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RALEIGH, N. C.





VARSITY LINEUP

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THE RED AND WHITE

Vol. XV. West Raleigh, N. C., November, 1913.No. 2.

THE EVOLUTION OF AMERICAN COLLEGIATE FOOTBALL.

That football originated among some of the oldest peoples of the world is proven by the fact that it is known to have been handed down as a sport from one generation to another among the semi-barbarous peoples of the world. But the knowledge that a rude form of the game was played many years ago among the Maoris, the Farce Islanders, and the Philippine Islanders merely establishes vaguely the nature of its origin, and does not tell us definitely of its very beginning. Since fact cannot tell us anything more interesting than that the game was long ago the pastime of savages, let fancy relate a more pleasing, though imaginative, tale concerning the very first form of football in existence.

Could it not have been possible that way back yonder, two parties of our Darwinian ancestry were struggling on a smooth beach for the possession of a particularly desirable cocoanut, and that in his desire to present the nut, in a manner more forcible than polite, to his opponents, one of our ancestors gave it a hard kick, in the hope that it would strike one of the opposing party with considerable force. Could it not have been possible that the adversary who stopped the missile, with some tender portion of a rather tough anatomy, was possessed of a desire to retaliate, and returned the cocoanut in the manner in which it was sent, but with added force. This rude exchange of kicks might have easily become general, and the game of football born. But flights of fancy cannot bring us facts which we may add to our store of knowledge of the sport; so let us turn again to history.

The Greeks played a simple form of football with inflated

bladders and balls of leather stuffed with straw, but among them it was an informal sport in which they indulged more with the thought of developing bodily grace than of striving as teams against teams of their comrades.

When the Romans succeeded to the position of power in the ancient world held by the Greeks, they came into intimate contact with the vanquished nation and borrowed many of its customs, among them being the elementary game of football. The Greeks, so to speak, fumbled the ball, and the Romans recovered it. Among the Romans the sport rapidly became a true competition between opposing teams, being known in Latin as "follis." "Follis" resembled closely modern association football, or soccer, in which the object is to kick the ball across the opponents' goal line, while preventing them from kicking it across your own line. One can readily believe the stories of the great courage of the Roman soldiers, if the young men, in time of peace, played "follis," or even a milder kind of football, in the national costume, which consisted chiefly of a short pair of trunks and a short-sleeved tunic or shirt which fell to the knees, over the trunks, and was belted at the waist. Perhaps when an especially stiff match was to be contested, the players borrowed some of the armor you have seen pictured in your Latin texts. So popular became "follis" among the Romans, that they went to the trouble of having inscriptions announcing the games carved upon walls and buildings, in order to attract large numbers of spectators. Such an inscription was unearthed only a few vears ago among the ruins of Pompeii.

When the Roman legions invaded Northern Europe and the adjacent territory, they carried their games with them. While they were not fighting they enjoyed such sports as "follis," all of which were readily taken up by the people with whom they came in contact. Might we not imagine that when a truce was declared between the Roman camps and their enemies that the rivals in war engaged in a rivalry in football. So thoroughly did the Romans spread their pastime



A. & M. SQUAD



that by the beginning of the Christian era it was known over the greater part of Northeastern Europe and the nearby islands. In Tuscany this crude form of football was played as "calcio" (not calico; the "calico" looked on); it was known in Ireland, though under another name, and was enjoyed by the Scots, Welshmen, and Britons.

Since England evolved rugby football from which the American collegiate football sprang, we may leave the game in other parts of Northeastern Europe in the simple form in which it was introduced by the Romans, and trace its growth in England alone. For many years the sport remained simply a contest in which one side-there were no teams of restricted numbers-endeavored to kick the ball across their opponents' goal line, no one touching it with his hands. There was no limit to the numbers on a side, the contestants seldom being evenly divided. Fist fighting was general, and a particularly offensive player was sometimes clubbed in the head or otherwise put out of the game. The sport, though crude and brutal, as were all athletic competitions of the time, was played in nearly all the towns and cities and in the rural districts. As a tribute to the favor in which football was held, William Fitzpatrick wrote, in 1175, of the young men rushing from dinner to take part in or watch the contests. In those days the spectators dare not approach too near the players, and as the games progressed sometimes down the whole length of a street, they usually perched themselves in windows and on housetops to enjoy the contest, voicing their approval by shouts of applause, and showering down their disapproval in the shape of loose tiles and chimnev pots. The rough sport of those days was not by any means confined to the cites or towns, and the wildest farm districts had their Big Games.

> "The sturdy plowman, lusty, strong and bold, Overcometh the winter by driving the football. Forgetting labor and many a grievous fall."

Even back in the fourteenth century football had its enemies, though the sport as it then existed deserved to be condemned. In 1314 King Edward II issued a royal proclamation forbidding the game, because of the uproar that it caused in the streets of London. About half a century later Edward III decreed that football must not be played in any part of the kingdom, in the hope that archery would receive undivided attention as a pastime, which might be turned to good account in war. In doing this the king possibly overlooked the fact that a good football player might make a good soldier. It was only natural that Henry VIII should be prejudiced against the game by his five or six wives, who followed one another in bewildering rapidity, but it was rather astonishing that Queen Elizabeth should be such an admirer of courage, yet put the ban upon football. Perhaps, however, her forbidding the contests was an act in the interest of public safety, for it is a matter of record that on Shrove Tuesday (the big football day of old England) the shutters of the houses had to be put in place and the doors barred, for fear that the players might rush the ball through a residence, overturning any peaceful members of the household who happened to get in their way. By 1830 football had become a fairly tame affair, and it was then that it took on the aspects of a real game with established rules, instead of being merely a rough and tumble pastime.

