

ABSTRACT

Traumatic Brain Injury and the NFL: A Study of the Confluence of Medicine, Ethics,
and Social Mores in Professional Football

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The future of American football and the National Football League (NFL) is currently uncertain. Although football is America's most popular sport and the NFL has reached unprecedented levels of financial success, this popularity has declined in recent years. Medical research concerning traumatic brain injury in football players has changed the landscape of the sport, and the NFL has been very resistant to acknowledging these recent medical discoveries. This paper explores the history of professional football and the NFL's rise to power, as well as the debate over concussions that has occurred between the NFL and independent researchers over the last fifteen years. This paper also includes a discussion about the ethics of football, for players and fans, in light of the newly discovered dangers of playing the sport. The paper concludes with an examination of the current state of football and the NFL and what the future may hold for both.

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TRAUMATIC BRAIN INJURY AND THE NFL: A STUDY OF THE
CONFLUENCE OF MEDICINE, ETHICS, AND SOCIAL MORES IN
PROFESSIONAL FOOTBALL

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TABLE OF CONTENTS

| | | |
|--|-----------|----|
| Chapter One: Introduction: The Rise of Football and an Invisible Foe | | 1 |
| Chapter Two: The History and Development of Football and the NFL | | 5 |
| Chapter Three: The NFL's Concussion Crisis | | 22 |
| Chapter Four: Ethics and Professional Football | | 41 |
| Chapter Five: The Future of Football and the NFL | | 55 |
| Chapter Six: Conclusion | | 69 |
| Bibliography | | 72 |

CHAPTER ONE

Introduction: The Rise of Football and an Invisible Foe

“Winning isn’t everything, it’s the only thing.” -Vince Lombardi (Austin)

Vince Lombardi was the head football coach of the legendary Green Bay Packer teams in the 1960s. During his tenure, he led the team to multiple Super Bowl titles, and he is widely regarded as the greatest coach in the history of professional football. His name is forever engraved on the coveted Super Bowl trophy that every National Football League (NFL) team dreams of winning. In truth, Lombardi’s commitment to winning has come to epitomize the sport that has captivated America.

The influence of football on American society is undeniable. Football is woven into the fabric of American culture. Small towns across the country rally around local high school teams, college football dominates university campuses every fall, and every sports fan has a favorite NFL team. The sport has even been described as “secular religion” (McGrath). According to the National Collegiate Athletic Association (NCAA), in 2015, more than 49 million people attended a college football game (“NCAA Football Attendance”). Moreover, almost 18 million fans attended an NFL football game in 2016 (“2016 NFL Attendance Data”). The culture’s fascination with the game goes beyond just sitting in the stands, however. Gamblers bet millions of dollars on NFL football alone, with totals reaching 1.34 billion dollars in 2011 (Spear). Fantasy football, the latest iteration of football fandom, allows armchair quarterbacks to play the game online with teams comprised of hand-picked football players. About 32 million Americans spent

an average of \$467 per person last year playing fantasy football, according to the Fantasy Sports Trade Association (Goff).

Football captured the nation's imagination during the twentieth century when some of the most beloved movies and television shows focused on the sport. For instance, *Knute Rockne, All American* (1940) told the story of the Notre Dame football team and famously depicted George Gipp encouraging teammates from a hospital bed to "win just one for the Gipper." Forty years later, one of the movie's stars, Ronald Reagan, who delivered the famous line in the film, used this phrase as a campaign slogan in his 1980 presidential campaign. More recent popular American films have revolved around football. *The Blind Side* (2009) and *Remember the Titans* (2000) depicted the battle to overcome poverty and racism, respectively, against the backdrop of football. *Rudy* (1993) related the story of Daniel Ruettinger and his incredible perseverance to overcome great physical odds and fulfill his dream of becoming a football player at the University of Notre Dame. A recent popular television show, *Friday Night Lights*, revolved around a small-town Texas high school football team. Dramatic films such as *Any Given Sunday* (1999) provided a behind-the-scenes look at the ups and downs of a fictional professional football team. In *Jerry Maguire* (1996), a ruthless NFL sports agent has a crisis of conscience about his profession. The life of Vince Papale of the Philadelphia Eagles was depicted in *Invincible* (2006), a story of overcoming past demons and the disappointments of a failed career on the professional football field. These films have played a significant role in the rise of the sport within American culture.

Yet, America's love affair with football, particularly the NFL, has shown signs of waning as the sport has come under intense scrutiny in the last decade. Americans are

throwing the penalty flag on their favorite pastime. For critics, Vince Lombardi's timeless saying indeed appears to be the driving philosophy for this business giant, fostering a reckless approach to the sport that pushes ethical boundaries and generates controversy and scandal. Is winning really the only thing? Advances in science and medicine have revealed that football may have significant adverse effects on those who play the game, a conclusion that has met with strong resistance from the business offices of the NFL. Additionally, twenty-four hour news mills have highlighted many instances of drug abuse and domestic violence by the NFL's players. For example, the entire nation watched in disbelief the video of Baltimore Ravens' player, Ray Rice, knocking out his fiancé. As a result, the public has become increasingly disenchanted with professional football. A comparison of 2016 NFL viewership numbers to those of 2015 shows a drop of four percent, indicating that the NFL has lost about 800,000 television viewers (Marlow). Some detractors of the sport blame the attitude and spirit that football fosters in its players and viewers for many of society's ills, and calls to ban the sport have become intense, even provoking commentary from the White House (McDuling).

The ethical, medical, and societal debates about the sport are brightly highlighted by the NFL's continuing crisis involving head injuries and the league's supposed focus on player well-being. The battle, in all of its complexity and ramifications, reached a fever pitch when, in 2016, the NFL settled a class-action lawsuit that was filed by 4,500 former players (McCann). This lawsuit alleged that the NFL had long ignored, and even concealed from the public and its players, the dangers of concussion and traumatic brain injury, all for the sake of the organization's own profits and reputation.

So what brought the NFL to this point of crisis, even legal capitulation? Football has always been a brutal game. The history of the century-old sport is littered with stories of violence and personal suffering, both physical and psychological, brought about by the game. Only in the last ten years or so, however, has the NFL begun (or been forced) to address these issues and develop protocols to evaluate, treat, protect, and care for players who have and likely will suffer from concussions and traumatic brain injury. Why, then, has it taken so long?

This paper presents a study of football's turbulent history and its rise to become a billion-dollar industry, and the pressures brought to bear on the NFL by advancements in medicine, particularly those related to concussions and brain injury. It will also examine the problems with football from both a medical and ethical perspective and look ahead to what the future could hold for the sport. Football is a cornerstone of American culture, but evidence clearly shows that it also poses a potentially great risk to those who play the game; therefore, it is important to examine just how dangerous this game is, and consider whether it should be played at all. The unique history of the NFL and its rise to power led to its mishandling of the recent "concussion crisis," but, despite the many ethical debates and concerns about the future of the sport, continued compliance by the league and promising medical research on these issues should preserve the future of a sport that is loved by so many.

CHAPTER TWO

The History and Development of Football and the NFL

The multi-billion dollar phenomenon called American football comes from humble roots. That it survived at all is a testament to the energy and perseverance that characterizes so much of the nation's history. Football's story is filled with entrepreneurs who would not be denied, consistent innovation and organization, an innate American love for competition, and a violence that attracted a tough-minded fan base. Add the power of the unparalleled American media promotion machine and the result is the business juggernaut of today.

American football has a long history that began in the early nineteenth century. Over time, the game has changed dramatically and evolved to the point that it is barely recognizable when compared to the sport that was first played before the Civil War. Although the game has always been, and still remains, a grueling, violent sport, it has evolved from a rough and tumble, rugby-style game, with elements of soccer thrown in, into a sport focused much more on speed and athleticism. Not surprisingly, much of football's evolution has been in response to concerns about the physicality and violence of the game.

American football primarily developed from the English sport of rugby. Rugby was derived from the soccer tradition of England, which explains why football is often described as a cross between the two sports. The player pile-ups still seen today in football are the results of the original rugby influence (Weyand xv). As early as the 1820s, students at both Harvard and Yale were playing a form of football. Indeed, as

early as 1827, the first Monday of the fall term was reserved for the annual “football” game between the two lower classes (Weyand 1). Organized games were regularly scheduled at Harvard and Yale up until 1860 when the game was temporarily abolished because of its violence (Weyand 1). By that time, however, the game had been adopted at other Ivy League schools, as well as West Point and Rutgers. Amazingly, football was played at Princeton only after dueling was outlawed at the school in 1820 (Weyand 2). Apparently for all of its physicality, it was deemed less violent than dueling.

The game between Princeton and Rutgers on November 6, 1869 is believed by sport historians to be the first official college football game, with the victory going to Rutgers (Morris 1). While the game was thriving in the Ivy League schools and in the northeastern states, there existed no single form of the game. Some schools played a version of soccer, others played modified rugby, and still others played a combination of the two (Riffenburgh and Barron 8). This lack of formal, official football rules initially prevented football from gaining widespread acceptance as an intercollegiate sport (Weyand 3).

The history of football is one of constant rule changes. A convention in 1873 marked the first attempt to establish a uniform set of football guidelines, followed by another meeting in 1876. At that time, the Intercollegiate Football Association (IFA) was formed with representatives from Harvard, Princeton and Yale (Weyand 8). The IFA attempted to define the game of football with guidelines based on the British Rugby Union (“The History of Football in America”). These guidelines differed greatly from the modern game. For instance, football was originally played with fifteen men on a field and

the scoring system was vastly different from the standard scoring of today's game (Weyand 9).

The establishment of a governing body allowed the way the game was played to be changed quickly and consistently. It was in 1880 that the sport of American football as it is played today began to take shape. This transformation was primarily due to the efforts of Walter Camp, a great Yale rugby player and long-time Yale coach (Morris 2). Indeed, Camp became known as the "father of American football" because of his profound influence on the development of the rules of the game (McGrath). Historians have likened Camp to the first American president, George Washington: "What Washington was to his country, Camp was to American football—the friend, the founder and the father" (Riffenburgh and Barron 8).

Walter Camp preferred "order" rather than "chaos" on the football field (McGrath). He started to "tinker" with the rugby code in order to develop "an unambiguous code of football for intercollegiate play" (Morris 2). Consequently, Camp came up with what was described as a "game of technical coordination, specialized roles, and scripted plays" (Morris 2). He established the line of scrimmage, which eliminated the chaos of rugby scrums and initiated the exchange between a designated center and a quarterback, which led to the development of set plays (Morris 2). He also instituted a ball possession limited by a fixed number of downs and distance—originally established at three plays to gain five yards (Weyand 9). Camp's rules awarded six points for a touchdown and three points for a field goal, and he reduced the number of players per side from fifteen to eleven (Weyand 8). The down and distance system required the football field to be marked off in five-yard intervals, which resulted in the football field

being nicknamed the “gridiron” (Morris 2). These changes helped create a more exciting and visually stimulating game for an audience. College football soon became very popular, and, by the turn of the century, thousands of fans attended college football games (Morrison).

Yet, by 1905, football faced a major crisis. The headlines told the story: “Nineteen Killed on Gridiron; Football Claims a Heavy Toll in Lives” (*The San Francisco Call*, November 27, 1905). Walter Camp’s new football rules did not eliminate the inherent violence of the sport and the resulting traumatic injury to players. Consequently, critics and the press began to voice their concerns. *The Washington Post* reported in 1905 that in addition to the casualties on the football field, many more were seriously injured playing the game, suffering from internal injuries, broken necks, concussions, and broken backs (Zezima). Foreshadowing the NFL’s modern dilemma, calls to ban the sport sprang up and were led by Harvard President Charles William Eliot. He believed football was “lawless, brutal and a corrupting distraction” (Dayen). Americans seemed to be particularly disturbed by the death of Harold Moore, a Union College player. He died from a cerebral hemorrhage after being kicked in the head during a tackle in November of 1905 (Zezima). Consequently, following the 1905 season, none other than the President of the United States, Teddy Roosevelt, stepped into the public discussion about football.

Roosevelt was an avid football fan and loved the game because he believed it developed toughness, perseverance and courage in young men. He believed “abolishing the game would be simple nonsense, a mere confession of weakness, and result in society producing mollicoddles instead of vigorous men” (Flynn). He routinely recruited football

players to his infamous Rough Riders because he thought the football field was a training field for the battlefield (Miller 169). Others believe Roosevelt had a personal interest in making football less violent because his son, Teddy Roosevelt, Jr., played on the Harvard football team and had suffered a head injury during practice (Dayen).

