T-Mails, The Telegraph and Battle Management
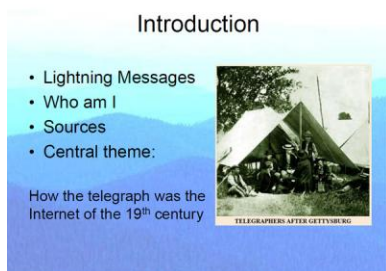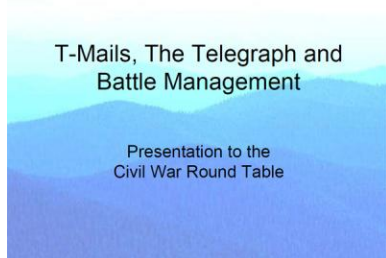
A presentation to the Palm Beach County Civil War Roundtable

Good evening. As most of you know my name is Robert Schuldenfrei. While researching my talk four years ago on logistics, I was struck by how much the telegraph changed the nature of supply. Now, my topic back then was so broad that I could not do justice to the telegraph. So this evening we are going to drill down into how this technology and its use fundamentally changed the management of large organizations. This talk will be introduced by discussing four items which will set the table for what Tom Wheeler calls "T-Mail."

Briefly, I will lay out telegraphy, which Civil War era authors call "lightning messages." Next, I will give you some reasons why I am qualified to talk to you tonight on this topic. Following that I will explain that I did not author these materials; I had some fairly impressive sources for the material which supports this program. And finally, I will place an overarching structure to tonight by claiming that the telegraph was the Internet of the 19th century.
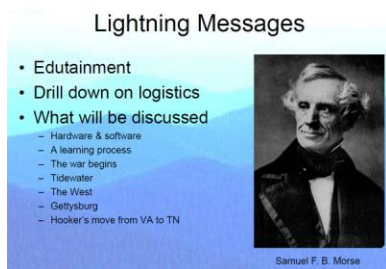
Ever since Ben Franklin flew a kite in a thunder-storm people understood that electricity moves very fast. While the telegraph does not transmit at the speed of light, it is fast enough to be considered "real time" communication. This concept so changed the 19th century that one can truly assert that telegraphy had more impact on that era than the "information revolution" does to ours. As much as I might want to lecture you with facts and figures, and there is so much data about them that it is easy to do, these talks are all about "edutainment." So, I hope to regale everyone with the stories of results rather than the "nuts & bolts" of how it works. Some brief explanation of the "how" is necessary, but not much.

Here is what we will discuss:

- Hardware & Software
- A learning process
- The war begins
- Tidewater
- The west
- Gettysburg
- Hooker's move from VA to TN

Who Am I and Why This Topic

- A student with a keen interest in logistics
- An economics major, back in the day
- A computer programmer by trade
- I have a interest in information technology
- The beginnings of real-time management at a distance has never really been told

Most of you know me, but for the record I am not a professional historian. I am, however, a student of history with a keen interest in logistics. We all know the clichés like "an army moves on its stomach," but most of use rarely drill down into the effect of logistics on human enterprise. Because I was an economics major, back when dinosaurs roamed the planet, I was exposed to logistics early on. I went on to become a computer programmer and developed a keen interest on the impact upon logistics management by information technology. Our topic tonight is the genesis of real-time management at a distance. This story has never really been told in any detail.

Sources

- *Mr. Lincoln's T-Mails* © 2006 by Tom Wheeler
- *The Military Telegraph* © 1882 by William Plum
- *Lincoln In The Telegraph Office* © 1907 by David Homer Bates

There were three principle sources for tonight's presentation; one book of recent vintage and two written by people who held positions of importance during the Civil War.

Tom Wheeler, a former director of the Public Broadcasting Service, is an international respected consultant to information technology management. *Mr. Lincoln's T-Mails* came from an observation that he had while watching a TV news item during the Iraq War of soldiers sitting at computer terminals sending electronic messages back and forth. "It's war by e.mail" Tom concluded. This got him thinking about the first war by electronic communications.

William Plum wrote *The Military Telegraph During the Civil War in the United States, an Exposition of Ancient and Modern Means of Communications, and of the Federal and Confederate Cipher Systems*, in 1882. In February 1862, as a young man of sixteen, Plum volunteered his services as a telegrapher for the Union Army. Plum was eventually assigned to General George H. Thomas and served with him until the end of the war. He observed that the story of the telegraph had been largely ignored by historians of the day. He produced this two volume work based on his observations and the *Official Record*. Because he knew all nine codes of the telegraph service he understood the original transcriptions of the messages.

David Homer Bates was one of the original four operators of the U.S. Military Telegraph Corps. He, like the other three, was from the from the Pennsylvania Railroad Company. They were charged with maintaining communications between the federal government in Washington and the commanding officers of the far-flung units of the Union Army. It was not until 1907 that he wrote his study of Lincoln called: *Lincoln in the Telegraph Office*.

19th Century Internet

How the telegraph was the Internet of the 19th century

When the Internet was invented in the 1970s, and when it went "viral" in the 1990s, it was treated by the press and public like some big revolution. It was, of course, however, the public was ready for this change having experienced instant communications for the whole of the 20th century. The history of radio, telephone, television, and computer to computer data exchange had positioned us to treat the Internet as just one more medium of real-time experience at a distance. Contrast this with the telegraph as explained by Tom Wheeler.

Before the telegraph the speed of communication at its fastest was the speed at which a horse could run. With the exception of small experimental chains of signal flags or fires communication was bound by the iron law of communications: The history of mankind had been controlled by the absolute certainty that distance delayed the delivery of information. Almost overnight, the telegraph destroyed all that in a lightning strike! This, then was the information revolution.