At Rugby School, in England, there is a small tablet upon the wall of one of the buildings, placed there to honor the name of the school boy who was the first player to take the ball in his arms during a game, and, without protest, carry it down the field toward his opponents' goal, his act adding a new variation to the old kicking game, and marking the transition from the elementary football to the rugby game. The new game at Rugby had taken definite form by the year 1860, and in 1870 it was known everywhere in the British Isles. In 1871 was held the first meeting of the rules committee of the Rugby Union, and by 1889 the widespread demand for representation upon the board which formulated the rules led to the establishment of the International Board. At the time of the establishment of the International Board, rugby had attained its present form, which differs from our collegiate game chiefly in the facts: that fifteen players compose a team, where we have only eleven; that the play is more open in the English game, and that the object of the rugby game is more manifold and less clearly directed toward one end.

Football existed in this country from the earliest colonial times, though there is no record that the Pilgrim Fathers, in their celebration of Thanksgiving, included a game of football in the festivities of the occasion. In the early American game, which followed pretty closely the rules contemporary in England, no running with the ball was allowed, though it might be batted or dribbled toward the opponents' goal. A team was composed of two backs, sixteen rushers, and two rovers. The backs corresponded roughly to our present backfield, the rushers made up the line, while the rovers acted somewhat as two quarterbacks, whose duties were to keep their eyes upon the ball and be in all parts of the field. While this early form of the college game was still in vogue in our country, the first international match was played between a team from Yale and one composed of old Eaton (one of the big English schools) players.

English rugby was introduced at Harvard from Canada in about 1875, and in 1876 the Rugby Union rules were adopted. From that time on the English game was modified from year to year, gradually changing to the well-known American collegiate football. In 1905 there was a general outcry against the roughness of the game, which had that year resulted in the serious injury or death of several players. The rules committee was forced by public opinion to make some radical changes in the play, and in 1906, in an endeavor to make the game open, the distance to be gained in three downs was increased from five yards to ten yards, and the forward pass introduced. Slight changes were made from year to year, but 1910 was to witness the most sweeping changes in the rules, and so in the character of the game. Pushing and pulling of the man with the ball, together with interlocked interference, were prohibited, and the forward pass was allowed to be thrown from any point five yards back of the scrimmage line. The next two rules committees did much to make the game more open by increasing the downs allowed for gaining ten yards to four and by removing the fifteen-yard penalty attached to a failure of the forward pass. Later on several minor rules were amended or new ones added, shortening the playing field by ten yards, and prohibiting the flying tackle, but these changes were slight, and had little to do with the larger evolution of the game of American collegiate football.



THE RED AND WHITE.

THE SUBSTITUTE.

T. L. BAYNE, JR., '14.

From the grandstand there was little to distinguish Henderson from the other substitutes, who resembled Indian braves as they squatted on the side-lines, wrapped in their gay blankets. But who was interested in substitutes when there was being played the last quarter of the Big Game.

Both elevens had passed through a hard season of training, both had played many games, yet all of it was but preliminary to the Big Game, the supreme test of all, the test of the muchvaunted strength and skill of the visitors and the dogged pluck of the home team. From the first kick-off the invaders had carried the fight into their weaker opponents' territory, but there they met a fierce, stubborn defense which bewildered them. Once they bore the ball to the very goal line, but their redoubled attack found its match in a defense that grew in strength threefold. A savage, smashing tackle shook the ball from an invader's arms, and it was the defenders'. They couldn't fail behind their own goal posts. The ball was snapped to the back, he swung the full energy of his body into the kick, and the ball rose from the scrimmage and through the air. It fell into the arms of the invaders' quarterback, who had scarce time to grasp it tightly before he was thrown.

All of these stirring happenings formed but a secondary impression of the game for Henderson, for his whole being was concentrated on watching the big left tackle of his team. All of the substitute's thought was concentrated in the desire that the big tackle might stand against the repeated rushes that were directed at him. He willed with all his power that his own strength might, by some miracle, glow within the varsity man against whom he had striven in practice. "Oh," he muttered to himself, "if Jim can only stand up under those line plunges and we can hold 'em."

A few minutes ago, between the halves, Henderson had

watched the varsity players with envy, and had perhaps voiced to himself the secret hope that the left tackle might be injured and that he might play in his place in the Big Game. It was true that Henderson's four years of patient service on the second team had won him the varsity insignia, but he had never played in a Big Game, and this was his senior year in college. Now, in the supreme desire that the team might win he forgot all selfishness, and became one of that half of the mighty throng of spectators that fought in spirit with the desperate eleven that now gave way foot by foot before the invaders.

When the elevens scrambled to their feet from a deadlock scrimmage the left guard on the home team lay sprawling. While the referee and one or two players bent over the stricken man, the substitute next to Henderson had been electrified into action by a curt command from the coach. He sprang to his feet, casting off his blanket, and began to run up and down the side-lines. The injured guard had struggled to his feet, but limped painfully. As the guard's substitute, in warming up, came near Henderson, he said: "Henderson, old man, I wish you were going in."

"That's all right, Scotty, you go in and stop 'em. And look, tell Johnson at left tackle that he is charging too low, and to watch out for that fullback's knees. He lifts them high."

"All right, old man," replied Scott, pulling off his heavy sweater at a nod from the coach. Then, followed by the eager eyes of the other substitutes, he ran gayly out on the field. As he passed the limping varsity man he received a hearty slap on the shoulder and a "Charge 'em, old man; we've got to hold 'em." The referee nodded as Scott approached to notify him of his substitution to the injured guard's place. The whistle shrilled and the teams lined up.

Back, back, foot by foot, the plucky defense of the home team was driven. Again the goal posts were behind them, and they willed exhausted powers to do deeds beyond their fresh strength of the first half. Two minutes to play now, could they hope to summon failing strength to this supreme test. Once, twice they held like a wall; then the left tackle weakened, the wall of defense crumbled, and over him charged the invaders. The ball was only a foot from the goal. The very being of Henderson was with his team in those last courageous stands, and he was first to see that the tackle was down. A curt "Henderson!" from the coach, and the substitute had dropped his blanket and was on his feet. He ran up and down a few feet of the side-lines, his eyes always on the dazed varsity tackle. The coach slapped him on the shoulder, then said: "Your chance at last, boy; stop 'em."