In the fall of 1905, President Roosevelt assembled the coaches of Harvard, Yale, and Princeton at the White House for the purpose of changing the rules of football in order to make the game safer (Miller 186). The Washington Post reported that coaches and officials were summoned by Roosevelt “with a view to such modification of the rules as would eliminate its brutal features” (Zezima).

This gathering resulted in the formation of the National Intercollegiate Football Conference, an organization that would eventually become the National Collegiate Athletic Association (NCAA), college football’s current governing body. *The New York Tribune* heralded the anticipated actions of the newly-formed committee: “For Reform In Football: Committee Ready to Act and Radical Changes Assured” (*New-York Tribune*, December 13, 1905). The new guidelines doubled the yardage needed for a first down from five yards to ten, created a neutral zone between the two sides of the line of scrimmage, and banned the “flying wedge,” a play that resulted in serious injuries to players because of the mass pile-ups on the field (Dayen). Interference and blocking were legalized, which also altered the way the game was played (Weyand 180). The most important change to football made by the committee was the adoption of the forward pass. This was deemed a revolutionary change and made football a uniquely American game because it clearly distinguished American football from its rugby origins. Allowing a forward pass opened up the game, spreading the players across the entire field. In

particular, the forwards pass was intended to eliminate packs of players scrambling for the football, which is how most football injuries occurred (Zezima).

The committee's efforts were reported in the *Salt Lake Herald* on Monday, April 2, 1906: "Football Rules Made at Last: Committee Believes It Has Abolished Bad Features." As reported in the *Herald*, the committee, by adopting new rules was attempting "to open the game wherever possible and to eliminate unnecessary roughness and brutality" (*The Salt Lake Herald*, April 2, 1906). Later that year, the *New York Tribune* explained the new game of American football, complete with diagrams and illustrations, to the public in an article entitled "How To Play Football Under The New Rules" (*New-York Tribune*, September 23, 1906).

The new rules made the game more exciting, fast-paced, and entertaining. Consequently, football exploded in popularity. Although the Ivy Leagues are credited with making the game of football popular, schools all across the country began to play. In 1913, a rural Indiana university demonstrated the potential for the forward pass, and the "legend of Notre Dame football" was born (Zezima). The dramatic rise in popularity of the sport in the early twentieth century inspired an historic meeting that took place on August 20, 1920 in Canton, Ohio.

Before the meeting that gave birth to the NFL, however, professional football began in amateur athletic clubs, which sprang up across the North after the Civil War (Riffenburgh and Barron 9). Athletic clubs sponsored many amateur sports, and it was through these clubs that the game of football took hold in Ohio, New York, and other northeastern and Midwest towns (Mendez). Intense competition between two specific club teams led to the first professional football game.

At the time, football was strictly an amateur sport played for the love of the game. The concept of being paid to play sports was considered unsportsmanlike and dishonorable (Mendez). Professional athletes were described as “tramp athletes” and the “bane of the athletic world” (Riffenburgh and Barron 9). It was considered so dishonorable that, in order to preserve the integrity of the game and monitor amateur sports, the American Athletic Union (AAU) was formed (Mendez). Athletic clubs tried to get around the AAU and the stigma of earning a paycheck playing football by offering players intangibles, such as offers of future employment in factories or the payment of “expenses” for travel to away games.

The first professional football game was between the Allegheny Athletic Club (AAA) and the Pittsburg Athletic Club (PAC) in November of 1892, but only one of the players was actually paid (Barra). William Heffelfinger, known as “Pudge,” was paid \$500 to compete that day after a behind-the-scenes bidding war took place between the two teams (Mendez). “Pudge” was a former All-American football player at Yale, who had been coached by Walter Camp, but, who, after leaving college, went to work for the railroad because it was seen as a “step down” to play professional football (“Evolution of the NFL Player”). For years, there was some confusion among historians as to whether “Pudge” was in fact the first professional football player, but eventually an expense report for the game in 1892 was discovered which documented his payment. That report was subsequently deemed “pro football’s birth certificate” (“Evolution of the NFL Player”).

In the 1890s, college football was far more popular than athletic-club football. Because college was only an option for upper-class men, professional football emerged

as a working man's game played in small mining and manufacturing towns throughout Pennsylvania and Ohio (Riffenburgh and Barron 12). Consequently, it developed a reputation as a blue-collar version of college football. The earliest pro players were described as "everymen" ("Evolution of the NFL Player"). Football became something that laborers "tried to play to get out of [working in] the mill" (McGrath). People in the industrial North appreciated the toughness required to play football, and would become the game's most avid fans: people in the industrial northeast had a "blue-collar-work-ethic-type approach to life, and certainly people that grew up working in a mill were tough people that had to work hard and had to work tough jobs," and, consequently, they identified with and appreciated the hard work involved in playing football (McGrath). Professional football thrived in these communities because it "provided an alternative source of identity and entertainment for the working classes" (Morris 4).

Professional football was plagued by several issues as it grew in popularity in the early twentieth century. Rising player salaries, players moving from team to team for the highest bidder, and the use of college players playing under assumed names to preserve their amateur status were the three biggest problems the sport faced (Riffenburgh and Barron 14). To address these issues, a league was formed so that all teams would be operating under the same rules.

On August 20, 1920, a meeting was held at an auto showroom owned by Ralph Hay in Canton, Ohio. Representatives from the Canton Bulldogs, Akron Pros, Dayton Triangles, and the Cleveland Indians gathered to form the American Professional Football Conference (APFC). This organization would be renamed the National Football League (NFL) two years later in 1922 (Riffenburgh and Barron 16). The entry fee in the

newly-established league was \$100, and the local newspaper, the *Canton Evening Repository*, reported the goal of the new endeavor was “to raise the standard of professional football in every way possible, to eliminate bidding for players between rival clubs and to secure cooperation in the formation of schedules” (Klein). Canton, Ohio eventually became the site of the Professional Football Hall of Fame because of the city’s influence on the formation of the NFL (Klein).

In its early days, the NFL was little more than a loose coalition of regional teams. Professional football continued to be much less popular than college football, and baseball was still a fan-favorite, particularly since Joe DiMaggio was in the middle of 56-game hitting streak, a record that still stands. Professional football remained financially unstable as clubs folded and new teams were added to the league every year throughout the 1920s (Riffenburgh and Barron 15). In a move to eliminate economic uncertainty, then president of the league, Joe Carr, decided to eliminate the financially weaker teams and consolidate all of the better players into the twelve most financially stable teams. Consequently, the league began to move away from the smaller cities to larger communities on the East Coast like New York City and Buffalo (Carroll 1). These larger markets provided a wider fan base and increased attendance at games.

It was in 1925, however, that the future of the NFL truly changed. That year, George Halas, owner of the Chicago Bears, signed a college player named Red Grange to his club football team (Morris 5). Grange was considered to be “a pivotal individual in the emergence of the professional game” (Carroll 3). He was an enormously popular college player at the University of Illinois, whose talent earned him the nickname “The Galloping Ghost of the Gridiron” (Crouch). During his junior year at Illinois, 67,000 fans

turned out to watch him play Michigan in 1924, when Illinois dedicated its new football stadium (Carroll 2). This was a drastic change from the early days of professional football when crowds averaged around 4,000 fans (Klein). Halas was able to persuade Grange to turn pro after his junior year of college, and this was a driving factor in eventually changing the image of professional football—it was no longer seen as a league for men without a college education (Carroll 3).

Grange was enormously popular with college football fans and the sports press. Sports writers followed him to the professional game, which helped establish the game as a legitimate sport (Carroll 3). After signing with the Bears, the team toured the northeast, and the professional games drew enormous crowds because of Grange. Consequently, other popular college players were attracted to the NFL, resulting in increased attendance at professional football games. With the increased fan base came some economic stability for the NFL. As John Carroll noted, the “Galloping Ghost” started a “rapid transition of the NFL from a distinctively small-time operation in 1925, to a more firmly established league by the early 1930s” (Carroll 2).

The years following the Great Depression and the advent of World War II, however, brought significant challenges for professional football. After the stock market crash, most teams in small towns folded, and only the Green Bay Packers managed to survive (Morris 4). During World War II, 638 players or personnel associated with the NFL served in the armed forces, more than half of the entire league, and twenty-one players were killed in action (Oriard). George Halas, the owner who had signed Red Grange, was one of those drafted during the war (Oriard). At the time, teams carried only twenty-eight players on the roster. The manpower shortage forced teams to fill the roster

with men generally not qualified to be professional athletes: “There were guys with bad eyes, bad knees, bad backs, punctured ear drums, things that got you out of service, but not an NFL game” (Crockett). Some teams even combined rosters to field a team. In 1943, the Pittsburgh Steelers and the Philadelphia Eagles became the “Steagles,” and in 1944, the Steelers combined their roster with the St. Louis Cardinals to become “Card-Pitt” (Robinson). Perseverance and creativity among players and owners kept the NFL going during the war years.

Considering the chaotic struggles the NFL faced in its early years, it is difficult to believe that today it is the most valuable sports franchise in history—worth around \$45 billion by some estimates (Keenan). The affluence of post-WWII America has been credited with improving the fortunes of the NFL, for with a strong economy came disposable income, a demand for leisure activities, and new technologies, particularly the television set. The true catalyst responsible for the explosion in the popularity of the NFL, however, was the appointment of Pete Rozelle as commissioner of the league in 1960 (Anderson 151). One sportswriter said of Rozelle, “I firmly believe that when the final history of the National Football League is written, the all-time hero of the NFL, the man who contributed most to changing America’s Sunday afternoon watching habits, is Pete Rozelle” (B. Carter).

Rozelle’s appointment was a fluke. He was the compromise choice when league owners, after nine days of voting, were still split (B. Carter). On the twenty-third ballot, he was selected (Wallace). In the end, he was selected because had an unassuming demeanor and owners figured they could control him (B. Carter).

Rozelle was a public relations professional working for the Los Angeles Rams when he was named NFL commissioner (Anderson 151). It was this public relations experience that led to his success. He understood early what everyone understands today—media coverage can drive the popularity and profits of any commercial enterprise, especially sports. He immediately hired Jim Kensil, an Associated Press correspondent and sportswriter, as the league’s public relations director. Kensil worked to increase the quantity and quality of information—statistics, game analysis, and player information—the NFL gave to media outlets (Anderson 152). Predictably, greater media coverage led to greater interest in the game from the American public. He also moved the NFL headquarters from suburban Philadelphia to New York City, the epicenter of news media, advertising, and television (Wallace). Rozelle was tireless in cultivating both his and the league’s relationship with the media, and he especially had his eye on the developing phenomenon of television (Anderson 152).

The economic boom in America during the 1950s brought the television to most American living rooms. Invented in 1927, it did not become common until much later (Stephens). Before 1947, the number of homes with television was a few thousand, but by the 1990s, ninety-eight percent of homes had at least one television set. In 1964, color television was first broadcast in prime time, and TV was becoming the most important medium of the culture (Stephens).

Football was the ideal sport for the television because the action could be captured in a single camera shot. Short bursts of action allowed for frequent timeouts, perfect for commercials and commentary (McDuling). Hall of Fame broadcaster John Madden believed the sport worked so well on television because “we have change of

possessions, and there's a timeout during every change, and there's a commercial" (Deutsch). The sport also has natural drama, for example, do-or-die downs that occur in short intervals, which can be easily replayed and rebroadcast (McDuling). All of these factors contributed to the eventual success of football, and Pete Rozelle recognized the potential.

According to Peter King of *Sports Illustrated*, "Rozelle felt there were two keys to the future of sports in America: parity and TV" (King). When Rozelle took over the league was a fragmented collection of twelve separate franchises and each one was run as a stand-alone business (Anderson 153). He immediately began to develop a television contract for the league. Before Rozelle, each team negotiated its own television deal, so small market teams, like the Green Bay Packers, were at a huge financial disadvantage. (Anderson 153). Rozelle helped to push a bill through Congress that allowed a single-network contract, which replaced the twelve separate television packages (B. Carter). Although this decreased the amount of money the larger-market teams were making, it allowed each franchise to share equally in the revenue of the league, bringing financial stability to each team and a more level playing field among franchises (King). It also brought increased bargaining power to the league. According to football legend Vince Lombardi, "What Pete Rozelle did with television receipts probably saved football in Green Bay" (B. Carter). Rozelle implemented an "all-for-one, one-for-all" concept among franchise owners (Wallace). Popularity exploded since people all over the country were able to watch every team play. The first television contract in 1962 brought \$330,000 to every team, but it tripled to over \$1 million per team by 1964. Even though

big-city teams lost money in the beginning, they were able to increase revenues in the long run by agreeing to the deal.