Telegraph – Hardware/Software

- Invention
- Pre – Civil War
- Railroads – Its use in management

When I spoke to you about logistics I made the distinction between hardware and software. The telegraph hardware goes back to the 1830s with Morse and others who perfected the ability to send a signal over great distance. By the end of the 1840s this invention spread like wild fire. The software was the structured information that was sent over the wires. This was pioneered by the railroad along whose right-of-ways the lines were strung.

Hardware

- Key & sounder
- Grove cell batteries
- Insolated wire
- Glass pole insulators
- Relays

While others had demonstrated an electric signal could go short distances down a wire, the Morse equipment could send information thousands of miles. Between 1832 and the demonstration in 1844 Morse and Alfred Vail made many changes to the original equipment. Key to long distance was wire insolation, powerful batteries of many cells, poles with glass insulators, and relays. The relay allowed for local battery circuits every few hundred miles to boost the signal strength.

Pre – Civil War

- 1844 - < 50 miles
- 1860 > 50,000 miles
- AP formed
- California by 1861
- Business transactions

By any measure of growth the invention "went viral." It is interesting to note how often shady users spur the growth of a new technology. Porn movies were the "killer app" for the video tape recorder. It was the same for the telegraph. The first telegraph customers were lottery "sharps" and stock brokers who obtained advance secret knowledge, of lottery numbers or the Philadelphia stock exchange, to gain advantage. But, as the benefits of real-time information became known growth of the telegraph became explosive. In 1846 six newspapers formed the Associated Press to share the cost of getting the news of the war with Mexico to the cities of the United States. As you can see, the miles of telegraph lines grew in the years before the Civil War. By 1861 the lines had crossed the continent. Ordinary business found it advantageous to sell their products by way of telegraph order entry. Remember the business card "Have Gun Will Travel" Wire Paladin – San Francisco.

Railroad Management

- Too unreliable
- By 1851 some use
- Dispatch "killer app"
- Other functions added
- Management from afar

The railroads were not the first to adopt the telegraph in order to manage their operations. The early telegraph was too unreliable for that. However, the track beds were a natural route for the lines to take. Some railroad companies feared that falling poles could cause accidents, but most of the companies allowed them. By the 1850s railroads and telegraph lines grew together. It was found that train wrecks could be dramatically reduced by telegraphic dispatch. That became the "killer app" for the

railroads. Most rail lines were single track. Anything that cut down head on collisions was of great value. Once dispatch was widespread, other uses soon took hold. Scheduling, inventory control, ordering, purchasing, and general planning all became common functions of the railroads. The railroad executives who developed these systems became the information technology management experts. Remember, a railroad, by definition operates from many locations. Meeting by telegraph became a standard way of doing business for these firms. It will have a great impact in the coming war.
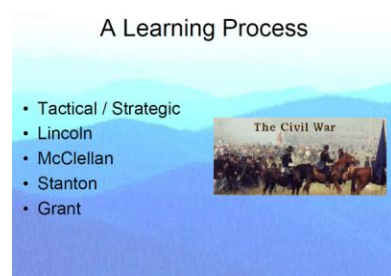

By 1861 it had become clear that management at a distance would be critical in the current conflict. Before we plow into various examples of the use of the telegraph we should touch on the various approaches to this technology. Scale of implementation is a useful starting point. Here we will look at the employment along the spectrum from small scale tactical use to the overall strategic command and control of the whole war. There are four players who will be mentioned from time to time. We should start by talking about the differences between the four.

As I started to learn about the use of the telegraph I was amazed to learn how much it was employed by small units in the field. While most of this talk will concern itself with the senior leaders of the conflict using the telegraph, much of the wire laid was down at brigade level. I even found an example of a brigade commander, Jacob D. Cox, sending telegrams directly to the War Department in Washington, DC. As the war progress the wire followed the troops. When movement stopped, the lines were laid to the lower level units. In this way orders could be given by the commander without the use of couriers. Of course, when a unit was on the offense real-time communication came to a halt.
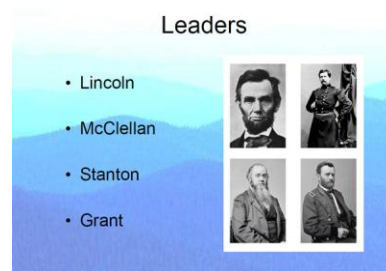
When these four leaders are mentioned in the stories that follow we should keep a few ideas in mind. All of these men came to adopt a personal style when it came to employing the telegraph. Lincoln was slow to adopt the technology at first, but learned to use it very effectively. He is the central figure of the Wheeler book. This is the story of how the President learned to use technology to establish a modern management structure.

McClellan is important because the telegraph caused his sudden rise to the top of the command structure. It was to ultimately trigger his fall from grace. In the middle, his command was the proving grounds for Lincoln and his staff to learn how to effectively manage from a distance. Stanton is included because he was the central figure in the story of how two army corps were moved from Virginia to Tennessee by rail. And finally we tell Grant's story of how he was able to command all theaters of war from his location in Virginia. Not only was he controlling Meade's Army of the Potomac, with whom he travelled, but all of the armies of the Union. It was the telegraph that enabled him to do so.

The formal start of the Civil War was the opening bombardment of Ft. Sumter at 4:30 AM on April 12, 1861. Interestingly enough the first telegram was sent not to Montgomery, Alabama but to the War Department in Washington, DC. It was from none other than Pierre Gustave Toutant Beauregard himself:

Gen. Beauregard to the Secretary of War.
Charleston, April 12, 1861.

We opened fire at 4.30 minutes.