"I will," he answered.

As he raced toward the referee the stands behind him burst into a thunderous shout, for they knew what it meant to him and to them. Now he was in the line, shoulder to shoulder with the team, one of the wall that must stop the invaders. Every atom of his body tinged with the will to do. As the sharp, hoarse voice of the other team's field general rang out in the signals, Henderson glanced up to search out the direction of the attack. With fierce joy he saw it launched at himself and the guard by his side, and charged with him to stop it. He shoved his tired opponent down, but the big guard, his teammate, had been overturned, and he was left to meet the first shock of the plunge alone. He must stop that charge.

"Charge low, watch that fullback's knees," he muttered.

Into him came the lust of the fight, and he met the rush of his opponents. He felt himself slipping and called on all his strength. Some of his teammates were shoulder to shoulder with him now, and they held the swaying mass of men that loomed up before them. The mass crushed heavily against him and his teammates, threatening to sweep over them, over the line. Much of the force of the invaders' attack seemed to be directed at Henderson alone, and for a moment he felt that he would be pushed aside to let the fullback through the line. All the strength of those four years of longing for this moment was his for an instant. He strained against the giant bulk that threatened to crash over him. He held them for what seemd an age. As they pressed him back the whistle saved him.

A shouting, swirling mob streamed out from the grandstands, and the substitute with the others was borne in triumph from the field. In a blissful daze he looked into the happy, worshipful faces below him. He was experiencing joy behind expression, for had he not played in the Big Game. As if in a distance he heard some one shout: "O, fellows, give a yell for Henderson; he held 'em in the last ditch."

A TRUE SPORT.

J. G. BOOKER, '17.

The fellow who sticks his thumbs under his suspenders and boasts of "what we did" when his home team wins, is seldom the loyal man. The guy who crows and yells and dislocates his limbs to show his spirit over a little gain is usually a fake. The sport who bets on a cinch, talks about his "good money" and knocks the other side has almost as much nerve as a "nigger in a graveyard." The kike who growls at, and "cusses" his team because he lost his money ought to go "home to mama." But the real, true, loyal sport of the old school is the boy who grins in victory and smiles in defeat, who congratulates the winners and sticks to the losers, who bets on equal chances and calls all bluffs. He never brags when he wins and never squeals when he loses.





A. AND M.'S NEED OF MORE ATHLETICS.

In a recent issue of one of our foremost periodicals there appeared a photograph of a crowd at the Polo Grounds, in New York, watching a baseball game between the Giants and a visiting club; under the picture was a title reading something like this: "How Nine Men Exercise for Thirty Thousand." Of course, such a statement is exaggerated, for, doubtless, the majority of those men endeavored to secure some sort of exercise during the week; but it is true of Americans that they do not enter as whole-heartedly into sports as some other peoples. We are content to look on rather than to take part in athletic sports.

It is a fact that in our colleges most men go in for some form of exercise, be it football, baseball, track, tennis, or something else, but there is little general enjoyment of sports. This is particularly true here at A. and M., where concentration upon the production of winning varsity teams has caused the neglect of inter-class, inter-dormitory, and inter-department athletics. This is unfortunate, for such contests allow the man of average or inferior ability to take part in the athletic life of the college, thus developing material for the varsity, making the individual more healthy, and so more efficient, and fostering college spirit by instilling in every one a love for clean sport, loyalty to a cause, and charitableness toward the player who makes a fumble.

But how may we institute inter-class, inter-dormitory, and inter-department contests? While it would be unpractical to follow absolutely the example set by Phillips Academy, Andover, Mass., of requiring every man to go out for some team, it would be possible for us to make a start in the right direction, if the Faculty, the Athletic Association, and the Student Body would co-operate to secure more contests, such as the inter-class football games, in which the general run of students could take part.

It is to the advantage of the Faculty to have in the college a large number of keen minds, which oftenest go with healthy bodies, and to have the men in college devote their spare time to athletics instead of to some useless or harmful pursuit. It is of value to the Athletic Association to produce varsity material in the colelge instead of searching for it far and wide. It is to the students' pleasure and enjoyment to have sports and contests for all. Then, if it is to every one's advantage, let us get busy and make a start by having a better series of inter-class football games, several field days and track meets, and some good class baseball games. Whatever we do, let's get to work and have more days of healthful fun on "The Hill."

A PLAINT.

O, wanton Wind of the Moorland, Playing with my loved one's tresses, Why are thou alone permitted, With thy meaningless caresses, To embrace so rare a form ? Such mystery my heart distresses.

-William Muller Bayne.

THE RED AND WHITE

THE MONTHLY MAGAZINE OF THE STUDENTS OF THE

NORTH CAROLINA COLLEGE OF AGRICULTURE AND MECHANIC ARTS.

[Edited by the Pullen Literary Society (P. L. S.) and the Leazar Literary Society (L. L. S.).]

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WHO'S TO BLAME?

Doubtless there was the usual unfavorable criticism aimed at the Red and White when the first issue appeared. This adverse comment was directed, most probably, at the paper for two reasons, its late appearance and the meagerness of its contents. The editors ask your indulgence toward their failure to give you the magazine promptly, but they offer no apologies for the magazine itself.

The Red and White is the magazine of the A. and M. students, and they have no right to complain of its poor quality as long as they contribute no manuscripts to fill its pages with readable stories, essays and poems. If the students are content to let the Red and White represent the literary efforts of the editors, the faculty, and the friends of the college, with only an occasional contribution from them, they should be kindly in their censure of work which represents painstaking effort to a degree of which the critics, as long as they make no such effort themselves, can form no opinion.

THE WAU GAU RAC.