In 1966, the NFL was feeling the competition from another football league. Known as the American Football League (AFL), it was formed by Lamar Hunt, who at the time was one of the richest men in America (Anderson 151). After months of negotiation, Rozelle persuaded the leagues to combine, and Congress exempted the merger from anti-trust laws (B. Carter). It was this merger that set up another of Rozelle's most famous accomplishments, the Super Bowl.

The first Super Bowl was known as the AFL-NFL World Championship and it was played in January of 1967 (B. Carter). Rozelle saw the potential for a championship game between the two divisions that could become a showcase for the league (Anderson 153). As Rozelle explained later in his life, "Our goal from the first was to make this more than a game, to make it an event. That was because of the initial perception that the champion of the AFL wouldn't be competitive with the NFL champion" (Oates). The ticket price for the first game was \$12, and Rozelle worried that that was too expensive (Oates). In 1969, superstar quarterback, Joe Namath, led the New York Jets to upset the heavily favored Baltimore Colts of the NFL, and the Super Bowl was on its way to becoming an event that would draw millions of television viewers. As Rozelle said, "When the AFL champions showed they could not only play competitively, but beat the NFL's best team, that set the pattern for the future. The game took off" (Oates).

In 1982, world famous Motown star Diana Ross sang the national anthem at the Super Bowl (Arguello). This started the trend of celebrity participation in the sporting event, which only increased the sport's popularity. Then, in 1984, Apple Computer

produced a television ad for the Super Bowl which is still considered the “greatest Super Bowl ad of all time” (Smith). The popularity of the commercial, and the commentary it generated, demonstrated what an ad purchased during the sporting event could accomplish for a product in terms of audience exposure and branding (James). Consequently, the NFL became even more prosperous. In 1967, 30-second commercials during the Super Bowl cost around \$42,000. In 2016, CBS charged \$5 million for the same amount of time, or \$166,666 per second (Schwartz).

In 1970, Rozelle launched ABC’s *Monday Night Football*, which today is one of the longest running television programs in history, second only to CBS’ *60 Minutes* (B. Carter). He was still trying to expand the football audience and build television exposure for the NFL, but he was limited because the professional football league was prevented from televising games on Friday and Saturday to avoid competition with college football (Elliott). At the time, ABC was last in the ratings and was willing to take a chance on Rozelle’s suggestion for a weekly prime-time, nationally-televised game. ABC treated the game as a show rather than a typical game broadcast by expanding the number of cameras used, creating a catchy theme song, and expanding graphics and player stats (Anderson 153). The network hired Howard Cosell, Don Meredith, and Frank Gifford to do the broadcasting. This broadcasting team forever changed sports commentary, turning it into entertainment rather than traditional play-by-play analysis (Dawidoff, “The Comprehensive Illusion of Football”). The weeknight football game became an event and has been described as “the single most influential sports series of all time” (Deitsch). Rozelle said of the prime-time broadcast, “There are a lot more TV sets in use on

Monday night than on Sunday afternoon. We're undoubtedly getting a lot of new fans" (B. Carter).

Back in 1963, during Rozelle's early years as commissioner, he established NFL Properties (Gunin). This entity manages the league's logos and sells officially licensed merchandise. His foresight in recognizing the potential revenue in jerseys, hats, and anything else bearing a team logo earned Rozelle the title "the pioneer of sports licensing" (Gunin). Last season, the league earned a record \$1.55 billion from merchandise sales (Garcia).

Although Rozelle stepped down as commissioner in 1989, the league continued to thrive (Gunin). The league's revenue in 2016, from television contracts, ticket sales, and merchandising exceeded \$12 billion (Isidore). The average value of an NFL franchise is now \$1.43 billion, with the Dallas Cowboys, the league's highest earner, worth \$3.2 billion (CNBC.com). In 2014, Roger Goodell, the league's current commissioner, earned a salary of \$34.1 million, most of which was a bonus based on the league's overall financial success (Rovell). Yet, apparently not satisfied, Goodell has set a goal of \$25 billion in annual revenue for the NFL by the year 2027 (CNBC.com). During his tenure as NFL commissioner, Pete Rozelle always believed that "football is a game; it should be something to enjoy and to keep in the proper perspective" (Anderson 152). Current league leaders appear to have lost sight of this guiding principle.

Professional football has succeeded at every level—it enjoys enormous popularity, fan loyalty, celebrity, and seemingly unlimited revenue. It is "winning" on all fronts. But in the drive to achieve financial success, has the NFL sowed the seeds of its own destruction? Television ratings were down four percent this past season (Marlow).

The ratings slide has been attributed by some to the controversial 2016 presidential election coverage (Marlow). Others have suggested that the league “has replaced the joy of a good game with endless commercials, incessant penalty flags, inane social media policies, and political controversy” (Abate). It has ceased to be sport and has instead become entertainment and big business.

The issue of the game’s inherent violence has also played a considerable role in the NFL’s recent negative press coverage, which is starting to affect fan loyalty. Football’s entire history has been plagued by conflict over the game’s violence, and, once again, this issue has come to the forefront, but this time, billions of dollars are at stake.

CHAPTER THREE

The NFL's Concussion Crisis

American football and the National Football League (NFL) have reached unprecedented levels of financial success and popularity. Recently, however, the NFL has become the subject of a public firestorm. It has received severe criticism from the media and all corners of society because of the inherent physicality of football and the danger it poses to those who play the game. Football has always been criticized and condemned by some because of its violent nature, and there have always been periodic calls to ban the sport. The game has survived because it has always been willing to evolve and adapt with the intent to quiet critics and to protect those who play the game. This time, however, things are different. Rule changes and better helmet technology may not solve the current NFL concussion problems.

Recent medical research and modern medical technology have demonstrated fairly conclusively that football poses to participants a risk of brain injury that may be unavoidable. The discovery of long-term consequences from traumatic brain injury has changed the discussion regarding the ethics of the game. Attempts by the league to avoid the issue, downplay potential serious consequences, and even cover it up have created a crisis for the NFL. A handful of committed doctors and researchers have placed the NFL, and the game of football at all levels of competition, under a microscope. Consequently, the future of the sport is now seriously in question.

From the very beginning, fans and players recognized the danger of playing football. As early as 1827, the annual game played on the first Monday of the term at

Harvard was known as “Bloody Monday” (Weyand 1). The sport was temporarily banned at both Harvard and Yale in 1860 because of its violent nature (Paisner). At the turn of the century, the press documented the dangers of football. In 1891, *Harper’s Weekly* published illustrations of football players with captions such as “The Modern Gladiators” and “Out of the Game,” featuring unconscious players on the field being attended to by medics (McGrath). In 1897, a New-York newspaper published an image of a skeleton wearing a banner labeled “Death” and titled “The Twelfth Player in Every Football Game” (McGrath). The famous meeting organized by President Roosevelt in 1905 was called in order to save the game when the deaths of eighteen players on the field that year led to football’s first concussion crisis (Miller 186). Roosevelt’s efforts to silence the critics and protect the players led to significant rule changes intended to make the game less physical. As former Tampa Bay Buccaneers player Doug Pear said, however, “Trying to remove violence from football is like trying to remove trees from a forest” (McGrath).

Concussions have always been a concern in football, but in the early days of the sport and throughout most of the twentieth century, the focus was on avoiding cracked skulls and broken bones. Football was generally understood to be an orthopedic or arthritic risk, as most players seemed to deal with muscular and joint pain after retirement (Hruby). The development of helmets, pads, and other equipment was primarily designed to prevent skull fractures (Perry). The introduction of stronger helmets did help reduce the rate of head injuries, but it also had unforeseen consequences. Players began to feel overly protected by the helmets and learned to become much more aggressive, tackling with their heads rather than their arms and shoulders and subjecting their brains to unseen

injury (McGrath). The medical research of the last decade, and documented neurological findings have revealed risks to players that are potentially far more insidious than broken bones or joint pain.

The concussion, today defined as a blow to the head that results in temporary loss of brain function, was first identified as a danger inherent to contact sports in 1906 (Meadows, Perry). Physicians in the early twentieth century, however, had no way of proving concussions caused any long-term problems (Meadows). The lack of medical-imaging technology prevented doctors and researchers from linking concussions to future neurological and behavioral problems in players (Perry). It was believed consequences of concussions were short-term and posed no long-term risk. The sport survived because its supporters promoted the notion that football was a tough, character-building sport, played by real men who played through injuries and physical difficulties (Perry). Furthermore, even in the early days, a great deal of money was at stake, as gambling on the sport was legal, and many early teams were financed by gambling proceeds (Bauder). For these reasons, the risks associated with playing football were ignored, and the game continued to grow in popularity.

Clearly, football overcame its initial problems with the perception of violence. Yet concerns about long-term effects of concussions have always lurked in the background. There were red flags throughout NFL history that should have prompted the league to address the issue aggressively—consistent stories of erratic and unexplained player behavior in retirement. A recent congressional report has confirmed this, stating the NFL demonstrates a “longstanding pattern of attempts to influence the scientific understanding of the consequences of repeated head trauma” (Ley). The 2016 report also

concluded, “While the NFL was publicly proclaiming its role as funder and accelerator of important research, it was primarily attempting to influence that research” (Ley).

Legitimate concern over concussions began as early as 1933, when the NCAA mandated that a player should not play for twenty-one days after suffering a concussion with symptoms that lasted at least forty-eight hours (Petchesky). In 1937, the American Football Coaches Association determined that concussed players should be immediately taken out of the game, and in 1952 the *New England Journal of Medicine* determined that after suffering three concussions, a player should leave football forever “for their own safety” (Petchesky). While teams developed various concussion protocols through the decades, there was no concrete medical research on the subject.

This changed in 1982 with the work of Jeff Barth, a neuropsychologist at the University of Virginia (Fainaru-Wada and Fainaru 33). Barth wanted to improve the treatment of those with minor head injuries, so he began to specifically document the type of injury sustained by his subjects and follow-up on the recovery timeline. He found that one-third of these patients had not returned to work three months later (Fainaru-Wada and Fainaru 33). Barth concluded that there were greater consequences to minor head injuries than previously thought. His initial research on concussions, which was referred to as a “silent epidemic” by the *Wall Street Journal*, was shot down by critics, so he pursued a more rigorous approach (Fainaru-Wada and Fainaru 33). In 1989, after studying a group of Ivy League football players, he concluded concussions were a much greater problem than coaches and players believed. Barth’s research found that out of 2,350 research subjects, over eight percent suffered verifiable concussions over the course of a single season (Fainaru-Wada and Fainaru 34). Barth’s research established

him as a pioneer in the field of sports neuropsychology and paved the way for future concussion research.

Barth's early findings inspired further exploration into the science of concussions and minor brain injury. Joe Maroon, a neurosurgeon and the team doctor for the Pittsburgh Steelers was frequently prevented from keeping concussed players off the field without any concrete evidence that they were actually injured (Fainaru-Wada and Fainaru 35). Seeking support for his medical conclusions, he sought the help of the chief neuropsychologist at Allegheny General Hospital in Pittsburgh, Mark Lovell, to help him develop a way to diagnose concussions (Fainaru-Wada and Fainaru 35). Maroon and Lovell developed a primitive test, administered with pencil and paper, to help establish a cognitive baseline for players, which would help evaluate neurological functions after a head injury. This test eventually developed into the Immediate Post-Concussion Assessment and Cognitive Test (ImPACT), which is widely used in the NFL and other league sports (Muchnick 66). Shortly after the development of the test in the early 1990s, the NFL was forced to address the concussion issue.