G. T. Beauregard

[*National Republican* newspaper April 13, 1861]

From Beauregard's telegram, Lincoln gets the word. But the country, north and south did not have to wait until the 13th as word of the bombardment spread by newspapers just as soon as Beauregard's batteries opened fire. Here is a diary entry from an article in the *New York Times*:

The Diary of George Templeton Strong: April 12, 1861

"Extra – a Herald! Got the Bombardment of Fort Sumter!!!" ... The dispatch is a column long, from Charleston, its substance to this effect. The rebel batteries opened on Sumter at "twenty-seven minutes after four" this morning. Major Anderson replied only at long intervals till seven or eight o'clock when he began firing vigorously.

Like the rest of the country, word did not come from Northern sources as Anderson was put aboard the steamer Baltic and was at sea on this date. On April 18th Anderson sent his first report to the Secretary of War, Simon Cameron, by telegraph from New Jersey. He made the following points:

- He defended the fort for 34 hours.
- It was ablaze and he was out of ammunition.
- They were low on food.
- He accepted Beauregard's terms and marched out with the colors flying.

Later telegrams were sent by Beauregard throughout the country, both North and South, including this one to Jefferson Davis:

President JEFF. DAVIS,
Montgomery, Ala.:

Quarters in Sumter all burned down. White flag up. Have sent a boat to receive surrender. But half an hour before had sent a boat to stop our firing and offer assistance.

G. T. BEAUREGARD.
CHARLESTON, S. C., April 13, 1861.

You will note that telegraph communication had not yet been cut between the Union states and the states of the Confederacy.
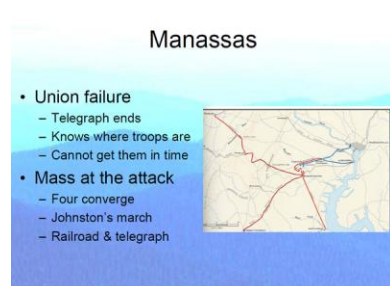
The operations of the telegraph networks were split in at least three ways. There were the private telegraph companies who continued to function during the war. At the outbreak of the war there were three great private telegraph corporations; two at least were vying for supremacy. These three, the American Telegraph Company, the Western Union Telegraph Company, and the Southwestern Telegraph Company, connected all of the cities and a great number of towns of the Union, except in the far West. Even there, the Western Union people were busily at work, so that before the winter of 1861-2 the telegraph reached San Francisco.

The Army had the Signal Corps whose job it was to disseminate intelligence. It did this, prior to the war, by many means, but not including the telegraph. As the importance of the telegraph became obvious the Signal Corps tried to commandeer wire communication often with bizarre equipment that were a far cry from the Morse telegraph. An interesting topic would be a discussion of the Beardsley mechanism. While the Signal Corps had nominal control of the telegraph another organization was set up.

USMTC
- 3 organizations
  - Private companies
  - USMTC
  - Signal Corp
- April 19, 1861
- Original people
- First line
- Lincoln's troops call

This was the United States Military Telegraph Corps (USMTC). It was strictly an expedient. On April 12, 1861, the news of the attack on Fort Sumter sped throughout the nation by way of the three principle private telegraph companies. In the emergency the nation had fallen into, Simon Cameron sought the aid of Thomas A. Scott of the Pennsylvania Railroad. Scott drew men from Pennsylvania for railroad and telegraphic duties with the government. Interestingly enough, the first of these was Andrew Carnegie. Because Washington, DC was surrounded by the hostile States of Virginia and Maryland, something had to be done to protect the capitol. Thomas Scott was given the rank of colonel. On April 19th he commandeered the telegraph offices in Washington. He installed his own men in these sites and thus the USMTC came into being. The first new line connected the War Office with the Navy Yard. The USMTC became legitimate in two steps. First, in October, Lincoln formally established it. On February 26, 1862, under permissive legislation of the preceding month, the President took control of all telegraph lines in the United States, which meant that the Military Telegraph could use them as circumstances demanded. When Lincoln's call went out on April 15, 1861 to summon 75,000 troops to national service, that message went out to the states by way of the telegraph. Most of the discussion between the governors of the states and the federal government took place over that same telegraph.

Manassas
- Union failure
  - Telegraph ends
  - Knows where troops are
  - Cannot get them in time
- Mass at the attack
  - Four converge
  - Johnston's march
  - Railroad & telegraph

The telegraph did not serve the Union well at Bull Run. As Union troops marched south the telegraph did not move as fast. As a result, the line ended at Fairfax Courthouse leaving a gap between there and McDowell's troops. Worse, Patterson some miles north of Harper's Ferry at Martinsburg, VA could not be ordered to converge to support McDowell approaching Manassas. The Confederates had no such problem. Beauregard telegraphed the Confederate Secretary of War, who electrographed Joe Johnston by 1:00 AM on the July 18th, directing him to bring immediately the greater part of his army to Manassas. Johnston was in the Shenandoah Valley not far from

Patterson. Johnston could unite with Beauregard while Patterson could not link up with McDowell. It is interesting to note that Washington had telegraph communication with Harper's Ferry, but Patterson was northwest of there in Martinsburg. He was able to tell the War Office that Johnston had left the Shenandoah Valley, but he did not get a direct order to come at once.

It is unclear why the Federals did not push the telegraph further south from Fairfield Courthouse, but they never did. If they had they could have called for help or at the very least made an organized retreat possible. If, before the battle, the division commanders had wire communications they could have shifted units around during the battle. This would have made McDowell's overly complex battle plan much more feasible.

Contrast this with the ease at which the Confederates were able to pull off a very difficult military maneuver, convergence on the field of battle. As Beauregard got intelligence that McDowell was on the march he moved his 20,000 troops to Manassas. He wires Davis for reinforcements. Davis sends a telegram to Johnson to come at once with his 9,000 men. They marched by foot to Piedmont and then by rail to the battlefield. They arrive in time for the battle on the 21st, albeit in piecemeal manner. Holmes' division of 3,000 joins up too. Finally, more troops come up by rail from Richmond such that McDowell does not have superior mass by the time the battle is joined. It should be noted that both sides tried this trick of converging at the point of attack throughout the war with mixed results. Sometimes it worked and sometimes it failed. Good telegraph communications made this tactic work and poor commo often led to failure.