Much praise is due the editor of the Wau Gau Rac, who has made it this year a snappy, interesting paper. Our newspaper now compares favorably with the best college periodicals of its type in the South. Few of you know the amount of time which the editor of the Wau Gau Rac devotes to the periodical to maintain its standard of interest. After a moment's thought, however, you can all form an idea of how hard it must be to run a weekly newspaper almost singlehanded. Bearing this fact in mind, your criticisms, if any, should be sparing, and your praises even more generous.

EFFICIENCY.

At the present we hear a great deal of efficiency, education for efficiency, etc. Unfortunately the great majority of the



THE ORCHESTRA.

The desire to organize an orchestra has ever been the dream of the musically gifted students of A. and M. In the past attempts have been made to arouse interest in such a project, but it remained for this year to bring into being a real college orchestra. The college needed such a medium for the self expression of her students and wanted such a means for the pleasurable employment of leisure hours; therefore, too much credit cannot be given the men who organized and who now compose the membership of the A. and M. orchestra.



EXCHANGES

L. M. CRAIG, EDITOR.

The Red and White acknowledges with thanks these exchanges: The Richmond College Messenger, the Davidson College Magazine, the Emory and Henry Era, the Clemson Chronicle, the Randolph-Macon Monthly, the Georgetown College Journal, the Trinity Archive, the State Normal Magazine, the Yellow Jacket (Georgia Tech.), the Acorn (Meredith College), the St. Mary Muse, the University of Virginia Magazine, the Criterion (Columbia College, S. C.), and the Wake Forest Student. LOCALS E. B. Nichols, Editor.

The Red and White wishes to express its regret that A. and M. should have to give up Mr. W. F. Morris, and wishes him the best of fortune in his work as engineer for a new oil mill at Lillington, N. C. We shall miss him the more because he, as an A. and M. graduate (1909), took an unusual interest in all phases of student life.

H. B. Briggs, '13, who has been with the Westinghouse Machine Co., of Pittsburgh, since graduating, is to succeed W. F. Morris as an instructor in the Mechanical Department. He is an honor graduate, and when in college took an active part in undergraduate life.

J. W. Sexton, '10, came to the Georgetown game. He pitched "star ball" for A. and M. when he was in college, afterward going to the Virginia League. He has retired from the diamond to accept a position with the S. A. L. R. R.

P. A. Holt, '13, came down to the Fair from Graham, N. C., where he holds a position with L. Banks Holt Manufacturing Co.

Dr. Fred Anderson, coach of last year's baseball team, was here for the Georgetown game. He has signed up again to coach our team, and will report here February 1st to take up his spring training, instead of with the Boston Americans, of which club he is now a member. Dr. Anderson, who is a dentist by profession, pitched for Brockton, Mass., during the early part of last summer, winning 75 per cent of his games. He was bought by the Boston American club for \$6,000. When he was here Fair Week he told one of the students that he was going to hunt alligators in Florida this winter.

Dave Robertson and Frank Thompson have run down several times from Wake Forest, where they are coaching the football team.





"Strawberry" Jones, '10, who was Chief Rooter in his senior year, paid the "Hill" a visit a short time ago. He holds a position with the A. C. L. at Trenton, Fla.

C. F. Gore, '13, who managed the Red and White his senior year, was on the campus recently. Gore is doing highway construction work near Wilson, N. C.

"Fido," '13, A. and M.'s great long-distance track athlete, who holds the record for the cross-country run, visited us a short time ago. He is with the Atlantic Coast Realty Co., at Greenville, N. C.

O. W. Smith, '12, major of the battalion, ran down within the past few weeks to see his friends in Raleigh and in the college. Since his graduation he has been employed by the Foose Gas Engine Co., of Springfield, Ohio.

Joe Cherry, ex-'10, of Windsor, N. C., was here for the Fair.

"Johnny" O. Rankin, 1913 Business Manager of the Agromeck, attended the Fair Week game. He is on the twentyfour-thousand acre Gates Farm, at Hoffman, N. C.

W. H. Eaton, '09, was married on October 15th to Miss Fannie Moss Coggin, of Palmerville, N. C. Mr. Eaton is dairy experimenter for the State.

M. Liferock, '13, is with the U. S. Drainage Engineers, who are making a survey for drainage purposes in the eastern part of the State.

J. H. Little, '08, who was here a few weeks ago, is traveling for the Schenectady branch of the General Electric Company.

"Bill" Cole, who came to the Fair and Georgetown game, is farming at his home in the eastern part of the State.

Colin G.Spencer, '13, is now superintendent of the Murray Hill Farm, near Mebane, N. C.

J. M. Smith, '12, "Archie," was here November 17th. He is farming and starting an orchard in Surry County.

Walter R. Mann, '12, is now serving with the Philippine Constabulary.

BREWSTERS IN NAPLES.

RALEIGH PEOPLE CROSS AND SOJOURN IN SUNNY LAND.

Dr. and Mrs. Joseph Fergus Brewster, former Raleigh people, are in Naples as the first terminal of their bridal tour and enjoying the sunny land after a stormy passage.

Mrs. Brewster, who is remembered as Miss Sarah Burkhead, writes interestingly from that place, to which they went directly after their marriage in Whiteville six weeks ago. The weather is almost midsummer in warmth.

Dr. and Mrs. Brewster will spend half a year abroad. The doctor will study in Berlin, from which university he received his Ph D., and will continue his research work which he did here with the experiment station. They will return to America near the middle of next year, but will not live in Raleigh.

GENERAL ORDERS NO. 1.

November 13, 1913.