In 1994, the NFL established the Mild Traumatic Brain Injury (MTBI) Committee in response to the growing concern over concussions and brain injury (Petchesky). Significantly, the NFL responded to public pressure concerning head injuries that particular year, as 1994 was dubbed the "Season of the Concussion" by sports writers around the country (Fainaru-Wada and Fainaru 71). During the playoffs in 1993, NFL superstar quarterback Troy Aikman suffered a concussion so serious that to this day Aikman is unable to recall any events of the game (Ezell). Because of Aikman's high profile in the league, his injury only added to the public concern.

The MTBI committee was formed by league commissioner, Paul Tagliabue, reportedly to study concussions scientifically and take measures to make the game safer for players (Fainaru-Wada and Fainaru 125). The committee consisted mostly of NFL team doctors and trainers, and was chaired by Elliott Pellman, a rheumatologist who was the Jets' team doctor and Tagliabue's personal friend and physician (Petchesky). The group consisted primarily of NFL insiders and excluded many of the leading researchers on concussion science. Pellman had no experience or background in brain science and reportedly told *Sports Illustrated* that "concussions are part of the profession, an occupational risk" (Ezell). Pellman was also a fraud. He claimed to have earned his medical degree from the Stony Brook University School of Medicine, when he actually attended school in Guadalajara, Mexico (Petchesky). Although the league publicly appeared to be taking steps to address the concussion problems, the establishment of the MTBI was considered by many to be nothing more than a public relations strategy.

The tendency of the NFL to protect its own interests predated the MTBI committee. Walter Abercrombie, a former running back for the Pittsburgh Steelers, entered the NFL in 1982. He remembered that when he began his career, "There was little information available or concern about the immediate and long-term dangers associated with head trauma. It wasn't until around 1985 or 1986 when those concerns began to filter down to players and certain teams in the league" (Abercrombie). Despite this growing concern about concussions, the NFL did little to address the problem. As Abercrombie concluded, "The approach taken by the NFL appeared to be aimed at establishing a defense against claims against them rather than an approach that communicated genuine care for the players" (Abercrombie). This response by the league

in the 1980s began a longstanding pattern of covering its own tracks as the concussion crisis continued to unfold over the years.

In 2002, however, the nature of the concussion problem changed dramatically for the NFL. Bennett Omalu, a young immigrant doctor from Nigeria, was working as a pathologist in the Allegheny County coroner's office in Pittsburgh when the body of NFL hall-of-fame center "Iron Mike" Webster came in for autopsy (Fainaru-Wada and Fainaru 151). Webster was a nine-time Pro-Bowler, earned four Super-Bowl rings, and was considered the best center in the NFL before his retirement. He had played in 220 games, more than any other player in the history of the Pittsburgh Steelers (Laskas). Former Steeler and Baylor alumnus, Walter Abercrombie, played with Webster in Pittsburgh in the 1980s. Abercrombie, commenting on his former teammate, recalled, "Webby was a beast. He was the toughest player I ever played with during my entire amateur and pro career. He showed up ready to work at practice everyday, and he never missed a game due to injury during the entire time I played with him in Pittsburgh" (Abercrombie).

The beloved Steelers' player had been in the news before his death, however, because his life was unraveling. At age fifty, Webster was living out of his pick-up truck and died estranged from family and friends (Reiter 30). He was addicted to painkillers and, according to everyone who interacted with him, was completely out of his mind. He was lethargic and often forgot to eat, he urinated in the oven, frightening his wife and children, and he wandered around Pittsburgh, sleeping under bridges and in the train station. When his teeth started falling out, he tried to super glue them back in. Webster even bought a Taser and zapped himself into unconsciousness in order to fall asleep (Laskas). Despite an illustrious career in the NFL, his life ended in tragedy.

When Omalu performed the Webster autopsy, his body was clearly battered from his playing career, but when he removed the brain, it appeared normal (Fainaru-Wada and Fainaru 152). Given Webster's neuropsychiatric problems, Omalu had the brain fixed and dissected so he could study it in more detail. Weeks later, he finally got around to examining the slides of brain tissue under a microscope, and what he observed permanently changed the future of football and the NFL.

After reviewing Iron Mike's brain tissue, Omalu identified a neurological disease that he determined to be Chronic Traumatic Encephalopathy (CTE) (Reiter 30). Up until the time Omalu began his work with Webster's brain, the only evidence of CTE was seen in boxers during the 1970s (Omalu, "Chronic Traumatic Encephalopathy" 131). This was the first time a doctor had discovered empirical evidence of neuropathological damage in a football player.

Webster's case, like most CTE cases, was puzzling because, on gross examination, the brain looked completely normal and healthy. Omalu reported that Webster's brain was of normal weight, showed no signs of neuropathological damage, and was "unremarkable" (Omalu, "Chronic Traumatic Encephalopathy" 129). Some of his cerebral vessels showed signs of atherosclerosis, but this was to be expected because his actual cause of death was Coronary Atherosclerotic Disease (Omalu, "Chronic Traumatic Encephalopathy" 128). The histomorphology of Webster's brain, however, told a different story than its gross morphology. Upon reviewing slides of brain tissue, Omalu observed a phenomenon he had never seen before. The brain tissue was riddled with extracellular amyloid plaques, tau-positive neuritic threads (NTs), and intraneuronal flame-shaped neurofibrillary tangles (NFTs) (Omalu, "Chronic Traumatic

Encephalopathy” 130). Amyloid plaques are collections of protein in the brain that are characteristic of Alzheimer’s disease (Reisner and Reisner 706). In Webster’s brain, however, these amyloid plaques were in a different pattern than are typically found in a patient with Alzheimer’s (Fainaru-Wada and Fainaru 158). In Alzheimer’s disease, these build-ups of protein are generally found within the hippocampus, the part of the brain responsible for memory, which explains the significant memory problems that plague Alzheimer’s patients. In Webster’s brain, though, these plaques were found primarily in the cerebral cortex, the part of the brain responsible for cognition and personality (Omalu “Chronic Traumatic Encephalopathy” 130).

Additionally, Webster’s cerebral cortex contained these NTs and NFTs, which are the fundamental characteristics of CTE (Omalu, “Emerging Histomorphologic Phenotypes” 176). In simple terms, NTs and NFTs are both collections of tau protein in the brain tissue (Omalu, “Chronic Traumatic Encephalopathy” 130). Tau is a protein normally found within the brain that allows the neurons to function normally, but later in life, this protein can begin to form clumps and strangle the neurons (Fainaru-Wada and Fainaru 158). NFTs are also found in Alzheimer’s patients, but like amyloid plaques, they are usually found in the hippocampus. In Webster’s brain, however, Omalu discovered them in the cerebral cortex (Omalu, “Chronic Traumatic Encephalopathy” 130). The combination of these amyloid plaques, NTs, and NFTs essentially began to choke Webster’s brain and compromise his normal cognitive function. This explained his abnormal behavior in the years leading up to his death.

Between 2002 and 2009, Omalu, along with other physicians and researchers, examined and reported on the brains of seventeen amateur and professional athletes,

including boxers and wrestlers, eleven of whom were football players—eight professionals and three high school players. Of the football players that Omalu examined, seven of the eight professionals and one of the three high school players tested positive for CTE (Omalu, “Emerging Histomorphologic Phenotypes” 173). Many of their brains looked very similar to Mike Webster’s, and several of these players, like Webster, exhibited signs of mental illness before their deaths (Reiter 30). After completing this research, Omalu defined CTE as “a progressive neurodegenerative syndrome caused by single, episodic, or repetitive blunt force impacts to the head and transfer of acceleration-deceleration forces to the brain” (Omalu, “Emerging Histomorphologic Phenotypes” 174).

Omalu’s discovery of CTE in these players, whose lives were deteriorating after their football careers ended, began to change the discussion about professional football and the NFL. Not only did his work inspire further research on the subject, it also provided an explanation for some of the disturbing stories concerning former NFL players that were springing up in the press. It helped to explain why Terry Long drank a container of antifreeze, causing his immediate death and why Justin Strzelczyk deliberately drove his car into oncoming traffic, thereby ending his life. Chris Benoit was a professional wrestler who, in 2007, murdered his wife and seven-year old before hanging himself (Muchnick 66). Omalu examined his brain and discovered that Benoit suffered from advanced CTE (Omalu et al. 133). More recently, in 2012, Junior Seau, considered to be one of the greatest linebackers in NFL history, shot himself in the chest while suffering from depression and mental illness only two years after he retired from the game (Fainaru-Wada, Avila, and Fainaru). He too suffered from CTE. Tragic stories

of suicide and self-destructive behavior among former NFL players became all too common in the press, but the story of Mike Webster in 2002 was the turning point in the evolution of the concussion problem in the NFL. It was the autopsy of Webster's brain performed by Dr. Omalu that began to change the way society and football fans viewed the game. Interestingly, in his native Ibo language, Omalu's name translated into English means "If you know, come forth and speak" (Fainaru-Wada and Fainaru 153).

Although the NFL established the MTBI Committee in 1994, it did not begin to publish research until 2003, primarily because Omalu's findings were generating public discussion about the concussion problem in professional football. Their first study, released in October of 2003, analyzed 182 reported concussions in the NFL from 1996 to 2001, using recorded video from games (Pellman, "Concussion in Professional Football" 801). In thirty-one cases, the speed of the collision could be determined from multiple camera angles, so these impacts were recreated in a lab using helmeted crash dummies (Pellman, "Concussion in Professional Football" 799). This study allowed the committee to gather valuable information on the kind of force, both translational and rotational, that causes concussions (Pellman, "Concussion in Professional Football" 799). As a result of the study, the MTBI committee concluded that the types of tests used to determine the safety of helmets needed to be reassessed (Pellman, "Concussion in Professional Football" 810). This first article received a very positive response from the public because the NFL appeared to be seriously addressing concussion issues, so three months later, another article was published (Fainaru-Wada and Fainaru 143).

The second study went into greater depth on where concussive hits were delivered on players' heads (Pellman, "Part 2" 1328). This paper was also well-received, as it

seemed to further demonstrate the league was serious about reforming the game and trying to make it safer. This perception changed, however, with the publication of the committee's third paper. The third study examined the nature of 787 concussions reported by training staffs in the NFL from 1996 to 2001 (Pellman, "Part 3" 81) . The committee determined which player positions suffered the most concussions, the symptoms from which players suffered, and how quickly the players returned to play. They found that approximately 0.41 concussions occurred per game in the NFL and that quarterbacks and receivers suffered from concussions most often. Common symptoms of these concussions, or "mild traumatic brain injuries," included headaches, dizziness, and amnesia (Pellman "Part 3" 81).

The committee ultimately concluded, however, that the league did not have a concussion problem. They determined that ninety-two per cent of players returned to play in less than seven days, meaning they did not miss a game (Pellman, "Part 3" 81). Pellman and his colleagues ignored the possibility that players were being rushed back to play too soon, or that players were lying about their injuries in order to return to play. Instead, members of the committee simply concluded that concussions were insignificant injuries that did not carry any long-term consequences (Fainaru-Wada and Fainaru 145).

This paper marked the beginning of the NFL's longstanding pattern of denial concerning a concussion problem in professional football. The MTBI Committee continued to publish reports on concussions, specifically on topics such as repeat injuries, helmet safety, and recovery of concussed players (Fainaru-Wada and Fainaru 394-395). Yet, all of the MTBI's work continued to promote the conclusion that concussions were not a problem for NFL players and that concussions carried no long-term consequences.

This conclusion, however, was completely contrary to much of the concussion research being conducted by physicians and scientists unaffiliated with the NFL, as well as the stories of NFL players that were frequently covered in the press.

Kevin Guskiewicz, a researcher at the University of North Carolina at Chapel Hill, was one of those doctors whose research contradicted findings of the MTBI committee. Guskiewicz, a former athletic trainer for the Pittsburgh Steelers, had studied concussion since the 1990s, trying to figure out how to make the game safer (Hruby). He was one of the first researchers to connect concussions with long-term cognitive impairment. In 2005, he published research which concluded that retired professional football players who suffered from multiple concussions were five times more likely to develop mild cognitive impairment and three times more likely to develop significant memory problems later in life (Guskiewicz 719). Previously, in 2003, he had published an article that studied the effects of concussions on college football players. This study concluded that players who suffer from at least one concussion are more likely to suffer future concussions as well. He also concluded that repeat concussions may lead to slower recovery of neurological function (Guskiewicz et al. 2549). Although Guskiewicz believed football is a potentially dangerous sport, he still loved the game and his only goal in conducting research was to improve safety (Hruby). Nonetheless, he was highly criticized by the NFL because of his contradictory findings. One member of the MTBI Committee, a consultant for the Indianapolis Colts, called his research “virtually worthless” (Petchesky).

