try two sweeps from a kick formation, but fail to gain. From the same formation our ends naturally think he is going to punt and so press in on the kicker, who fakes a punt and then starts around the exposed flank. Unfortunately our wing halfback misses his tackle so that the runner continues for a material gain. For some time afterwards, the ball see-saws up and down the field with no particular advantage gained by either side. On one occasion we made a good advance by forward passes from a spread formation which had the desired result of weakening the third line of defense. The enemy avert a sure score by intercepting a pass just as our end is about to catch the ball. Later on from third down we make a long forward pass which strikes the ground just over the goal line, causing a touchback. Perhaps the reader may criticise the judgment of this play, but keep in mind the score and also the fact that had the ball struck within the field of play it would have been an incomplete forward pass and we should have had another down left. In other words if criticism is to be made, it should be on faulty execution rather than against the play itself.

The enemy meanwhile made several successful gains, mostly through the use of the same fake kick which they employed in the early part of this period. Finally on fourth down and four yards to go, their center passes so poorly to the kicker that he is forced to forego an attempt to kick, is compelled to run, and is thrown two yards of the required distance. Thus the enemy are held for downs, and we obtain possession of the ball on our own forty-five yard line.

A substitute quarterback for our team is now sent in. He gives a simple sounding signal and a simple plunge follows, without gain. Groans ensue from the spectators, who of course are looking for a desperate trick play, but before they or the enemy realize it, the ball is again put in play without signal, and a sweep around end ensues. The runner is almost free. He swerves near the side line and dodging the last defensive player continues across the enemy's goal line. A touchdown! The referee, however, decides that the runner stepped on the side line at the thirty-five yard line so play is resumed at that point. We are unable to gain, so on fourth down a drop kick is attempted. This is partially blocked by the opponents, thus putting our team "onside,"

and eligible to recover the ball. The ball, however, continues its flight and rolls over the goal line where one of their players falls on it. A safety! But no, the officials rightly decide that the impetus which caused the ball to roll over the goal line came from the attacking side, which according to the rules makes the play a touchback. Had any of our players been able to reach the ball they could have legally retained it for a touchdown. Such are the breaks of the game.

Our team is naturally almost spent after these disappointments and as the enemy line up on their own twenty yard line our captain asks how much time is left. We can see by the scrutiny with which the field judge looks at his watch that very little time remains. The enemy play three times slowly, then punt. Up to this time our backfield had caught every kick cleanly but on this occasion, because the sun was directly in the eyes of our quarterback, he muffed the ball and an opponent promptly pounced on it. It would seem that "all was over but the cheering."

The enemy are now playing with such deliberation that our captain calls for "time out" and complains to the referee. In preparation for the fourth play the enemy quarterback repeats

his signal twice, whereupon the referee penalizes his team two yards for delaying the game, thus making fourth down, six yards to go. An end is now substituted on our team. Very deliberately the enemy assume a kick formation. The signal is called equally deliberately, but the pass to the kicker which is a trifle high unsettles his stance. Our substitute end, with but one object in mind, sweeps in and blocks the ensuing punt. The ball bounces gaily toward the enemy's goal. Their kicker is nearest to it and just as he is preparing to throw himself on it one of our players bumps him and he sprawls short of the ball. Comes another of our men, fumbles the ball momentarily, recovers it and is off. An enemy is two yards from him and as they near the goal line he dives at our player and throws him, but together they slide over the goal line. Touchdown! Pandemonium lets loose, but to tie the score our team has yet to make one more point. We therefore, according to the new rule, line up our opponents' five yard line. The best drop kicker in our squad is sent in. He kicks a perfect drop goal and the game is over.

Summary. From the beginning of this period we were determined to upset the enemy's kick-

ing game, which had faltered after their substitute came in, but when our line committed themselves to blocking opponents' kicks they uncovered their flanks so that on two occasions the enemy turned them for material gains. Nevertheless, by pursuing the same tactics we forced the kicker on fourth down to run, thus gaining possession of the ball. Finally, when all seemed lost, by persisting in these same tactics, we succeeded in gaining our object, blocking a punt and tying the score as the result.