The following appointments are hereby made in Company Q, to take effect imendiately:

To be general, J. B. Rees; major general, J. W. Ross; brigadier general, C. M. Brickhouse; adjutant general, C. R. Bailey; lieutenant general, W. R. Patton; colonel, Paul King; lieutenant colonel, T. W. Nicholls; major, D. A. Leard; lieutenant adjutant major, E. P. Rouse; adjutant, J. Fontaine; captain, T. W. Porter; commissary captain, M. L. Livermon; quartermaster, H. V. Biberstein; quartermaster sergeant, H. W. Bullard; first lieutenant, J. R. Franck; second lieutenant, G. H. Anthony; third lieutenant, H. Bailey; first sergeant, F. B. Morton; second sergeant, W. B. Foster; third sergeant, W. H. Griffin, Jr.; fourth sergeant, V. W. Breeze; first corporal, R. A. Gill; second corporal, W. L. Jewell; third corporal, T. R. McDearman; fourth corporal, F. E. Patton; fifth corporal, D. E. Roberts; sixth corporal, C. S. Andrews; chief trumpeter, T. L. Bayne, Jr.; buglers, W. N. Johnston, W. M. Jones, T. G. Monroe, F. H. Houck; drum major, L. M. Craig; band captain, John Harvey, Jr.; first band lieutenant, W. B. Little; second band lieutenant, H. K. Nash, Jr.; first sergeant band, E. L. Coble; second sergeant band, W. O. Potter; third sergeant band, T. L. Roberson; fourth sergeant band, W. G. Credle; first corporal band, F. D. Poisson; second corporal band, W. T. Hurtt; third corporal band, R. O. Caldwell; chief of signal corps, G. G. Schmidt; cavalry, E. B. Nichols; surgeon, J. E. McNeely; water boy, C. L. Vann; warden of prison, Z. W. Taylor; cook, J. W. Watts, Jr.; chaplain, R. A. Plyler; hearse driver, S. E. Menzies; "only a private," J. R. Leguenec.

(Signed)

A. A. FARMER, "Commander-in-Chief."

ATHLETICS

B. O. AUSTIN, Editor.

A. M. C., 26; DAVIDSON, 0.

A. and M. defeated Davidson College, October 18, in a rather one-sided game by the score of 26 to 6. The Presbyterians made only two "first downs" during the contest, their score being made when Kiesler recovered a fumble and made a brilliant run for a touchdown.

Kiesler was the star for Davidson, while the whole Tech team played well, especially Riddick, Osborne, Sullivan, Van Broklin, McHenry and Cy Young.

Davidson.	Line-Up.	Å. and M.
Brownlee	. Left End	Self and
Howell (Capt.)	Left Tackle	Matta
Brady	Left Guard	Anthony C II
Peters	Center	Anthony, G. H.
Glour	Right Guard	Deve Deve Deve Deve Deve Deve Deve Deve
Anderson	Right Tackle	Deauregard
Crayton	Right End	Uooke
Elliott	Quarterback	Von Deull'
Walker]	Right Halfback	D'II'I
McKimmon	Left Halfback	····· filddick
Somerville	. Fullback	Sullivan
Substitutions-Rober	tson for Andom	on, Kiesler for Som-
erville, Anthony, O. S.,	for Seifort Wis	on, Miesler for Som-
Ormond for Anthony, (H Ochomo	for Dill' beauregard,
for Tenney, Rice for V	an Broblin Ver	for Riddick, Riddick
Young, R., for Riddick	Officiala, D	ing, C., for Sullivan,
Bosnoba Callana :	Diffais: R	eteree—Sampson, of

Roanoke College; umpire—Reeds, of Oklahoma; head linesman—Wilson, of Lehigh. Summary: Touchdown—Riddick, Ferderber, Van Broklin, Osborne and Kiesler. Goals—



MC DOUGALL


Riddick (two). Time of quarters-10 minutes each. Attendance-1,000.

A. M. C., 12; GEORGETOWN, 0.

The "Techs," on October 23, avenged their defeat of last year by taking the Fair Week game from Georgetown by the decisive score of two touchdowns to nothing. Tenney starred by making both touchdowns.

The whole A. and M. team played the game of their lives, and Captain Costello, of the Georgetown eleven, stated after the game that A. and M. had one of the best teams in the country.

After the game the whole Red and White eleven were borne off the field on the shoulders of the students.

Georgetown.	Line-Up.	A. and M.
Bergen	Left End	McDougal
Moriarity	Left Tackle	Hurtt (Capt.)
Lawler	Left Guard	Anthony, G. H.
Petritz	Center	Plyler
Dougherty	Right Guard	McHenry
Brennan	Right Tackle	Cooke
Donnelly	\ldots Right End \ldots	Ferderber
Costello (Capt.)		
Murray	. Right Halfback .	Riddick
Corklin		
Kelly	Fullback	Tenney

Substitutions—Anthony, O. S., for Ferderber, Beauregard for McHenry, Osborne for Tenney, Winston for Anthony, G. H., Seifert for McDougal, Landeau for Corklin, Cusack for Donnelly, Weems for Murray, Donosky for Lawler, Callon for Weems. Officials: Referee—Crowell, of Swarthrore; umpire—Burgen, of Princeton: head linesman-Deenison, of Pennsylvania. Time of quarters—15 minutes each. Attendance—3,000.

A. M. C., 37; WAKE FOREST, 0.

The Farmers overwhelmed the Baptists November 1st by the score of 37 to 0. It was A. and M.'s game all the time, and the substitutes were put in toward its close to show what they could do.

Wake Forest.	Line-Up.	A. and M.
Cuthrell	Left End	Anthony, O. S.
Carter (Captain)	Left Tackle]	Hurtt (Captain)
Camp	Left Guard	Anthony, G. H.
Shepard	Center	Plyler
Stallings	Right Guard	McHenry
Moore	Right Tackle	Cooke
Jones	Right End	Phillips
Billings	Quarterback	Rice
Trust	Right Halfback	Riddick
Horne	. Left Halfback	Cy Young
Savage	Fullback	Skarry

Substitutions—Powell for Carter, White for Jones, Tyner for Trust, Lee for Horne, Seifert for Anthony, O. S., Winston for McHenry, Beauregard for Cooke, Ferdenber for Phillips, R. Young for Skarry, Skarry for R. Young. Officials: Referee—Fetzer, of Davidson; umpire—Reeds, of Oklahoma; head linesman—Wilson, of Lehigh. Time of quarters—11 minutes each. Attendance—1,000. Summary: Touchdowns—Van Broklin (3), Skarry, Riddiek. Goals from touchdowns—Hurtt (4). Goals from the field— Riddick.