Between 2002 and 2014, this denial by the NFL became a pattern. Members of the MTBI Committee or NFL representatives aggressively criticized and sought to

publicly discredit any research that connected football with long-term neurological issues. When Dr. Omalu initially published his findings, he admitted that he expected the league to welcome his research and address the problems presented. As he said, “I thought they were just gonna come and embrace me and give me a kiss on the cheek” (Fainaru-Wada and Fainaru 165). Instead, the NFL tried to discredit his work and labeled him as a “quack” (Reiter 31). The ensuing battle between Omalu and the league over the risks associated with playing football were recently documented in the movie *Concussion* (2015), starring Will Smith as Bennet Omalu (Reiter 31). Despite mounting evidence, the NFL, particularly the MTBI Committee, continued to deny the possibility that concussions were a serious health concern for the league and its players.

In 2007, another challenge arose for the NFL. Chris Nowinski, a former Harvard defensive tackle and WWE performer, founded the Sports Legacy Institute, a non-profit organization dedicated to solving the sports concussion crisis (“Christopher Nowinski”). (This organization has since been renamed the Concussion Legacy Foundation). Nowinski was forced to retire from professional wrestling because of his own concussion issues, so he committed his resources to raising awareness of brain injury in sports (Fainaru-Wada and Fainaru 200). Shortly after its founding, the Sports Legacy Institute partnered with the Boston University School of Medicine and established the Center for the Study of Traumatic Encephalopathy, a research center specifically dedicated to studying CTE. Nowinski immediately hired Ann McKee as his chief neuropathologist to lead the research center. McKee’s career focused on the study of Alzheimer’s disease, and she was an expert on tau protein, the protein discovered in the brains of those with CTE. Consequently, she was ideally suited to study the brains that the Sports Legacy

Institute was able to acquire (Fainaru-Wada and Fainaru 255). The system was simple—Nowinski and his team collected the brains, and McKee examined them for CTE.

McKee's first case study was John Grimsley, a retired linebacker who played nine years in the NFL. Before his death, Grimsley's wife had noticed dramatic changes in her husband's behavior, such as memory problems, mood swings, and fits of rage (Fainaru-Wada and Fainaru 258). McKee examined his brain and found exactly what Dr. Omalu found in Mike Webster—Grimsley suffered from CTE. This finding began a series of similar discoveries for McKee and her team. By 2012, of the thirty-four brains of retired NFL players that McKee examined, thirty-three of them had suffered from CTE (Petchesky). When McKee presented her findings to NFL executives and member of the MTBI Committee, however, her conclusions were challenged and disputed, much like those of Omalu and Guskiewicz (Fainaru-Wada and Fainaru 268). Once again, the NFL refused to acknowledge the potential link between football, concussions, and long-term consequences for players.

In 2008, another study was released which concluded that former players, ages thirty to forty-nine, were nineteen times more likely than average men their age to suffer from Alzheimer's disease and other mental disorders (Fainaru-Wada and Fainaru 277). In light of this report, and all of the other ongoing research concerning traumatic brain injury, the House Judiciary Committee declared that it would hold public hearings on brain injury and professional football (Fainaru-Wada and Fainaru 277). Consequently, in 2009, current league commissioner Roger Goodell testified before Congress. When he was asked directly whether there was a link between professional football and future brain dysfunction, he answered, "the medical experts would know better than I would

with respect to that” (Fainaru-Wada and Fainaru 279). Like the MTBI Committee, Goodell still refused to concede that football and brain damage were connected. Goodell’s testimony prompted Representative Linda Sanchez to liken the league’s response to the concussion problems to the tobacco industry’s handling of the link between smoking and health issues in the 1990s (Ezell). Also in 2009, the first lawsuits against the NFL were filed by thousands of former players (Petchesky). Players sued the league for injuries they sustained while playing that still affected them and which the NFL refused to acknowledge. The combination of all of these events, as well as the ongoing medical research from the previous decade, put a glaring spotlight on the NFL. Pressure was mounting, and both the public and the press demanded some kind of response. The issue had reached a tipping point.

In 2009, the NFL, for the first time, acknowledged there were potentially long-term consequences from concussions. When asked about brain injury and football, league spokesman Greg Aiello responded, “It’s quite obvious from the medical research that’s been done that concussions can lead to long-term problems” (Coates). Shortly thereafter, the MTBI Committee was disbanded and replaced with a new one—the NFL Head, Neck and Spine Committee (Fainaru-Wada and Fainaru 286). The former committee was scrapped for several reasons. Most importantly, Aiello’s statement had essentially negated all of the research the previous committee had published over the years. By admitting that concussion and brain injury were a problem in football, earlier studies were rendered worthless. Also, it was later determined that the first committee had excluded certain data in their studies in order to support their desired conclusions. They had intentionally omitted hundreds of concussions from their studies, which had the

effect of understating the extent of the concussion problem in the NFL (Bogdanich, Williams, and Schwarz). And finally, the discovery that the original MTBI Committee chairman, Elliot Pellman, was a fraud required decisive action by the NFL. Dr. Hunt Batjer, one of the co-chairs of the new committee said, regarding the MTBI, “We all had issues with some of the methodologies, the inherent conflict of interest, that was not acceptable by any modern standards or not acceptable to us” (Coates).

Under the leadership of the new committee, the NFL responded to public pressure by taking several important actions. First, they implemented new and much stricter return-to-play guidelines for concussed players. In 2010, they produced a poster that was displayed in all locker rooms warning that concussions “may lead to problems with memory and communication, personality changes, as well as depression and the early onset of dementia. Concussions and conditions resulting from repeated brain injury can change your life and your family’s life forever” (Coates). In 2011, the kick-off line was moved up by five yards with the intention of reducing the speed of collisions during kick-off (Ezell). The NFL funded a youth concussion awareness initiative in 2012 called “Heads Up Football” (Ezell). The following year the league announced two rule changes. Under new concussion safety measures, an independent neurosurgeon was on the sidelines during every game, and the league banned “crown of the helmet” hits outside of the tackle box in order to reduce high impact hits to the head (Ezell).

Then, in 2013, very unexpectedly, the NFL settled the lawsuits filed by former players, which began in 2009. The lawsuits were consolidated and the NFL agreed to pay \$765 million to 4,500 former players based on evidence the league had known about long-term concussion risks but had hidden the research from its players (Wire). In 2016,

the settlement amount was increased to \$1 billion, covering more than 20,000 players for the next sixty-five years (Wire). Under the agreement, millions of dollars were awarded to the families of players who suffered from, or still suffer from CTE, dementia, and other neurodegenerative diseases (Wire). Amazingly, though, Roger Goodell, the league commissioner, maintained the league did not admit to any wrongdoing stating that “there was no admission of guilt. There was no admission that anything was caused by football” (Ezell).

Despite the encouraging action taken by the league to support its injured players, it was recently discovered that around the same time the NFL was settling the lawsuit, it was also actively interfering with ongoing concussion research. In 2016, Congress established that the NFL interfered with concussion research at the National Institute of Health (NIH) during 2012 (Vinton). Congress’ report disclosed that the NFL had granted \$30 million to the NIH to conduct a study on brain trauma in football but then decided to withhold the money when it discovered the researchers from Boston University, Ann McKee and her team, would be part of the NIH research (Vinton). Thus, while the NFL was attempting to protect its image and appease its critics, behind the scenes it was still trying to protect its own interests by sabotaging potentially damaging research.

In March of 2016, the NFL finally admitted the connection between playing football and developing CTE. Jeff Kelly, the NFL’s senior vice president for health and safety, conceded this fact at a roundtable discussion convened by the House of Representatives’ Committee on Energy and Commerce (Fainaru). When asked whether a link between football and neurodegenerative diseases such as CTE had been established, he answered, “The answer to that question is certainly yes” (Fainaru). As of 2016, Ann

McKee, the neuropathologist at the Concussion Legacy Foundation, had found CTE in the examined brains of 90 of 94 former NFL players, 45 of 55 college players, and even 6 of 26 high school players (Fainaru).

These alarming statistics demand the attention of coaches, players, and fans at all levels of the sport. The medical research and the doctors involved have driven the discussion about football, particularly at the professional level, and have forced a national conversation on the future of the game. It is the efforts of the medical profession that have made a serious, fully-informed discussion about the dangers of playing football possible. A new question demands attention—is a sport that can potentially ruin the lives of those who play it justifiable?

CHAPTER FOUR

Ethics and Professional Football

The behavior of the National Football League throughout the recent “concussion saga” demonstrates it was primarily motivated to protect its significant financial interests. League executives clearly believed that public and player awareness of the information surrounding the severity of concussions and brain trauma could potentially jeopardize the organization’s success. Consequently, there is little disagreement that the league actively worked to downplay, and even deny, the seriousness of the long-term consequences of playing professional football. Research suggests the NFL was driven by a win-at-all-costs attitude regarding this issue. Echoes of Lombardi’s “winning is everything” quote are heard in the history of the NFL and its recent concussion crisis. Ironically, later in his life, Lombardi himself reflected on his now infamous quote, saying, “I wish I’d never said the thing . . . I meant the effort. I meant having a goal. I sure didn’t mean for people to crush human values and morality” (Austin).

Because of the work of many researchers and physicians, it is reasonable to assume that football poses some risk of serious, long-term neurological damage to those who play the game. This medical information raises significant questions about whether it is even ethical to play football at all knowing those who do are potentially jeopardizing their health and well-being. Can the violence associated with the game of football be justified? How should Christians deal with the violence of football, as players and fans? It seems that traditional notions of competition, sport, and player safety have become secondary to winning and success in the NFL.

According to Allen Guttman, author of *From Ritual to Record: The Nature of Modern Sports*, sports are a specific form of play defined as “any nonutilitarian physical or intellectual activity pursued for its own sake, the opposite of work” (3). Play, then, is autotelic; one does not play for any greater goal other than the sake of play. From this flows the concept of games: organized play, identified by the presence of a certain goal within the game and the establishment of a set of rules one must follow to achieve this goal (Guttman 5).

Guttman further divides these games into noncompetitive games and competitive games, or contests, distinguished by the determination of a winner and loser, with the presence of competition within a game making it a contest. Sports, as defined by Guttman, are “playful physical contests, that is, nonutilitarian contests which include an important measure of physical as well as intellectual skill” (Guttman 7). Yet, modern sports, particularly professional sports, have become much more than just playful, nonutilitarian contests.

The advent of professional sports forever changed these traditional concepts of sport: games are no longer “nonutilitarian” events played for fun. They are a means of employment for the athletes involved and a source of profit for those who own and run the franchises. Winning, then, becomes the avenue to making more money, for both the owners and the players. This approach fundamentally distorts the traditional purpose of sports at all levels of competition. Collegiate athletes are not paid, but they can receive valuable athletic scholarships. Thus, many high-school athletes compete for the opportunity to attend college. Similarly, many college athletes compete for the opportunity to play professionally. Winning has become the primary goal of sports

because winning leads to greater goods—scholarships, money, and fame. As a result, many sports in the modern era are no longer pursued for their own sake; they are no longer autotelic.

To properly explore the ethical ramifications of head injuries and the NFL, it is necessary to understand some fundamentals regarding sports and ethics. Sports ethicists make a distinction between sportsmanship and gamesmanship to understand the role ethics play in sport and competition. Gamesmanship is driven by the notion that winning is all that matters (Hanson and Savage). Consequently, players and coaches are tempted to bend the rules in order to win. Rather than compete honorably, players cheat the game by using deceit rather than their own skill (Lumpkin, Stoll, and Beller 50). The integrity of the game is often compromised for the sake of winning, and in football, the safety of the players is further compromised as well. Simply stated, the ends justify the means; greater emphasis is placed on the outcome of the game than the way in which it is played. A recent example of gamesmanship is the New Orleans Saints' bounty scandal where players received a bonus for "taking out" opposing players who threatened the team's success (Hanson and Savage). Another commonly cited example of gamesmanship is intentionally fouling at the end of basketball games to try to gain an advantage. Although this does not place players in harm's way, it is a form of exploiting the rules in order to win, rather than relying purely on one's skill (Lumpkin, Stoll, and Beller 50).