As a whole, this game may appear to have been raggedly played, but an analysis shows that there were fewer errors than usually happen in a well-played game. I have emphasized these mistakes, for few spectators appreciate either the number of errors which occur or how seriously they handicap the offending team. Every coach and player is well aware of the importance of playing correct football, but in spite of their combined efforts mistakes creep into the play, and mar an otherwise perfect performance. So in this case, as each team made approximately the same number of mistakes and showed about equal strength in the various other departments of the game, the result was a tie.

X

THE WHEREFORE OF FOOTBALL

FOOTBALL, of necessity, is a rough and strenuous game; of necessity, because as long as sturdy, eager, striving youths come into direct bodily contact, more or less bumps and bruises and even serious injuries are bound to result.

President Lowell of Harvard says of the game in his 1921 report:

"Although the severity of the injuries suffered and especially the danger to life have been materially diminished by the changes in the rules made a dozen years ago, football remains a rough and strenuous sport in which injuries are often received that impair the efficiency of the players for a couple of weeks or more."

Why then do the authorities of universities tolerate this sport, and parents permit their sons to participate?

It is, of course, easy to understand the popularity of the game with the spectator. Ever

and anon, the arenas of contest calling for personal contact of man with man or man with beast, and involving danger and risk of life, have been crowded with frenzied spectators. It is also easy to understand the outward appeal the game has to youth. Even the danger and chance of injury produce a certain fascination which alone furnish football teams with many recruits.

But what do the saner minds of authorities and the more sober minds of parents find in this game to warrant its continuation?

The many reasons lying behind the answer to this question fall into two natural classes; first, the advantages which are peculiar to this sport, and second, the steady progress which has been made in recent years toward minimizing the dangers and eliminating the evils of the game.

As to the latter too much cannot be said of the untiring efforts of the Rules Committee. This Committee has legislated intelligently toward a definite goal—the elimination from the field of play of tactics and practices which all too frequently lead to serious injuries. This is seen in the limitation put upon the use of hands and the barring of pushing and pulling, clipping, pil-

ing on, tripping, hurdling, roughing the kicker or passer, etc. These practices often led in the heat of contest to abuse and displays of brutality which besides producing injuries harmed the reputation of the game.

The Rules Committee has constantly endeavored to put the game upon a higher plane of sportsmanship. In this effort to make the intercollegiate games more gentlemanly contests, both coaches and officials have given their hearty cooperation, and it has become generally recognized that contestants can make their supreme effort without transgressing rules of gentlemanly conduct and without necessarily regarding their opponents as contemptuous enemies.

At the same time, as we have seen, there has been a tremendous improvement in the medical and physical handling of the players. The vital necessity of always having at hand a competent medical advisor has been recognized. With it has come a revolution in the attitude of the coaches toward making substitutions with a view to preventing minor injuries from becoming major and avoiding the serious injuries which may result from playing an individual to a state of absolute physical exhaustion. Foolish ideas

and traditions of coaches and players as to the disgrace of being removed from the game have given away to the simple and sane decision of a doctor whose sole interest is to prevent serious injury.

So much for the reduction of the chief causes of criticism and complaint.

What then are the advantages, mental, physical, and moral, which overcome objections arising from the possibility of serious injury?

First, it must be remembered that football is almost exclusively an interscholastic and intercollegiate sport. The men who best know and teach football are college men, and for this reason are far better educated than the average coach in other sports. In most cases they are also business or professional men, and quite frequently members of the faculty of a school or college.

Furthermore, the character of the game itself requires that the instructor possess more than average intellectuality. When analyzed, football is nothing more than a somewhat complicated game of human chess. It is a contest of science requiring not only a ready familiarity with the mathematical principles involved, but an ability

at the same time to execute physically the necessary manoeuvres when the players are under the greatest possible tension and pressure.

Thus the individual must be taught to think as well as to act, and to do both at high speed, with a consciousness that full responsibility for thinking incorrectly and performing imperfectly is placed upon him by thousands of spectators. Not only this, but he must be taught to repeat this operation time after time when his mind is groggy, his body weary and his whole being in revolt. His will-power must dominate him.