V. M. I., 14; A. M. C., 7.

A. and M. received her first defeat, on November 8th, at the hands of the Virginia Military Institute. The punting of Youell, of the cadets, was a big factor in his team's success. The Farmers were handicapped by the absence of some of their strongest men from the first line-up.

CROSS-COUNTRY RUN.

T. L. Milwee, 1916, won the annual three-mile race from the Capitol Building to a point near the college's Textile Building and return, his time being 16 minutes 53 3-4 seconds, eight seconds short of the record made by F. S. Smith.

There were thirteen contestants in the race, the first four receiving prizes as follows: T. L. Milwee, first, medal; R. P. Harris, second, suit-case; V. A. Johnston, third, sweater; and D. E. Roberts, fourth, a Stetson hat. The first prize was given by the Athletic Association, while the other three were the generous gifts of the Raleigh merchants, viz.: C. R. Boone, Cross & Linehan, and Whiting & Horton.

Officials were: Starter—W. O. Potter; judges—E. B. Nichols and A. J. Phillips; timekeepers—A. C. Peeds and A. A. Farmer; judges of course—R. Crowder and D. R. Hooper.

To aid the students in "doping out" the result of the Washington and Lee game, the Red and White gives the statistics of both teams:

WASHINGTON AND LEE FOOTBALL TEAM.

		Yrs. on	
Name. Pos. Prep. School Team.	Wt.	Ht.	team
Barker, r.e., King College	150	5-10	2
Miles, r. t., Erasmus High, Brooklyn	185	6-41/2	3
Neblett, r. g., William and Mary College	160	6-1	1
Barrow, c., R. M. A., Bedford City	165	6-1	1
Miller, l. g., Georgetown Prep	254	6	4
Shultz, l. t., Logansport H. S	193	6-3	2
Hieatt, l. e., Univ. of Texas	148	6- 1/4	2
Donahue, q. b., Mercersburg Academy	152	5-7	1
Lile, r. h., Castle Heights	158	6	2
Beuhring, f. b., Marshall College	195	5-11	3
Young, I. h., Marshall College	161	5-11	1
Smith, l. h	145	5-10	1
	163;	Bryan,	178;

Dingwall, 185; England, 145.

	ght of team	
From tackle	to tackle	193
Backfield	· · · · · · · · · · · · · · · · · · ·	162

A. M. C. FOOTBALL TEAM.

		Ŷ	rs. on
Name. Pos. Prep. School Team.	Wt.	Ht.	team
Anthony, O. S., l. e., Shelby H. S	155	5-8	
Hurtt, l. t	173	6-11/2	4
Anthony, G. H., l. g., Shelby H. S	169	6	4
Plyler, c	180	6	2
McHenry, r. g., Louisiana State Univ	187	6	2
Beauregard, r. t., Western H. S. of Wash-			
ington, D. C		5-10	1
Ferderber, r. e	170	5-11	1
Van Brocklin, q. b., Georgetown Univ	160	5-6	1
Sullivan, l. h., Holy Cross	160	5-10	1
Tenney, f. b., Brown Univ	190	5-11	1
Riddick, r. h., Wake Forest College	176	6-1	1
Cooke, r. t	190	6	2
Proffitt, 1. g	190	6-2	sub.
Young, C., r. h., Bingham, Asheville	150	5-10	1
Skarry, f. b	164	5-9	sub.
Rice, q. b., East H. S. of Cleveland	138	5-8	1
Winston, r.g., Horner	170	5-11	1
Young, R., l. h., Asheville H. S	170	6	sub.
McDougal, r. e., Phillips-Exeter Acad.	175	6	1
Seifert, l. e., New Bern H. S	150	5-8	1
Average weight of team		1731/2	
From tackle to tackle		176	
Backfield		171	
		0.000	

SCIENCE

A. J. DOOLITTLE, Editor.

IS THERE TO BE A TUNNEL UNDER THE ENGLISH CHANNEL?

The problem of constructing a tunnel between England and the mainland of the continent of Europe is again under consideration by the British engineers. As far back as 1874 the British Foreign Office approved of the idea, but the army came to the front and objected to its construction upon the ground that such a passageway would make the British Isles vulnerable to an attack from Europe. From that time on the government opposed the plan, and it was only recently that the project came again into favor.

Expert engineers have stated that unbroken rail communication between England and France might be successfully carried out by a bridge, a tunnel, or a train ferry. It has been estimated that an efficient ferry service would cost \$10,000,000, or a tunnel could be constructed for less than \$40,000,000, or a bridge built for \$100,000,000. Of the three the tunnel has been given the most consideration as being very practical, and likely to endure for a long period of years.

THE PASSAIC VALLEY SEWER.

The last twenty miles of the Passaie River, of New Jersey, is, at present, little better than an open sewer, the sewage from a population of two-thirds of a million pouring into it, and adding to a bed made up of the sediment that has been accumulating for years. The liquid and floating matter flow into Newark Bay from the river and finally empty into the ocean. For years this river has been a menace to health.

Some three or four years ago it was decided to build a

trunk sewer parallel with the river and terminate it in New York Bay. The sewer was to start at Paterson, the city farthest north, and to run southward through two other large cities on the river banks, Passaic and Newark, the area cared for being eighty square miles and containing twenty communities. It was estimated that by 1940 there would be one and six-tenths millions of inhabitants in this portion of New Jersey.

The sewer, which is now under construction, starts with a diameter of four feet at Paterson, gradually enlarging to thirteen feet at New York Bay, and is built entirely of concrete. The work is mostly open cut, but thirty per cent calls for pneumatic tunneling, and at one place it passes through the bed of Newark Bay at a depth of two hundred feet. The discharge into New York Bay is forty feet below the surface of the water, and passes through numerous outlet pipes to distribute the waste material over an area of three and a half acres.