Conversely, sportsmanship contemplates a more traditional approach to athletics (Hanson and Savage). The goal is not simply to win but to give one's best, play the game with honor and integrity, and cultivate a healthy sense of competition. Hanson and Savage argue that ethics in sports are built on four key virtues: fairness, integrity,

responsibility, and respect. It is these ethical standards that form the basis of how and why sports should be played, and when these formative principles are compromised, sport becomes distorted (Lumpkin, Stoll, and Beller 55). When these ethical foundations are properly respected, however, sports can contribute to one's character development and physical fitness through tough but fair play (Hanson and Savage). The current state of NFL football, however, has blurred the line between sportsmanship and gamesmanship.

Medical concussion research further changes the sportsmanship/gamesmanship equation: even if football is played in a "sportsmanlike" manner can the game be considered a legitimate sporting competition? Is brutality ever acceptable? Well-known sports broadcaster, Bob Costas, has asserted, "The problem with football is football. Football's single most significant and ongoing problem is the very nature of the game itself" (Gwinn, "Bob Costas"). Costas was referring to the inherent violence of the game, but the corruption of the sport by money and the desire for success has exacerbated the real problem. With so much money on the line for everyone involved—players, coaches, owners, and even fans—winning has, indeed, become "the only thing" (Austin). Concern for player safety is tossed aside, teams bend the rules in order to win, and the NFL tries to cover up the risk of playing football all for the sake of winning, both on the field and financially. One sports ethicist remarked, "If the NFL were about sports rather than moneymaking, I'd say all of this is a big deal...If you can get away with something like this, you're going to try it" (Alesia). In other words, the essence of true sport has been removed from professional football. The influence of money and the brutal nature of the game have altered the nature of football.

Historically, sports that involved a certain amount of physicality, sacrifice, and even violence in some cases were deemed acceptable, and even encouraged, by society. In ancient Greece, for example, Socrates, Plato, and Aristotle all believed that sport and competition were key in educating the body and mind, as well as acquiring virtue (Matthews 7). They believed that sport helped one achieve “god-like status in physique, mental prowess, and spiritual integrity” (Matthews 8). Furthermore, the Athenians believed that participation in sport better prepared them for military service (Matthews 8). The Europeans held a similar belief about the benefit of sport in the nineteenth century. The Duke of Wellington once said, “the Battle of Waterloo was won on the playing fields of Eton” (Matthews 8).

These noble notions of sport eventually influenced the growth and popularity of football in the United States. They prompted Teddy Roosevelt to step in and “save” the game in the early twentieth century. Although Roosevelt was too frail as a young man to play football, he had a deep appreciation for the game and its potential to build character in the young men who played (Miller 57). He believed that rough sports like football were good for boys because they taught lessons that could not be learned in the classroom (Dayen). Roosevelt is remembered for his strong attitudes about physicality, aggression and courage (Chait). For him, and many others in the early twentieth century, football was seen as an important aspect of “coming of age” for young men (Miller 199). This attitude fueled football’s success throughout the early twentieth century, both at the collegiate and professional level.

This concept that “football is good for boys,” however, has been shaken with the latest medical discoveries concerning the potential long-term damage playing football can

cause. Current medical research offers strong support for what one sportswriter called the current “liberal *bien-pensant* opinion,” that football is a manifestation of traditional masculinity, which is “increasingly out of step with liberal society” (Chait). The author continued, “What we are seeing is a safety-reform movement mutating into a culture war, where one part of America rises in visceral, often uncomprehending revulsion against the values and mores of another” (Chait). Another author vividly described football’s cultural divide when he stated that today’s football fans are painted by the game’s detractors as “ancient Romans, turning our thumbs down on our logo-splattered sacrificial gladiators, unable to keep our bloodlust from consuming our compassion and good sense” (Buss). Clearly, many believe football is no longer morally defensible, whereas others still subscribe to the beliefs of Teddy Roosevelt and others that the physicality associated with football produces positive outcomes.

This culture war over football is playing out within the Christian community as well. Sports and Christianity have long been intertwined. In 1976, sportswriter Frank Deford coined the term “sportianity” in a series he did for *Sports Illustrated*, in which he analyzed the deep relationship between sports and evangelical Christianity (Putz). Deford authored this series in light of the growth of organizations such as the Fellowship of Christian Athletes and Athletes in Action. This idea of “sportianity” is alive and well in the NFL, as statistics reveal that, currently, over forty percent of NFL players claim to be evangelical Christians (Sauer). In 2015, twenty-four of the thirty-two starting quarterbacks in the league identified as Christians (Lindsay). Many of the league’s current stars are open and vocal about their Christian faith, and many football fans call themselves Christians as well. The current concussion crisis, however, is causing many

people of faith to question their allegiance to football, and it is posing a difficult ethical dilemma for many players and fans, Christian or not.

The relationship between Christianity and football can be traced back to the late nineteenth and early twentieth century and the “Muscular Christianity” movement of this time period (Watson and Parker 45). The concept of “Muscular Christianity” shaped and influenced the way the Christian community viewed the relationship between sport, physical fitness, and religion. Muscular Christianity’s basic premise was that participation in sport could contribute to the development of Christian morality and “manly” character (Watson, Weir, and Friend 1). This notion helped pave the way for a rugged sport like football to flourish in the early twentieth century in America.

Muscular Christianity originated in the mid-nineteenth century in England as a result of the Victorians’ preoccupation with a healthy lifestyle, as well as the perceived “feminization of the Victorian Church” (Watson, Weir, and Friend 5). Many at the time believed educated Christians, devoted to “bookishness,” were “sapping the vitality of the Anglican Church” (Watson, Weir, and Friend 1). The term “Muscular Christianity” was first adopted by Charles Kingsley and Thomas Hughes to portray the characters in Hughes’ novel, *Tom Brown’s Schooldays* (Roberts). This bestselling novel glorified the gritty, reckless attitude with which rugby was played in England. “Tom” earned the respect and admiration of his teammates by hurling himself into the middle of a violent match and getting knocked out cold (Roberts). This type of fearlessness quickly became celebrated within the Christian community in England as something that not only promoted good health, but also developed strong Christian character. As one advocate of Muscular Christianity said, rugby built the kind of man needed to travel the world “with a

Bible in one hand and a rifle in the other” (Roberts). Charles Kingsley best summarized the essence of Muscular Christianity when he said, “In the playing field boys acquire virtues which no books can give them; not merely daring and endurance, but, still better temper, self-restraint, fairness, honor, unenvious approbation of another’s success, and all that ‘give and take’ of life which stand a man in good stead when he goes forth into the world, and without which, indeed, his success is always maimed and partial” (Watson, Weir, and Friend 2).

The growth of Muscular Christianity in the United States is credited to Amos Alonzo Stagg, a celebrated Yale football player and coach, as well as a devout Christian. In the 1890s, evangelist Dwight Moody encouraged Stagg to help spread the concept of Muscular Christianity in America, particularly to college students (Watson and Parker 45). Stagg and Moody believed that Christianity was about “mightiness, not meekness,” and football became the perfect avenue to preach this message (Roberts). Stagg and Moody were successful, as football quickly became very popular in early twentieth-century America, particularly at the collegiate level. Football grew in popularity despite its physical nature because of the notion that it was a “manly” game that developed toughness and strong character in its participants.

Critics of Muscular Christianity have noted, however, “that those educated within the movement ended up with ‘well-developed bodies and underdeveloped hearts’” (Watson, Weir, and Friend 6). Another critic stated that “the irony of muscular Christianity is that it elevates sport more than the Gospels” (Watson, Weir, and Friend 6). Some believe that the Muscular Christianity movement distorts the true value of sports, and, given the state of modern-day football, this conclusion is credible.

The concept of Muscular Christianity reflects the traditional notions of sport and the “sportsmanship” model described by sports ethicists—fair play, respect, discipline, and self-sacrifice (Watson and Parker 44). Football may have seemed like an appropriate vehicle to develop toughness and character when the known risks were limited to broken bones and arthritis. The game’s concussion history, however, demonstrates that the traditional values of sportsmanship are lacking in the NFL. The extensive record of denial of the dangers of concussion injuries supports the conclusion that the league was primarily motivated to preserve its successful business model at the expense of integrity and player safety. This highlights the inherent conflict for both Christian athletes in the NFL and fans of the league and calls into questions the historical connection between football and Christianity.

The Christian community is currently divided over whether Christians should step away from football. Some argue that Christians should lead society in walking away from the sport. Critics believe that football presents the same ethical dilemma that prizefighting once did—the level of physical violence involved is simply not acceptable. One commentator noted, “Whether one considers the cessation of the gladiatorial games in the days of the early church, the ending of the savage bestial games in Wilberforce’s day, or the banning of dueling in the nineteenth century, Christians have often led the culture in critical analysis of its pastimes” (Briggs). The game of football raises similar concerns. How can Christians condone the infliction of such physical violence that can cause life-altering injury? Briggs continued, “Christians today must emulate their Lord in standing up for the frail dignity of humanity, whether the unborn child, the victim of religious persecution, or the homecoming king” (Briggs).

Over a century ago, co-founder of the Seventh-day Adventist church, Ellen White, adamantly rejected football as brutal and inconsistent with Christian belief. She believed that Christians are directed to build others up, “not sack them for a five yard loss” (Adventist Review). She likened football to the gladiatorial games of ancient Rome because it encouraged “the love of domination, the pride in mere brute force, and the reckless disregard for life” (Adventist Review). White drew her conclusions observing football as it was played in the early twentieth century—the same concerns exist today in the modern rendition of the sport.

Current Christian writers who argue against playing football share many of White’s concerns about the game. Many of these critics cite Scripture in their indictment of the sport. For example, Romans 13:10 says, “Love does no wrong to a neighbor.” Christians cannot, in good faith, condone and encourage the infliction of physical harm for the sake of sport. Furthermore, Psalms 11:5 states, “The Lord tests the righteous, but his soul hates the wicked and the one who loves violence.” If God abhors violence, it is contrary to biblical teaching for Christians to support, and revel in, a game that fundamentally thrives on physical violence. Similarly, the Gospel reveals Christ’s abhorrence of greed, as demonstrated in his interaction with the moneychangers in the temple. This begs the question, then, of what Jesus would think about the greed that drove the NFL and its administrators to downplay potential dangers of the game.

Supporters of football note that much of its violence occurs within the rules of the game. Of course some players take the level of violence too far, but, generally, the hits and subsequent injuries are simply part of the game. Where, then, is the line between acceptable violence within the rules and excessive violence that goes beyond the rules?

This is a difficult question that may not have a clearly identifiable answer. The deeper question, though, is whether a sport that can harm its players, even within the rules, can ever be acceptable (Lumpkin, Stoll, and Beller 73). Angela Lumpkin and her co-authors have argued that society has become so desensitized to violence within football that it condones this violence just because it's a part of the game that occurs within the rules (73). Whether or not the violence is acceptable is irrelevant—is any body-breaking harm done to individuals through the game acceptable?

At the core of the Christian argument against football is the concept of *imago Dei*—that humankind is made in the image of God (Estel 114). God created humans in His own likeness, and, thus, humans are endowed with an inherent value and dignity (Estel 115). The Apostle Paul reminded Christians in 1 Corinthians that their bodies are not their own—they were bought with a price (J. Carter). Consequently, the human body is something that should be valued and treasured, not subjected to the battering and bruising that comes with football. Furthermore, the potential for long-term cognitive dysfunction can destroy the very essence of humanity—the ability to reason and exercise free will, which distinguishes humankind from the rest of creation.

Conversely, many Christian commentators take a different view of football, believing that many of the notions behind the “Muscular Christianity” movement are still relevant and should be preserved in the game. These proponents rely on the Apostle Paul’s passages in 1 Corinthians and 2 Timothy in which he equated the life of a Christian to a soldier, an athlete, and a farmer—all occupations that are difficult and physically demanding, requiring self-sacrifice and personal discipline for a cause greater than the individual (Prince and Scroggins). The authors conclude that “sports imagery in

scripture is overwhelmingly positive in drawing a link between sports, war and ministry in the kingdom of Christ” (Prince and Scroggins).