One man lacks the mental calibre, another the physical power or speed, another having both is unable to co-ordinate the two, still another fails under the nervous tension. Few realize how many men are deficient in the power to "carry on" when physical exhaustion sets in, or, to use a homely but apt expression, how many are lacking in "guts." It is the problem of the coach to overcome these failings. Upon his ability to do so depends his success. It is therefore small wonder that the successful coach must himself have a good intellect, a strong personality and a thorough understanding of human nature. Constant association with such a man cannot fail

to be beneficial to the average undergraduate.

From an educational standpoint alone, the training received during the football season is more valuable than many of the college courses. The mental gymnastics of mathematical courses give a certain amount of brain development which is lacking in the more general informative courses. Football develops a man in the same way only more so, because the interest of the pupil is intensive and his absorption in the subject more complete. Furthermore, he faces a daily examination on the field of play, an examination unlimited in scope and never ending in its variety. Unless the player's mental lesson is perfect his individual physical prowess wastes itself in faulty application. Because of this the coach detects promptly and accurately the faults in his own instruction, and learns early the necessity of making his instruction simple and direct, eliminating the unessential and presenting the subject in such a manner as to make it clear even to the more stupid members of his squad. The successful coach is generally a skillful teacher, and this fact, combined with the absorbing interest of his subject, permits him to command the attention of the student in such a way

as to arouse the envy of many a professor who has observed the same student a few hours earlier stupidly drowsing through a lecture.

The men are taught by talks and blackboard demonstrations, and then are required to go through field demonstrations at slow speed, so that each one will get an actual visualization as well as theory of each maneuver before he is required to employ his full energy in the finished performance.

It is only in the more vital contests that the degree of intelligence required is fully appreciated, and then only by those who understand the fundamental reasons behind the sudden change in the complexion of a game. In such critical contests each offensive play requires, first, the discovery or creation of a point of weakness in the opposing defense, and, second, the intelligent selection of the play which will best take advantage of that weakness. Each defensive play consists of the proper deployment of the defensive men to meet the offensive formation and then the quick and accurate diagnosis of the play once it is underway, to determine the nature and point of attack in order to meet it successfully. In either case the failure of any one of the

eleven individuals in any single play may mean the difference betwen success and defeat.

This is one of the many reasons why those participating in the game must be willing to submit to the most rigid discipline. Only by such discipline can errors be minimized if not eliminated. Only by such discipline can each man's full attention and physical energy be confined to the particular duty assigned to him for the accomplishment of an ultimate result. Every man cannot run with the ball, nor can every man be allowed his own discretion in choosing the particular territory he prefers to defend. It is a game of individual sacrifice for the general good of the team—the submission to the command of the directing player with an ever present realization that success is dependent upon the perfect performance of each individual.

This necessity for concerted action teaches the individual that accomplishment requires organization and response to intelligent leadership. This is the lesson of team efficiency as opposed to disjointed individual effort, no matter how brilliant. Few people realize that it takes more than a few so-called stars to make a good football team. On the other hand many great foot-

ball teams have made stars of mediocre individuals.

There is still another form of discipline which is of equal if not greater value to the student of football. It is the intensive discipline of the individual over himself. First, he must learn the comparatively simple rule of self-control. Displays of temper, no matter how provoking the occasion, do no good and generally greatly interfere with the thinking processes of the angered individual. Second, he must learn that few, if any, men ever reach the limit of their development. Most men do not begin to know themselves, their capacity to stand physical fatigue and their power to absorb bodily punishment. Many so-called "quitters" are men who have never been properly taught to make use of the possibilities within themselves. These men have permitted the natural repulsion of the body to punishment to create an atmosphere of fear. They think only of the relief which comes from desisting. By a process of education such an individual can be taught to master this fear by the gradual realization that exhaustion and pain are but temporary, and that recovery therefrom

is astoundingly rapid. Following this discovery the individual soon begins to discipline himself by the exercise of his will to bring out latent power. He learns that his body, properly cared for, is something to command rather than to yield to; and soon he is able to measure properly and expend intelligently his full natural physical resources.

The player becomes introspective; then he begins to see also within others—his own teammates and his opponents. He learns to appraise others, to appreciate their weakness and their strength. In short, he has made a great stride in the understanding of human nature.