The sewer, two-thirds of which is now under contract and fifteen per cent of which is completed, when finished will have a total length of twenty-six miles.

THE SAND HILLS OF NORTH CAROLINA.

L. M. SMITH, Secretary Sand Hills Farmers' Association.

For a long time the people in other parts of the State thought that the sand hills of Moore and adjoining counties were designed to hold the rest of the country together and not meant to grow crops, but we are showing them that they are wrong.

This section was originally settled by the Scotch, or people of Scotch descent. Most of the early immigrants settled along the creek bottoms, grew some corn and home supplies, depending largely on the cattle that they raised for what money they needed. On account of the free range then obtainable, the cattle got their own living along the creeks, costing their owners very little and enabled them to live well without much work.

Then the turpentine industry opened up, and was carried on for a number of years. After the turpentine had all been taken out, the lumber men came, and cut the long leaf pine that grew on the higher ground, the best growth of long leaf pine that has ever been cut anywhere on account of the type of soil that it grew on. No one thought for a long time that crops should be grown on the cut-over sand hills, but a few men thought that, where the climate is as near ideal as it is here and the rainfall as bountiful as the rest of the State, that crops could be grown, and grown profitably, so they tried and today you will see as good farms as anywhere in the State.

Because our land is sandy and well drained, we don't have to wait three or four days after a rain to plow, so we can work with less loss of time for both men and horses, which means a material difference in the cost of production. On account of the texture of our soil and the absence of rocks or stones the land is easier and cheaper to cultivate.

The fact that there is not as much plant food in this soil as in some others of the State is no serious handicap to a good man, for the farmer of today is beginning to realize that he is a farmer and not a miner, and if he expects to succeed that he must treat his land as the depositor treats his bank, he must keep on putting in something if he expects to keep taking out, the depositor puts in money and draws checks and the farmer must keep putting in plant food if he expects to keep drawing good crops.

Our soil responds very readily to the proper treatment and the care that all land should receive, and if a man will keep some live stock, practice green manuring, grow cover-crops and maintain a proper rotation, he can grow better crops in this region at less cost than in most parts of the State.

We have more good roads, sand-clay type than any other

section of the State, and they are cheaper to maintain than any good roads that have ever been built. We have a good system of schools that is being made better each year. We have rural telephones connecting with the towns. The farmers here practice more diversified farming than in any section that I know. We have commercial peach orchards, pecan orchards, dewberry farms, vineyards of both bunch and scuppernong grapes, cotton farms, melon growers, dairy farms, beef cattle, and hog growers and truckers. There are some good Percheron stallions around here and a number of farmers have good mares and are raising good heavy work horses. There has been sown more clover, vetch, oats, and rye around here this fall than there ever has been before.

In my travels this year I visited a large farm, managed by an Λ . and M. man, and saw two crews with stump pullers pulling big pine stumps, and in the same field of three hundred acres there was a traction engine with a gang plow consisting of six extra heavy twenty-inch dises with a smoothing harrow hitched behind it, plowing and harrowing one acre per hour. On this farm there is planted one hundred and thirty acres of corn, fifty acres velvet beans, a small amount of cotton and two hundred and fifty acres cow peas. Besides this watermelons were grown for the northern markets. There will be on this place this fall two hundred acres of vyetch, four hundred acres of oats, and four hundred acres of rye.

I had a talk with another man that has twelve acres in cotton which will make twelve bales at least, he does all.his work with the help of his children. Besides cotton and corn as money crops, he grows about everything that can be grown for home consumption, always having some meat and corn to sell. He has a nice comfortable home and his family get something out of life besides drudgery.

Still another man is opening up a large farm near Jackson

Springs with an A. and M. manager; he is going into the raising of beef cattle and already owns a fine Aberdeen-Angus bull to head his herd of good heifers. He has four hundred acres under cultivation now and will clear two hundred more this fall. He has purchased and is now fattening one hundred and fifty cattle from the mountains of this State. While he expects to make money on the beef he figures that even if he does not clear anything on the cattle he will certainly not lose, and will be way ahead on the manure which he will get for nothing.

There is farmer man here who is growing long staple cotton with marked success, besides operating a dairy that pays him well.

An A. and M. man, who is manager of a farm near Aberdeen, has one hundred and thirty acres of corn which will make an average of sixty bushels per acre. This corn is on land that has been cultivated for only two years.

There is a large dairy and hog farm near Pinehurst which is the equal of any in the State. The owner of this farm had this year a field of eighty-three acres that made one hundred and forty tons of cow pea hay, and seventy-five acres of silage corn that averaged ten tons per acre.

A peach orchard of ninety acres, owned by an incorporated company, this year paid a dividend of forty-five per cent on the capital stock.

There were a number of men around here this year who grew tobacco, and made good crops, the grade comparing favorably with any in the State.

As an example of progressive farming, there is one man here who is so afraid that he will not get his cover crops in, that he has bought a headlight for his tractor and is working a day and night shift of laborers.

I mention these examples of what is being done, to show what can be accomplished by a man who has the ambition and push to succeed. It is a man's own fault if he does not make a success out of farming down here. We have the soil, the climate and the rainfall, the man must furnish the brains.

I will say to the student of agriculture, that if he wants to see some farming that is farming, and not mining, come to the sand hills, and we will show him.

(Signed) L. M. S.

THE VALUE OF A TRAINED MIND IN TEXTILE.

L. R. Gilbert, '08.

The time has come when it takes brains instead of brute force to run a cotton mill, or any part of one successfully. There was a time when all a man had to do to run a spinning room, for instance, was to be able to fix a frame. But that is past now and a man is expected to *manage*. You have to get production and you have to keep your cost per pound as low or even lower than it was years ago when labor was 40% cheaper than it is now. You have to pay dividends out of prospects that as viewed by the mill man of ten years ago meant starvation.