Many still believe that football teaches young men valuable lessons and skills needed to become a strong, Christian man, much like the advocates of Muscular Christianity did in the late nineteenth century. Today’s Christian proponents of football believe the sport cultivates toughness and strong character, which is desperately needed in the current culture. As one commentator concluded, “Football represents one of the only major American institutions still standing that is exclusively for males and speaks unashamedly about manliness and toughness. Boys are drawn to demanding physical competition against other boys, assertive male leadership, and a cause that demands sacrifice and calculated risk” (J. Carter). Christian commentators caution, however, that Christians must be careful not to confuse biblical masculinity with “a culturally conditioned, hyper-macho view of manhood” (J. Carter). God calls men to be strong, masculine Christians, but a certain sense of humility and compassion must also be preserved. Thus, the actions the NFL have taken to make the game safer should be applauded, and Christians should always support a balance between “vicious violence and safety-centric softness,” in football and in life (J. Carter).

Other proponents of the sport argue that football is an effective vehicle to instill the concept of teamwork. Christians are called to be servant-oriented, and this is exactly what playing football promotes. Each player on the team must sacrifice his own personal agenda for the team or else the entire team will suffer (McDaniel). Additionally, football encourages the biblical commandment to use the talents and abilities one has been given (McDaniel). Whether it is athleticism, speed, or strength, players are given different

abilities that must all be utilized for the team to be successful. Thus, playing football also teaches the concept of stewardship—using one’s talents for the glory of God. Rick McDaniel summed up his argument for the validity of the sport: “Football appeals to many men because it is aggressive, tough, and filled with risk. Christianity appeals to me for exactly the same reasons.”

The pursuit of excellence in football, and all sports, is a value that extends beyond Christianity, however. Excellence in sports and many other walks of life is something to be praised in itself (Morgan 21). Society values and honors excellence in athletics in the same way that it values and honors achievement in science, business, and the arts (Morgan 21). Thus, an athlete’s drive to be great on the football field, despite how one may feel about the game itself, is something to be both respected and praised.

In response to the argument that professing Christians who are players or fans of the NFL are hypocrites, one commentator raises an interesting point. He contemplates, “Can you imagine what the game at all levels might become *without* the influence of Christianity within it” (Buss)? His analysis was in response to *Sports Illustrated* writer Mark Oppenheimer’s article condemning the relationship between Christianity and football. Oppenheimer argued that the violence of football cannot be reconciled with the Christian faith—that Christian football players and fans are, essentially, hypocrites (Oppenheimer). Buss countered that there are hypocrites in every walk of life—inconsistency is part of human nature. The platform that players possess, however, allows them to promote their faith to teammates, opponents, and fans, as well as positively influence the direction of a sport that is inherently violent (Buss). Buss concluded that

Christians should not run from the sport of football because of its violence; instead, they should seek to be a part of changing it for the better.

Both sides of the “should Christians support football” argument have merit and legitimate support in Scripture. Rugged and physically demanding sports have many positive effects on those who play. It has become increasingly difficult to argue, however, that the long-term dangers of head injury can be sufficiently managed for the sake of competition and certain benefits that come from playing the game of football. The medical research and revelations concerning the seriousness of head injuries has driven the cultural discussion about the game. It has created an environment in which all those associated with the game of football—players, fans, and people of faith—are forced to examine the role of sport and its value within the culture.

CHAPTER FIVE

The Future of Football and the NFL

When Dr. Bennet Omalu presented his discovery of CTE to the NFL and the medical community, he stressed that it was not his intention to destroy the league or the game of football (Reiter 34). Instead, Omalu's goal was to inform the public and the players about the potential dangers of the sport. He believed that those involved with the game should be educated regarding the potential dangers, so they might make informed decisions about playing the game (Reiter 34). Despite his intentions, however, Omalu sparked a fierce cultural war over football. The ethical dilemma presented by the violence of the sport, as well as the questionable actions of the NFL over the years concerning long-term consequences for players, has changed public opinion about football. The NFL has clearly lost some of its appeal, and it is not entirely clear what the future holds for the league and professional football.

The consequences of the recent concussion crisis have affected the sport at all levels. Since Dr. Omalu's initial discovery, participation in football by young children has steadily declined. Between 2008 and 2013, there was a 28.6-percent drop in participation in football for children ages six to twelve (Farrey). Additionally, participation by teenagers aged thirteen to seventeen has also continued to fall since 2008 (Farrey). A recent survey published by *BusinessWeek* revealed that half of the parents questioned did not want their young children playing football because of the potential for long-term damage from concussions (Raymond). If this trend continues, eventually there will be no one left to play. Dr. Joe Maroon, one of the physicians deeply involved in

concussion research, said, “If only 10 percent of mothers in America begin to conceive of football as a dangerous game, that is the end of football” (Muchnick 233).

This issue for parents is captured in the story of Monet Bartell and her son Parker. Monet’s father, Mel Farr Sr., played for ten years in the NFL. Both of her older brothers and her uncle played in the league as well (Hruby). Playing professional football allowed her father to escape poverty, and it served as her family’s livelihood growing up. Consequently, Monet thought of professional football as the “family business,” and she had every intention of raising her son, Parker, to be an NFL player as well (Hruby). Yet, after careful consideration and personal investigation into CTE, she has decided to keep her son out of football despite his potential to become a great player (Hruby).

In addition to young children and parents, many NFL players, both current and former, are publicly expressing doubts about the safety of football. Chris Borland is an excellent example of this trend. In fact, Steve Fainaru and Mark Fainaru-Wada of ESPN label Borland “the most dangerous man in football” because of his recent actions (Fainaru and Fainaru-Wada). After a breakout rookie season with the San Francisco 49ers, Borland shocked the sports world by retiring at the young age of twenty-four (Raymond). Borland chose to walk away from a promising career and millions of dollars because he believed that playing football is too risky. As he said, “I was concerned about neurological diseases down the road if I continued to play” (Raymond). Despite his decision to retire, Borland still loves football and says, “If there were no possibility of brain damage, I’d still be playing” (Fainaru and Fainaru-Wada). The fear in the NFL and among those who support the league is that Borland’s retirement will influence other young players to reconsider their own careers and eventually lead to an exodus of young,

talented players. This is a legitimate and long-term concern for the NFL. As Borland asks, “How do you make violence safer” (Raymond)?

Other former NFL players have begun to speak out on the concussion issue as well. Almost every week, it seems, a former NFL player reveals to the public that he is suffering from some kind of neurological deficiency or disease. Mark Gastineau, an all-pro defensive end for the New York Jets in the 1980s, recently revealed that he has been diagnosed with Alzheimer’s and Parkinson’s disease, as well as dementia (Nathan).

Gastineau attributes these neurological issues to his time playing in the NFL. Although he does not regret his decision to play, or condemn the sport, Gastineau openly worries for the safety of current players (Nathan). His revelation came right on the heels of Bo Jackson, one of the greatest running backs of all time, stating that he would never have played football if he had known what he knows now about CTE and its consequences (Nightengale). He also says that he would never allow his kids to play football: “Even though I love the sport, I’d smack them in the mouth if they said they wanted to play football. Play . . . anything but football” (Nightengale).

Much like Bo Jackson and others, Walter Abercrombie, who was a running back for the Pittsburgh Steelers in the 1980s, also worries about the possible effects his time playing in the NFL could have on him. Abercrombie believes he suffered five to seven concussions throughout his career, and, as he said, “I am worried, that at some point in my future, I will begin suffering symptoms of my old head injuries” (Abercrombie). Although Abercrombie would still have played football if he had known back then what he knows now about concussions and CTE, he did admit that he would have tried to avoid many of the bruising head-to-head collisions he did endure (Abercrombie).

Moreover, Abercrombie allowed his sons to play football growing up, but he “fully supported” their decisions to quit playing after high school (Abercrombie). These pointed remarks from Jackson and Abercrombie illustrate just how serious the issue of concussions and CTE has become for professional players.

There is some evidence that the public discussion about the safety and efficacy of football has started to influence the fans. Viewership numbers reveal that per-game viewership of NFL games in 2016 declined by about four percent from 2015 (Marlow). This number equates to about 800,000 fewer viewers. Although the numbers for regional coverage did not dip significantly over the past season, the numbers for nationally televised primetime games plummeted. The ratings for ESPN’s “Monday Night Football” dropped by a staggering twenty-four percent in the first several weeks of the season (Hubbuck). The viewership numbers for “Thursday Night Football” on CBS and “Sunday Night Football” on NBC were not far behind, dropping by eighteen percent and nineteen percent, respectively (Hubbuck). Even after the non-stop presidential election coverage ended in November of 2016, ratings did not improve (Gwinn, “Monday Night Football”). Although it is difficult to pinpoint the exact reason for the substantial decline in ratings, the popularity of the NFL is clearly waning.

Regardless of television ratings, many commentators and sportswriters believe that the fate of the sport will be decided by lawyers and insurance companies rather than public or player opinions. Simply stated, these commentators argue that the sport will become too expensive to insure as the medical community continues to document the long-term, and even fatal, effects of concussion injuries (McGrath). Eventually, players may begin to demand more lucrative contracts to keep playing, knowing the severity of

the risks involved (McGrath). The NFL has enjoyed incredible financial success over the years, but if these trends continue, the sport may cease to be a financial benefit for all those involved.

A prime example of the complexity of liability issues is presented in the case of Haruki Nakamura, a former safety for the Carolina Panthers, who played five years in the NFL. In 2013, his insurance carrier, Lloyds of London, refused to pay his one-million-dollar claim when he suffered a career-ending concussion (Maske). Despite complete agreement among independent medical examiners, the NFL, and his team that his injury was career ending, the insurance company claimed that it was not clear that the injury was solely attributable to the specific concussion at issue (Maske). Was it that single hit that injured him or the thousands of hits Nakamura suffered throughout a lifetime of playing football? Nakamura exhibits symptoms such as headaches, impaired cognition, and depression, but unlike a broken ankle and an x-ray, there is no definitive way to establish what actually caused his symptoms (Maske). Difficulty in diagnosing these types of injuries remains a problem, and if players are unable to insure against potential career-ending injuries, players like Nakamura may cease to play the game or be unable to afford insurance at all.

Problems with liability extend to youth football as well. In 2015, a one-million-dollar lawsuit was filed against a youth football league in Iowa for negligence in diagnosing and acting on a concussion suffered by one of the league's players (Miles and Prasad). While this lawsuit was ultimately dismissed, in 2016, Pop Warner, a prominent youth football league, settled a wrongful-death lawsuit in which a twenty-five year old former player committed suicide and was later found to have CTE (Brady). Youth sports

attorney, Marc Lamber, believes cases such as this could “open the floodgates,” meaning that these types of lawsuits will only increase in number in the future (Brady). These types of lawsuits may explain why participation in youth football has declined in recent years. Parents may continue to withdraw their children from football leagues as the potential risks of severe head injuries become more widely understood. The cost of insurance may eventually bankrupt youth football leagues, further contributing to the decreasing number of children playing the game.

Despite lawsuits and declining viewership among football fans, condemnation of football and the NFL is not universal. The legal issues surrounding causation in Nakamura’s lawsuit highlight the concerns among some neuroscientists about current CTE research. There is legitimate criticism by some within the medical community of the CTE research that is driving the public discussion about the dangers of football. While Ann McKee’s findings—the numbers are now 94 out of 95 former NFL players with CTE—are alarming, they only demonstrate *correlation*, not *causation* (Grove). To date, there has been no randomized study of the prevalence of CTE in NFL players as compared to the general population (Flynn). All of McKee’s research thus far has been limited to case studies, which introduces a clear bias in her results. This is a fact that even she has admitted is a legitimate concern, as it prevents absolute conclusions about the causes of CTE (Ezell). To be fair, however, McKee is limited in her research. Currently, CTE can only be diagnosed at autopsy, and individuals who are asymptomatic are unlikely to have their brains donated for research.

Furthermore, there is no scientific or medical explanation for the fact that thousands of former NFL players show no symptoms of CTE and lead very normal,

healthy lives after they retire. The chances of developing CTE may be influenced by many other factors, such as genetic makeup and even nutrition, besides being hit in the head while playing football. Kevin Guskiewicz, one of the original concussion researchers, agrees with those who question the validity of the current research. He does not dispute the research on CTE, but he believes there is much misinformation about the disease in the general public. He argued, “I often caution people because I feel like we’ve put the cart before the horse, because there are a lot of factors that go into neurodegenerative disease We can’t just assume because someone’s had two concussions and played football for six years they have CTE” (Alexander). Additionally, he also dismissed the notion of a “concussion crisis.” Guskiewicz contended, “There are no more concussions occurring on our playing fields today than there was five, 15, 25 years ago. The difference is that 20 years ago they went undiagnosed, unmanaged. Kids didn’t know they had a concussion.” (Alexander).