Rich Mountain

- McClellan's command
- First victory
- THE telegram
- Results

As McDowell's star was setting it is interesting to note how George Brixton McClellan's rose. Let's turn back the clock a few days to July 8th. McClellan, in West Virginia, send his troops forward to meet the Rebels at Rich Mountain. Plum points out that at this point the telegraph service was highly complimented by General McClellan's staff. Chief Commissary, McFeeley, openly declared that, but for the telegraph, the army would have been delayed many days at Buckhannon. This well-earned acknowledgement was a triumph in itself.

Leaving Buckhannon on July 8th, the telegraph men kept close to the army, reaching a point within two miles of Rich Mountain on the ninth. The battle of Rich Mountain was fought on the eleventh. McClellan's troops, having won the first real victory of the war, the Northern people were greatly elated by his telegram, wherein he reported his successes. He also issued a congratulatory order to the troops, which was probably the first order ever printed in a portable printing office, regularly connected with an army on a campaign. It is clear that old George really understood public relations.

On the morning of July 12th, General Rosecrans entered the abandoned Camp Garnett and sent word to General McClellan that the enemy had been routed. General McClellan promptly sent a telegram to Washington claiming a great victory for his army. This communication secured McClellan's reputation as a winning general and led to his appointment as commander of the Army of the Potomac.

Here is the telegram:

HEADQUARTERS DEPARTMENT OF THE OHIO,
Rich Mountain, Va. - 9 a. m., 12th. [July, 1861.]

Colonel E. D. TOWNSEND:

We are in possession of all the enemy's works up to a point in sight of Beverly. have taken all his guns, a very large amount of wagons, tents, &c. everything he had. A large number of prisoners, many of whom wounded. Several officers prisoners. They lost many killed. We have lost in all perhaps twenty killed and forty wounded, of whom all but two or three in the column under Rosecrans, which turned the position. Mass of enemy escaped through the woods entirely disorganized. Among prisoners, Dr. Taylor, formerly of the Army. Colonel Pegram was in command.

Rosecrans' column left camp yesterday morning and marched some eighth miles through the mountains reaching turnpike some two or three miles in rear of the enemy. Defeated an advance force, taking a couple of guns. I had position ready for twelve guns near main camp, and as guns were moving up ascertained that enemy had retreated. I am now pushing on to Beverly, a part of Rosecrans' troops being now within three miles of it. Our success complete and almost bloodless. Doubt whether Wise and Johnston will unite and overpower me. Behavior of troops in action and towards prisoners admirable.

GEO. B. MCCLELLAN,
Major-General, Commanding.

So now we have a bit of self-promotion. What were the results? Quite good for George. His victory with twice as many men as the Rebels had played very well in the press. They started to call him the "Young Napoleon." At 2:00 AM on the morning after Bull Run, a shaken, but not panicked Lincoln summoned McClellan by telegram to come to Washington to take command of the army. That same day Lincoln signed a bill calling for first 500,000 three year troops. Shortly thereafter he got another half million to form what will be called the Army of the Potomac.

Now we should not be too critical of McClellan at this point. The man did what was expected of him. George B was a superb organizer of men. He took a cowering collection of regiments, suffering from the recent defeat at Manassas, to form a cadre around which he was to fashion a real army. To these pathetic souls he added raw recruits as they poured in from Lincoln's call and formed an effective fighting force on a grand scale. Keep in mind it is one thing to organize tens of thousands of men into a few regiments. It is quite another thing to create a million man

West of Washington

- Corps d'Armee
- Lee & Jackson
- Spring 1862
- Lincoln telegram
  - What it was
  - What it meant

army. He got rid of officers unsuited for the job and professionally trained the men, turning recruits into soldiers. He installed discipline and pride in the troops who repaid him with an admiration they felt to no other general. All of this served McClellan very well in the Union's dark days of the summer and fall of 1861.
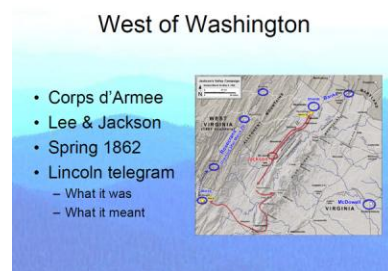
Before taking up McClellan's Peninsular campaign let us look to see what others were doing west of Washington's command

central. This topic is included, not so much to recount the stunning military mind of Thomas Jackson, but to demonstrate the growing skill of Lincoln's management at a distance. Prior to his going to Yorktown, McClellan organized his forces into "corps d' armee" commanded by five men of modest abilities. This corps was to open and protect communication over the Baltimore & Ohio Railroad, and guard Maryland and Pennsylvania from surprises in force down the Shenandoah Valley. If need be, it could lend a helping hand for the defense of Washington, while McClellan was on the Peninsula.

In my opinion, this was not unreasonable. With McClellan headed to the peninsular, overall command was given to Halleck. Thus, there was unity of command, and in particular, control of forces which could come to aid either McClellan or the defense of Washington. Add to this, there was good communications by telegraph to all five commanders in the field beyond the peninsular.

This should have allowed for theater concentration of force to overwhelm the Confederacy were it not for the suggestion of Lee and the action of Jackson. Tom first defeated part of Fremont's command at the hamlet of McDowell on May 8th. This freezes Fremont. He then fakes a move east to reinforce Johnston, and head up the valley to the north to take on Banks. He combines his forces with Ewell's and slices off some of Bank's troops at Front Royal on May 23rd. On the 24th he captures a great deal of supplies (leading to the name "commissary" Banks) and defeats Banks at Winchester on the 25th. Banks now pulls back and Lincoln, by telegraph, sends McDowell to aid him in the Valley. It is only now that Jackson heads to the peninsular. Jackson watched from his pivotal position, Fremont on his left, Banks in front, and McDowell on the right. These forces aggregated about sixty thousand men. Forty one thousand of them would have (could have) joined McClellan and triumphantly entered Richmond, had they not been maneuvered away by Jackson's audacity.