You pay more for labor and cotton now and get less for your goods, but must pay dividends. The only comment the directors will make is, "Mr. So and So, how much money are you going to make for us this period?" Now, in order to answer favorably you must have a technical knowledge of the mill throughout. You must have a trained mind.

Let us go back a few years. Labor then was very plentiful and very cheap. Overseers knew just enough to keep the time. Speed values, proper temperature and proper humidity were things they had heard of, but did not believe in. It sounds foolish, but that kind of a man exists even today. He will tell you, "I've been in a mill thirty years and ought to know what I am talking about."

Such men's minds are not the open receptables they should be, they are not trained to grasp new ideas, they are not trained to visualize a problem when it is stated. They have

to wait three or four years after everybody else is successfully using an idea before they will attempt to apply it.

Let us take one of you who never saw a cotton mill before coming here. You take the textile course as prescribed by the faculty. You grow from a narrow freshman into a fairly broad senior. You have been interested in your work; you have been lectured to by experts; you have been as finely drawn, and as keenly whetted as science could make you in the time given. You are turned loose with a trained mind, a mind trained to think. Then begins the work of the real man. If you are not afraid of work, the cotton manufacturing world will receive you with open arms, will take care of you, and will treat you a little better than you will treat it, for it is looking for trained men, men who can do things, men upon whom it can rely, men who when put on a job will handle the work scientifically, *thinking men*.

Now, the average cotton mill man doesn't come near the specifications, he will do well as far as he knows but without aid he will stop, he doesn't know how to think, his mind isn't trained as a life work.

Now, why textile, you will ask, why not some other course or profession? The other courses are good, but the same man will rise to a well paid position more rapidly in textile than in any of the other courses, because trained men are scarcer in this particular field, and because a man will absorb more in the same length of time than in the training for any other profession.

COMICS

T. W. PORTER, Editor.

A freshman wanted to know what "thumbling the ball" meant, and why it was a bad thing to do.

Waiter (in mess hall): "Will you take tea or coffee?" Sophomore: "Which ever you call it."

"Mose, where would you rather go, to heaven, or to hell ?"

"Boss, ah b'lieve ah'd rather go to that last place, 'cause the angels have to iron out the moon, hang out the stars an' polish the golden steps; while the little debbils only have to shovel coal, and sit by the fiah."

"Mabel, why do you take two pieces of cake?" "'Cause, ma, you told me not to ask twice for it."

"On the next play Futrell, for the visitors, intercepted a forward pass, and ran fifty years for a touchdown."

No wonder some of the spectators left before the game was over.

Lady (at piano): "They say you love good music." Youth: "Oh, that doesn't matter. Pray go on." Le Rire.

"Rastus" Bailey has no desire to become Professor Newman's adviser.

"Do you think he will have me when I am old ?" "There's one consolation. You will soon know."

"Ah-h! How is it I catch you holding my daughter in this fashion? Answer me, sir! How is it?"

"Fine! Very fine, indeed, sir!"

Puck.

"Don't all those Red and Whites make you tired ?" asked some one of a student who was helping the Business Manager carry them to the postoffice.

"No. I don't read them."

"Do animals possess the sentiment of affection ?" asked the school-teacher of the little girl.

"Yeth, ma'am; almost always."

"Good," said the teacher; "and now," turning to a little boy, "tell me what animal has the greatest natural fondness for man."

The small boy considered carefully and finally answered: "Woman."

FUTURIST DRAMA.

ACT I.

Curtain rises. Enter villian and heroine. "You are in my clutches!" "Never!" Enter hero. "??? Exit villian. Haste. Careless. Precipice. Oblivion. (Applause.)

ACT II.

Snow.

Enter hero.

"? ? ?." (Frigides pedes; pneumonia; specialists; flowers; tears; gloom.)

Curtain.

ACT III.

Enter village barber. (Some sport; perfume; poise.) Enter heroine. (Tears; mourning; weeds.) BOTH—! !!!?— Exit omnes. Curtain.

ACT IV.

(Sunshine and roses.) Enter crowd. Enter village quartette. Joy bells; crowd; rice. Barber shop chord. Kismet. Curtain

The little boy had brought home perfect school reports for several weeks and then his marks suddenly took a tremendous slump. His father viewed the last one in evident disapproval.

"How is this, son ?" he asked.

"Teacher's fault," said the boy.

"How is it the teacher's fault?"

"She moved the little boy that sat next to me."

"George Washington," read the small boy from his history, "was born February 22,, 1732, A. D."

"What does 'A. D.' stand for ?" inquired the teacher.

The small boy pondered. "I don't exactly know," he hesitated. "After dark, I guess."

Y. M. C. A.

J. R. WILLIAMS, Editor.

The Y. M. C. A. now has 299 paid-up members. At the time of the last issue of the RED AND WHITE there were only 172.

In the membership contest which was won by the group of old members, designated the "Blues," much good spirit was shown, and the contest found a fitting close in a spread given to all those old members who induced one or more new men to join.

The Association wants to thank the Meredith College girls for lending the charm of their presence to the recent reception.

The annual evangelistic campaign was conducted by Mr. J. M. Culbreth of Nashville, Tenn. He delivered six very interesting talks.

The gymnasium class which meets every Tuesday, Thursday, and Friday, has increased steadily in numbers, and promises to become a very popular means of securing systematic exercise.

The regular meetings have been well attended, and have promise of growing.

In their return match with the Raleigh Y. M. C. A. bowling team the A. and M. team was defeated on the college alleys by 32 pins.



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Once Upon a Time

ONCE there was really no way out of it for the farmer. Plodding home from the field with his team at close of day, he saw before him the waiting small jobs about the house, barn, and yard, jobs that took time and labor, and never seemed to end. There was water to be pumped, wood to be sawed, various machines to bernn by hand. But that was once upon a time. Today he lets the engine do it.

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