Similarly, Dr. Julian Bailes, Dr. Omalu’s mentor, is another researcher who questions the rush to condemn football on the basis of what is currently known. Like many others, he is concerned with the lack of randomized studies and questions the prevalence of CTE among the general population (Gwinn, “Bob Costas”). He states, “You could say that football, and particularly the NFL, had their own vested interest in this not being true It was hard to believe that if you didn’t have a history full of known concussions, you could still end up with chronic brain damage. There are a lot of reasons that it took longer than one would like for change to happen” (Shaw). Dr. Jeffrey Kutcher, an associate professor of neurology at the University of Michigan, agrees with Dr. Bailes that it is difficult to blame the NFL for being so reluctant to accept the concept

of CTE (Shaw). He noted that the science behind CTE brain injuries in sports is an evolving body of work: “There is a tremendous amount that is unknown, and not a true consensus as to what the risk actually is” (Shaw).

Because professional football is so popular and widely followed by the public, it has become the focal point for discussions about concussions in sports, but concussion statistics are equally compelling in other professional sports. For example, the National Hockey League actually has a higher incidence of concussion injury than the NFL (McGrath). Furthermore, in 2011, twice as many cyclists were treated for head injuries than football players and there were ninety-one documented cycling fatalities, compared to only four on the football field (Prince and Scroggins). Football is not the only sport that poses significant risk to those who play it, and perhaps football should not be the only sport being scrutinized for its potential risks.

Additionally, statistics suggest playing football offers many health benefits. In March of 2012, the National Institute for Occupational Safety and Health concluded that NFL players live longer than men of the same age in the general population (Prince and Scroggins). Former NFL players actually suffer lower incidences of cancer, heart disease and suicide than those who did not play in the league (Prince and Scroggins). As one author stated, “People who play football are going to walk away from the game healthier than those who sit in the stands and watch it” (Prince and Scroggins). Although the incidence of neurological disease or dysfunction may be much higher in NFL players when compared to the general population, the simultaneous decrease in incidence of cancer and heart disease yields overall healthier lives for NFL players. One statistician concluded, after analyzing the general health statistics of NFL players compared to the

general population, “The leaders of the NFL have behaved atrociously, and they’ve been worse than inattentive to the safety of players and their families. But the sport they represent isn’t killing their employees If you have a chance to play in the NFL, you should probably take it” (Engber and Adams).

There is a growing belief among many sportswriters and commentators that technology could play a major role in making the game much safer, and perhaps, “save” the sport. One writer has suggested, “The real saviors of football aren’t in league offices—they’re in laboratories” (Raymond). Research into the development of high-tech equipment, as well as new medical discoveries, both designed to combat the problem of head injuries in football, is ongoing. The hope is that in the near future concussions and traumatic brain injuries will become something that can be diagnosed more efficiently and effectively, and, perhaps, even prevented on the football field.

The concussion issue in football has created what one writer calls an “arms race” in the helmet industry, with several different companies attempting to develop a concussion-proof helmet (Moore). While the shell of the helmet is able to prevent catastrophic injuries such as skull fractures, it is much more difficult to protect the brain from the impact it receives during a tackle. Consequently, researchers have experimented with several different options. For example, researchers have tried using magnets within the helmet to create a “force field” around the skull which would slow down the impact of helmet-to-helmet hits (Wheeling). The results of this research were promising, but there are obstacles as well. First, placing magnets in helmets significantly increases the price and weight of helmets. Also, every player on the field would have to be wearing these helmets to protect against concussive injury, and they would only protect against

helmet-to-helmet hits, not impact with the ground or the knee of another player (Wheeling). Researchers have also experimented with air bladders inside helmets that expand on impact to the head, in addition to open-top helmets that allow pressure to be released away from the skull during impact (Wheeling). Although these prototypes may be promising, they have yet to be tested on the field during actual play.

Furthermore, the perfect helmet would not necessarily eliminate all concussions because head trauma could still occur without a direct hit to the head. Concussion occurs during rapid acceleration and deceleration of the brain, so a whiplash can cause a concussion (Moore). As one commentator noted, “a helmet can’t possibly prevent every concussion that can actually happen” (Moore). Consequently, although well-designed helmets can make a difference in preventing concussions, they cannot completely eliminate the problem.

Simply reducing the number of hits players take in practice can dramatically reduce exposure to head injury for players. This can be done simply by running drills in which nobody gets hit, but tackling is an unavoidable aspect of the game that must be practiced at some point. As a result, in 2013, engineers at Dartmouth created the Mobile Virtual Player (MVP), a human-sized robot that serves as a live tackling dummy for players (Kastner). The MVP is a remote-controlled robot that can serve as a substitute for players in tackling drills and simulated play as well. With the advent of this robot, Dartmouth football coach, Eugene Teevens, has banned all tackling in practice (Kastner). It took some time for the MVP to catch on, but it has been recently used by the Pittsburgh Steelers in their practice facilities (Kastner). In addition to decreasing the number of hits players receive on a routine basis, the MVP also helps teach players proper tackling

techniques. Tackling with the head up and the spine straight dramatically reduces the force to the head, which is perhaps the most effective way to reduce the number of concussions suffered by professional players (Shaw).

Labs continue to research better ways to diagnose concussions. Researchers at the University of Pennsylvania have isolated a protein, SNTF, which is elevated in the bloodstream immediately following a concussion (Donegan). Presence of a biomarker such as SNTF, which can be identified in a blood or saliva test on the sideline, would be revolutionary in diagnosing concussions (Raymond). This would allow doctors and trainers to make quick, informed decisions about the health of players and allow them to identify concussions that may not be obvious to personnel on the sidelines.

Other developments that would improve concussion diagnosis involve equipment that can measure head movement and the force of impact on players. These technologies would allow coaches and trainers to more effectively monitor players. One of these pieces of equipment is a mouth guard that contains an accelerometer and a gyroscope to measure head movement and detect hits that could result in a concussion (Raymond). Additionally, a thin skullcap, developed by Reebok, can be used to measure the force of impact a player absorbs during a hit to the head (Raymond). Both of these new devices, as well as others that are being tested, could allow doctors and trainers to collect valuable information regarding the health of the players and take appropriate action, even when no visible signs of a concussion may be observed.

Tools like these could potentially serve another role in preventing concussion injury in football. The ability to measure head movement and impact force has allowed researchers, like Kevin Guskiewicz, to observe and quantify what specific types of hits

produce head trauma. Because of his research at the University of North Carolina, the NFL moved kickoffs up five yards to decrease the force and impact absorbed during these dangerous plays (Alexander). As a result, concussions suffered during kickoffs were reduced by forty-two percent, prompting the NCAA to adopt the same rule in collegiate football (Alexander). Furthermore, research using this technology has shown that the risk of concussion is greatly decreased if a player's neck is tense, rather than relaxed, at the moment of impact. Consequently, the NFL has adopted rules that prevent hits to the head of players in the process of throwing, receiving, or punting (Shaw). Rule changes such as these, adopted because of advancements in technology, have reduced the rate of concussion injuries in sport and made the game safer for its players—a significant step for the NFL.

Jordan Kovacs, a recently retired NFL player, played for the Miami Dolphins and was a member of several practice squads—the Eagles, Chiefs, and Rams—from 2013-2016. His perception of the NFL's attitude toward players and the dangers of football is different from that of Walter Abercrombie and others, probably because of recent changes the league has made, as well as the fact that Kovacs has never suffered a concussion (Kovacs). Kovacs believes that the game has become much safer over the years with improved equipment, the practice of enforcing flags and fines for dangerous plays, and more intense concussion protocol (Kovacs). Moreover, Kovacs maintains that proper technique and safety precautions, taught by coaches and trainers, can significantly decrease the risk of head injury. He opined, "I've always believed that if I developed safe technique and was smart with any head injury I suffered, the game was worth playing" (Kovacs).

Perhaps the most significant medical discovery that could change the dynamic of the concussion issue for the NFL, however, is the ability to detect the presence of CTE in living people. Currently, CTE can only be diagnosed at autopsy. This could potentially change, with the use of radionuclide F18 DDNP glucose-PET, a tracer that provides a marker for *in vivo* tau protein deposits (Shaw). The use of this marker has only been used to date in a small study at the University of California, Los Angeles, but Dr. Julian Bailes, a prominent concussion researcher, asserted, “If borne out in large studies, this would give us, for the first time, the ability to sample populations and follow people while they are still alive” (Shaw). Obviously, a tool like this would be significant in alleviating the risk involved for players fearful of developing CTE, and protecting players who may already suffer from the beginning stages of the disease. It could also provide a way to conduct a randomized study within the general population to determine the prevalence of CTE and confirm whether or not this disease is a condition unique to the NFL. This promising research could be a game-changer for the future of the NFL and football in general.

Significant steps are being taken to make football safer for its players, but there will always be dangers involved in such an inherently physical sport. As one writer contended, however, “That’s easier to accept when everyone knows what the true risks are—and can be confident that the NFL is doing all it can to mitigate them” (Dawidoff, “How to Save Football”). In his article, Dawidoff suggested that the only way to save football is for the NFL to convince the public and the players that the health and safety of its players is the league’s first priority. Ultimately, in order to preserve the game of

professional football, the NFL must be on the medical forefront in research, diagnosis, and prevention of traumatic brain injury.

CHAPTER SIX

Conclusion

The future of football, and particularly the NFL, is clearly uncertain. While the league has come a long way from its humble beginnings in an auto showroom in Canton, Ohio, recent medical discoveries and information related to the physical consequences of the game threaten its future viability. Over the years, the game has adapted to concerns about its brutal nature and become America's most popular sport. Indeed, the NFL, due to the hard work and innovation of Pete Rozelle, has reached unprecedented levels of financial success. The game's future, however, is uncertain given researchers' discoveries about CTE and the potential long-term consequences of playing football. It is now quite clear that football players, particularly those in the NFL, risk suffering severe long-term neurological damage. It has also become very clear that the NFL tried to hide and downplay this information in order to protect its own successful business model. Knowing all of this, football has become increasingly difficult to defend.

Consequently, the incredible popularity enjoyed by the NFL has declined in recent years. Ratings are down, and the future of the game is in question. In response, the league has made significant strides in attempting to make the game safer, and it has begun to make amends for its mistakes in covering up the truth about traumatic brain injury. Despite this, the next ten to twenty years will be difficult to predict for football and the NFL. In a generation, the game may not be sustainable, as parents push their sons toward other, less violent sports.

In spite of its current troubles, football remains ingrained in American culture and will not be easily eliminated. Many players, fans, and medical professionals do not believe football should be erased from the sports scene. Although it is physical and, at times, brutal, the sport also offers many redeeming qualities, as discussed in this paper. Football is a staple of American culture, and it provides a way for many young men to create a future for themselves and their families.

Yet, the NFL, and all governing bodies of football, must endeavor to make the game as safe as possible. Players must be fully informed of the health risks involved and confident that they are being protected in every reasonable way possible. Additionally, the NFL must become, and remain, transparent about these issues. Money cannot, and should not, be the driving force behind professional football. The league must seek the best for its players by placing itself on the forefront of research concerning traumatic brain injury. Only then can it preserve its own future and the uniquely American game of football.

In many ways the NFL and its history with head injuries is a telling slice of Americana—good and bad. At its core, football is for the tough and talented. For a century and a half, its warrior mentality has captured the imagination and support of many within sporting culture, which, in turn, captured the attention of America's most creative and talented marketing geniuses. Television and promotion transformed the sport into a multi-billion dollar phenomenon. Its overwhelming success, though, has served as the source for its corruption. The health hazards of the game were always troubling but, ultimately, a part of its attraction. When those hazards began to claim players' livelihoods, sanity, and even their lives, the NFL reacted shamefully. Its concern for

profits and its brand trumped the well being of the players. Now, can it save itself? Can it re-establish its priorities and its reputation and apply its genius and ingenuity to the safety of its players? Or, is it too late? Parents are already looking elsewhere for the sporting glory of their sons, but the story is not yet finished.

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