How effective this was is noted by a telegram from Lincoln (not Halleck) to McClellan. McClellan was expecting reinforcements as he writes: "This information that McDowell's corps would march from Fredericksburg on the following Monday (the 26th), and that he would be under my command, as indicated in my telegram of the 21st, was cheering news, and I now felt confident that we would on his arrival be sufficiently strong to overpower the large army confronting us. At a late hour on the same day I received the following: 'In consequence of General Banks' critical position I have been compelled to suspend General McDowell's movements to join you. The enemy are making a desperate push upon Harper's Ferry, and we are trying to throw General Fremont's force and part of General McDowell's in their rear. A. LINCOLN.'" George B was not pleased.

Lincoln did not use the telegraph much in 1861. By the spring of 1862, his direct use is what Wheeler calls "Lincoln's Electronic Breakout." With the sending of this telegram to McClellan Lincoln has dramatically changed the way he exercised his leadership. There was no general-in-chief (Halleck was AWOL); instead the commander-in-chief took to the wires. He had projected his personal authority into the field using his instincts and natural abilities as a leader. The technology lengthened his long arm of command; and it was a day that the universe changed.

USS Monitor vs. CSS Virginia

• Telegraph/Press
• Ft. Monroe line
• USS Cumberland
• Monitor vs. Virginia

It is time to shed some light on how the telegraph informed the public, taught Lincoln how to take command, and how the military implemented command from a distance. All three of these concepts are in play in the Peninsular Campaign in Tidewater Virginia. Our first topic will be the battle between *USS Monitor* and *CSS Virginia*. Unlike the battle of Manassas, reporters were on the scene during those fateful days of March 1862. During the previous month an underwater cable was completed from Ft. Monroe at the tip of the peninsular to the Eastern Shore of Virginia and then to the war department. The line was constructed by the American Telegraph Company. While the military paid for construction, traffic on the line was available to news outlets such as the New York Times through the aforementioned Associated Press agreement.

First we have a report by George Cowlam of the damage done to the blockading fleet by *CSS Virginia*: 'Tis Cowlam, and this is what he telegraphs: "She is steering straight for the *'Cumberland'*" - a pause - " The ' Cumberland ' gives her a broadside " - waiting at the fort - "She keels over" - suspense - "Seems to be sinking " - anxious watching - " No ; she comes on again " - great anxiety - " She has struck the ' Cumberland ' and poured a broadside into her. God! the ' Cumberland ' is sinking " - breathless suspense - "The *'Cumberland'* has fired her last broadside."

The next day Secretary of the Navy Gideon Welles, and the whole nation, learn of a major shift in naval warfare. Here is the real time account of the action between *USS Monitor* and *CSS Virginia*:

HEADQUARTERS, Fortress Monroe - 6:45 p. m.
(Received March 9, 1862.)

The *Monitor* arrived at 10 p. m. last night and went immediately to the protection of the *Minnesota*, lying aground just below Newport News.

At 7 a. m. to-day the *Merrimack*, accompanied by two wooden steamers and several tugs, stood out toward the *Minnesota* and opened fire.

The *Monitor* met them at once and opened her fire, when all the enemy's vessels retired, excepting the *Merrimack*. These two ironclad vessels fought part of the time touching each other, from 8 a. in. to noon, when the *Merrimack* retired. Whether she is injured or not it is impossible to say. Lieutenant J. L. Worden, who commanded the *Monitor*, handled her with great skill, assisted by Chief Engineer Stimers. Lieutenant Worden was injured by the cement from the pilot house being driven into his eyes, but I trust not seriously. The *Minnesota* kept up a continuous fire and is herself somewhat injured.

She was moved considerably to-day, and will probably be off to-night. The *Monitor* is uninjured and ready at any moment to repel another attack.

G. V. Fox, Assistant Secretary.
G. WELLES, Secretary Navy. [OR Naval Ser. I Vol. 7 p. 6]

It is clear by now that in the Civil War the citizens of a country at war is learning about the events of that war at almost the same time as the commanders who are fighting said war.
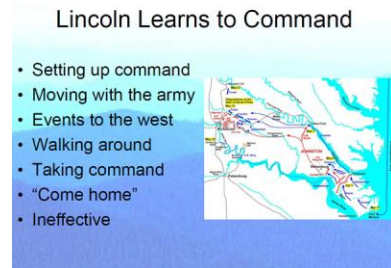

On February 1, 1862 McClellan set up his command on the steamer *Commodore* docked in the Potomac River in Washington. A telegraph wire was run from army headquarters to the ship. Major Thomas Thompson Eckert, head of telegraph operations, will move with the Army. On April 1st 12 division of the army moved to Ft. Monroe along with McClellan. Up to this point the only telegraph traffic was between McClellan and Army headquarters. Lincoln is monitoring the messages, but remains silent. The stage is now set for dramatic change. I have already suggested to you that Lincoln kept McDowell back to protect Washington and how he breaks the news to McClellan. George was not amused and sent back a long and flowery telegram, which was his style. I would read his telegrams to you, but that would take hours. One sentence will have to do: "I cannot bring into actual battle against the enemy more than 80,000 men at the utmost, and with them I must attack in position, probably intrenched [sic], a much larger force, perhaps double my numbers."