The game contains many other valuable experiences for the individual. He learns the necessity of hard, untiring effort to secure skill and perfection of performance. He gains the confidence to assume full responsibilities, and the ability to work unaffected in the presence of large audiences. The intelligent player soon learns to take victory modestly, to accept defeat gracefully, and to analyze these victories and defeats for the ascertainment of the real underlying causes. In short the game provides un-

limited opportunity for self development, not only along physical lines, but also in creating powers of imagination and resourcefulness.

Furthermore, there are certain team attributes that are peculiarly emphasized in this sport. Football is essentially a game of team evolutions and team accomplishments. In no other sport is it so fundamentally essential to develop in a team a spirit of brotherly love and loyalty, and to gather the players together by a bond of sympathy which will enable them to respond readily and unitedly to the pyschology of the occasion.

More recently the increasing interest in the game has aroused the criticism that important inter-collegiate contests have become great "public spectacles," with an intimation that they are not altogether healthy for the college or for the public. It is difficult to formulate any definite reply because of the somewhat intangible nature of the criticism.

Those who attend these week-end "spectacles" are undergraduates, graduates, and the public at large. The undergraduate generally acts as escort to parents, friends, or girl acquaintances; and after the game spends the evening in some healthy form of entertainment. That under-

graduate who has spent the afternoon out of doors, feeling almost as keenly as the players themselves the pangs of defeat or the joys of victory, and has spent the evening in the companionship of his friends or relatives, is far better off than the undergraduate who, on Saturdays when there is no game to hold him, starts out in search of some sort of amusement which may be much less wholesome.

Again, on what other occasion do hearts beat in such unison and such common impulses move the crowd? What is more effective to quicken in the veins of the undergraduate a deep and lasting loyalty to his Alma Mater and to develop a spirit of kinship among men who, in the classroom, have gazed at each other almost as strangers? In other words, the game of football is itself an institution, molding what is spoken of in American universities as "college spirit."

It is hardly necessary to point out what the game means to the graduate, whether he is able to attend in person or learn of its results by telegraphic or newspaper reports.

Is there any graduate who does not hear with a thrill of pride of the achievements of his university team? To see the team play and to talk

about the team and the players makes a graduate young again, and furnishes a relaxation to his tired mind and a stimulation to his discouraged soul that sends him back to his work a better and a stronger man.

There is nothing which brings the thoughts of the average graduate back to his college and keeps him in touch with his Alma Mater quite so much as the football season. It is hard to believe that this participation in the "public spectacle" prevents a man from following with keen interest the educational progress and the scientific achievements of his college. If they are obscured to any degree it is only because the newspaper notoriety given to the game for the moment has been perhaps disproportionate.

As for the public at large, is it possible that their attendance at the game or their reading of the results in the daily newspapers is productive of some baneful influence? On the contrary it would seem that what is good for the undergraduate or the graduate must also be good for the public, because after all the only difference is one of fortune and not of breed. Certainly no greater opportunity presents itself for the

wholesale teaching of good sportsmanship and of gentlemanly conduct.

In this connection we may refer again to organized cheering. This queer collegiate form of expression at one time threatened to outgrow its usefulness. The imaginative and resourceful undergraduate developed it almost to the point of abuse. A movement for its abolition resulted. But clearer minds discerned its possibilities and guided its course into sounder channels until it is now recognized as a most effective means of stimulating good sportsmanship. Through organized cheering new ideals have been conveyed to the spectator, such as the impropriety of applauding when an opponent is penalized or a player injured, or of attempting to confuse the players or prevent them from giving or hearing their signals. In short, in spite of the tremendous enthusiasm and partisanship of a football audience, that same crowd, perhaps ninety thousand in all, has come to typify all that is best and most sportsmanlike in American athletic gatherings.

In conclusion, football is inherently an American game and essentially a college game. In it

we find most of the red-blooded ideals which we are proud to believe are particularly American. If by reason of the strenuosity of the game, evils now and then crop out, let us patiently trust that they will soon be ironed away; and if by reason of the intense enthusiasm of the spectators the game assumes a position of exaggerated importance, let us rest assured that under intelligent guidance sooner or later it will reach its proper level. But in the meantime, let us not in a criticism of the superficialities of the game overlook those things which make it so distinctly worth while.