Lincoln, who was famous for what is now called "management by walking around" travelled by boat to Ft. Monroe. When he learned that McClellan had sat before Yorktown for a month, Lincoln was livid. He took off his stovepipe hat and slammed it to the ground. He alone, and not the army commander, ordered an attack on Norfolk which led to its abandonment and the scuttling of *CSS Virginia*. Seeing what the exercise of power could do, he sailed back to Washington a changed man. McClellan did not get the meaning of this visit and so continued to wire back his plea for more troops. Lincoln, who was as brief with his messages as McClellan was verbose, replied to a 10 page telegram with: "I am still unwilling to take all of our forces off the direct line between Richmond and here."

On May 24, 1862 Lincoln sent 9 telegram, more in one day then he had sent in total since assuming the office, to his far flung commanders: Fremont, McDowell, McClellan, and Saxton. The result was the protection of Washington and the peninsular would have to make do with what it had. When McClellan "screamed" over the line that it was the President's duty to support him, Lincoln reminded him of his position by wiring his general: "and last I must be the judge as to the duty of the government in this respect." As the Seven Days progressed McClellan explains by telegraph that he is in no way responsible for his defeat; it is all Lincoln's fault. But Lincoln had bested him by T-Mail. The commander-in-chief was using the position that the technology had given him to actually command.

It was all over, but the shouting as they say. When the army retreated to Harrison's Landing, and its commander to a ship in the James, it became a wire debate between Halleck and McClellan. Halleck messages were short, McClellan's long. Here is the blow by blow: AUG 3 Halleck "come home." AUG 4 McClellan "Army is in great position to take Richmond." AUG 5 Halleck "withdrawal order will not be rescinded." AUG 6 McClellan "why not reinforce me here?" AUG 7 McClellan "starting to load the sick on ships." And "I do not have enough ships." AUG 9 Halleck "enemy forming in front of Pope and Burnside, you must send reinforcements." By August 14th McClellan is dragging his feet, but he is complying.

McClellan used the telegraph for a tactical advantage with communications to his subordinates. He was unable to accomplish his strategic ends because he was ineffective on the field. No amount of telegram messages, however long, could convince either Lincoln or Halleck to see the battle his way.
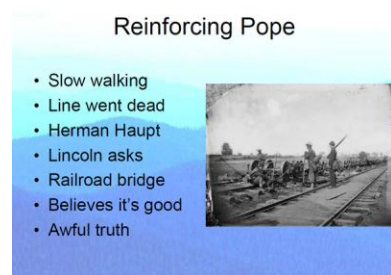
Lack of telegraph communications contributed to the Union grief in mid-August 1862. McClellan was dragging his feet at Harrison's Landing, but on the 16th he finally returns to Alexandria. He is not anxious to see Pope score a big victory. So he "slow walks" in the direction Manassas Junction. Lincoln had been enjoying the information the telegraph had been giving, so when it stopped it gave him grief. On the 26th Jackson swung around Pope and destroyed the massive supply dumps at Bristow Station and Manassas Junction. In the process, they cut the lines between Pope and Washington. From that point on, until the battle had been lost, Lincoln had no real-time information from Pope.

The best Lincoln could get was from COL Herman Haupt. Although he appears to be stationed in Alexandria he has a good "view" of the developing situation because he is in communications with people close the Confederates, but north of the action. Although Haupt worked for both the railroad and the army, it was his position as a railroad man that allowed his access to the wire that ran along the track bed of the Orange & Alexandria RR. Haupt sends a man down the line to gather information.

Here are snippets between Lincoln and Haupt from the man down the line. AUG 27 4:25 PM Haupt: "20 minutes ago I learned the enemy has crossed Bull Run bridge and probably destroyed it." AUG 27 4:30 PM Lincoln: "What became of our forces?" AUG 27 5:00 PM Haupt "the 11th Ohio defending the bridge, but falling back."

At this point Haupt had his hands full and could not reply to Lincoln. He is asking McClellan, who has just returned from the peninsula, to quickly board a train to aid Pope. McClellan all but refuses to help Pope. It was the next day that Haupt got back to Lincoln. AUG 28 12:50 PM Haupt: "Went out to meet some the retreating troops. Rebel forces are great and their top commanders are in charge. I have sent more people out to gather information." AUG 28 2:40 PM Lincoln: "How do you know this to be true?" AUG 28 3:15 PM Haupt: "One of our surgeons was captured and released brought the news." 4:40 PM Haupt: "Our forces are reconstructing the bridge. Maybe we have bagged Jackson." AUG 29 Lincoln: What news?"

At this point even Haupt believes the news is good. AUG 29 Haupt: "General Pope was at Centreville this morning at 6 o'clock; seemed to be in good spirits; Hooker driving the enemy before him, McDowell and Siegel cutting off his retreat; army out of forage and subsistence; force of enemy 60,000. This is the substance of information communicated by two ambulance drivers who came from Centreville..."

At last Lincoln receives the bad news. By August 30th it is becoming clear to all in Washington that Pope was not driving the enemy, but fleeing himself. The news does not come from Haupt, but from many other sources. This leads Lincoln to say to John Hay: "Well, John we are whipped again."

However, Lincoln was most impressed with Haupt. On September 5th he was raised to the rank of Brigadier-General of Volunteers, "for meritorious services in the recent operations against the enemy near Manassas,"

It should be clear that sometimes Lincoln just came into the telegraph office, read the news, and left to do other things. From the above dialog we can tell that the commander-in-chief was living in the telegraph office during times of historic events.
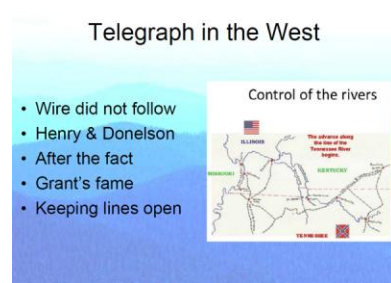
It is easy to argue that telegraph communication was easy in the east. Out west, distances are greater, railroads are less plentiful, and keeping the wires free from sabotage was a real challenge. Let's take a look at a few battles and raids early in the war. The battles of Ft. Henry and Ft. Donelson, in February of 1862, were not recorded in real time as the telegraph had not been constructed to follow Grant. There were two reasons for this. First, the fight on the Tennessee was a naval engagement at the beginning. Telegraph wire needed to be strung on land. Second, the troops on both sides did not appreciate the advantage of this technology in the area of battle management. The battles were well over by February 25th when the lines were completed to Ft. Henry. Thus, Halleck and Lincoln lacked the real-time information and the only reports that were filed came after the action was over.

That does not mean that Washington was kept in the dark. It just means that the senior commanders could not follow the battle in the same manner as we just discussed; in real-time. It was not deemed practicable to build the telegraph beyond Smithland at the mouth of the Cumberland. This was accomplished by means of courier dispatches to the nearest telegraph station at Smithfield, KY. Washington learned of the surrender of Ft. Donelson on February 17th, one day after the fort fell. From there, all of the North (and the South too) learned the result in the telegraph fed newspapers. Grant's reputation grew large. It was at Ft. Donelson he made his famous statement to General Buckner: "No terms except an unconditional and immediate surrender can be accepted. I propose to move immediately upon your works." An interesting footnote to the quote is that the words "unconditional and immediate surrender" were first used by Adm. Foote at Ft. Henry and again by Brig. Gen. Charles F. Smith who actually first received Buckner's request for terms.
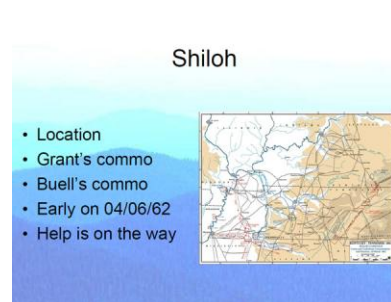
As the focus of the war moved south along the Tennessee River toward Savannah, Pittsburg Landing, and the Shiloh battlefield the telegraph followed the troops. It came down from Paducah to Ft. Henry and continued south. Another line ran from Smithland to Ft. Donelson and also headed south. The lines met railroad that headed northeast to Nashville so as to form a telegraph network. In order to build and maintain the wire, men were recruited to execute the task. Because the men who kept the lines in good repair were not military they got little credit and no benefits. The system adopted by George H. Smith consisted of having mounted repairers at telegraph offices. They had directions to ride their circuits daily. This resulted generally in the reestablishment of communication within a few hours after the wires were severed. This kind of

"riding the circuit" was very hazardous. Some of the repairers lost their lives from having been shot by concealed bushwhackers.

Plum writes that the man who always responds promptly to a call to repair a broken line in a guerrilla-infested region, without escort, has a degree of courage rarely required in actual battle. There were many such men engaged in the repair service of the US Military Telegraph Corps. They were found in every department. These unsung heroes were usually illiterate. They were, none the less, quite aware of their dangers. Often they took desperate chances to get the job done. If one was killed, another took his place, and, being a mere civilian, no notice was taken of his fate by the Government, in whose service he died. No provision was ever made for his wife and little ones.

In order to understand the communications leading up to Shiloh we need to locate Halleck, Grant, and Buell. It is mid-March 1862. Halleck has reinstated Grant (03/13/62) as one of his two army commanders; Buell is the other one. It was Halleck's intention to take command in the field with 75,000 men. That meant his force would be 38,000 under Grant and 37,000 under Buell. Note that Buell's army had about 70,000 men, but the remainder were posted across a large area of the western theater. Halleck was in his headquarters in St. Louis, MO. On March 19th Buell was east of Pittsburg Landing by 45 miles in Columbia, TN. Grant's army was already in Pittsburg Landing, with some units on the eastern bank of the Tennessee at Savannah. He is in Savannah by March 17th and will stay there until the battle begins on April 6th.

Key to our understanding is the communications between St. Louis, Savannah, Pittsburg Landing, and Buell on the road. Grant had excellent communications with Halleck as is evident by this message sent from Grant the day before the battle: "I have scarcely the faintest idea of an attack being made upon us, but will be prepared should such a thing take place." Of course he was not prepared. Grant was thinking of marching to Corinth as part of Halleck's offensive, not defending an attack by Johnston. In this mindset Grant and Halleck were all on the same page. They expected to do the attacking and did not set up Pittsburg Landing for the defensive.
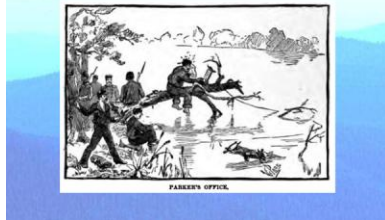
There is no telegraph line across the river to Pittsburg Landing and there will not be one until just after the battle of Shiloh. Grant wires Halleck: "I arrived here last evening, and found that General Sherman and Hurlbut's divisions were at Pittsburg, partially debarked; General Wallace at Crump's Landing, 6 miles below, same side of the river; General McClernand's division at this place, encamped, and General Smith's, with unattached regiments, on board transports, also here. I immediately ordered all troops, except McClernand's command, to Pittsburg, and to debark there at once and discharge the steamers, to report at Paducah for further orders."

Even when Buell is on a march he maintains good communications with Halleck and he maintains contact with Washington. On March 8th Halleck receives a telegram from Stanton informing him that Buell has been promoted from Brigadier General to Major General. Halleck wires Buell: "I cannot possibly leave here at the present time. Events are pressing on so rapidly that I must be all the time in telegraphic communication with Curtis, Grant, Pope, and Commodore Foote. We must consult by telegraph…"

It becomes clear to Grant early in the day of April 6th that a major attack has occurred. He has his adjutant Rawlins wire Nelson, Buell's divisional commander in the van, at 8:30 AM: "An attack having been made on our forces, you will move your entire command to the river opposite

Pittsburg. You can obtain a guide easily in the village." Nelson does so such that by mid-day some of his division was actually in the fight on the first day. This gives Grant the confidence that the tide of battle will quickly turn in his favor.

Tree Limb Telegraph "Office"

Once across the Tennessee River there is no telegraph communications while the fighting was going on. The first cross river wire did not happen until April 11th when Halleck arrived in Pittsburg Landing with telegraph men. A line was strung across the river, but when it was spooled out to the western bank it was a few feet too short to reach land.

Here is Plum's description of the telegraph "office." "The first office at the Landing was unique. It illustrates the marvelous adaptability of the Corps to the emergencies of army life. The cable was too short to cross the river, but long enough to reach a lodged tree projecting from the west bank some distance over the water, and, consequently, it was determined to establish the office thereon. Here, L. D. Parker opened communication with the North. His instrument rested on the trunk; a limb held his letter clip and paper. Parker long sat astride his office, sending and receiving important dispatches, while being harassed by mosquitoes."

Tomfoolery
• Comic relief
• He rode with Morgan
• William G. Fuller
• Pistols & field glasses
• George D. Prentice
• Telegram to Fuller

And now it is time for a bit more comic relief. Not that it was not deadly, but any discussion of the Civil War telegraphy that does not mention George A. "Lightning" Ellsworth does not do the material justice. Ellsworth was a telegrapher in Gen. John Hunt Morgan's hometown of Lexington, KY before the war and joined Morgan's command soon after he had formed the Second Kentucky Cavalry, CSA. He was a Canadian by birth, a telegrapher by trade and a Southern supporter by conviction. He earned his nickname, "Lightning," by ignoring the dangers from a severe thunderstorm while tapping into Union telegraph lines and feeding false information. He was to send telegrams for Morgan, both real and fake.

Morgan was a never a real threat to the Union in the west, but he was a colorful "pain in the butt." He was only somewhat important because he tied up a good many troops. He is mentioned here because of what he did to the telegraph and how he used same to further his reputation. The story of one William G. Fuller will add some humor to our tale. Mr. Fuller was brought into the western theater of operation to superintend the building and operating of the US Military Telegraph in the area. He had a good reputation and a lot of success before and after this story, but here he is the fall-guy of the tale.
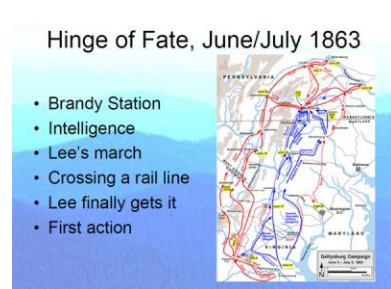
On January 31, 1862 Fuller was with a party of line builders near Lebanon, KY. Fuller, leaving his navy revolvers, new boots, fur cape, gloves and fine field glasses with the wagons, went to Lebanon to get money for the men. Morgan, with ten men, pounced upon the camp, capturing workers, nine horses, the wagons and all the baggage of the builders. Morgan himself appropriated Fuller's articles and a field telegraph instrument. This was a minor mishap, and was soon forgotten. Many miles of line were laid by Fuller and his men.

Fast forward to July 1862. Morgan is on a rampage in Kentucky and walks into the telegraph office in Somerset. He has the following message sent to George D. Prentice, the editor of the most prominent newspaper in the state in Louisville. "Good morning, George D. I am quietly watching the complete destruction of Uncle Sam's property in this little burg. I regret exceedingly that this is the last that comes under my supervision on this route. I expect in a short time to pay you a visit, and wish to know if you will be at home. All well in Dixie."

This, and a number of other telegrams were sent that day by Morgan from Somerset. Fuller heard of this so he sent Morgan one of his own: "General: I am informed that you have my field glass and pistols, captured in my camp on the pike between Lebanon and Campbellsville, Kentucky, January 31. Please take good care of them. Yours truly, W. G. Fuller."

To wit Morgan replied: "Glad to hear that you are well. Yes; I have your field glass and pistols. They are good ones, and I am making good use of them. If we both live till the war is over, I will send them to you, sure. (Signed) John H. Morgan."

Alas, John did not survive the war as he was shot in the back and killed by Union cavalrymen while attempting to escape during a raid on Greeneville, TN. Plum does not mention if Fuller lived or if he ever got his property back.

Hinge of Fate, June/July 1863

• Brandy Station
• Intelligence
• Lee's march
• Crossing a rail line
• Lee finally gets it
• First action

Gettysburg provides us with a glimpse into both the strategic and the tactical use of the telegraph. Let's look first at the big picture. Lincoln has known about Lee's push to the north ever since June 9th when Pleasonton's cavalry engages JEB Stuart at Brandy Station not far from Chancellorsville, VA. This victory was of little tactical gain to the Union, but of great strategic value. The North learns a great deal about Confederate troop strength, movement, and position. The South learns nothing about the Army of the Potomac. That army is screening Washington. Everything it learns from the screening cavalry units is transmitted at lighting speed back to the national command. Lincoln is able to warn the states in the area and thus to keep the nation informed. And it is not just news to the people in command. Newspapers across the north are reporting on Lee's progress.

In the run up to the battle Lincoln tried to stay in contact with the army. Lincoln was in the telegraph office hour after hour during those anxious days and nights. Doris Kerns Goodwin states that he was a constant fixture in the telegraph office. At intervals Stanton, Seward, Welles, and some senators came in and out, but Lincoln remained. Senator Chandler remembered Lincoln paced up and down while the fate of the nation hung in the balance.

Lee's invasion of Maryland in June had greatly increased the anxiety felt by the President, especially as communication with the army was frequently interrupted. Just before the critical battle the line went dead. All the news Lincoln had been getting was over single wires from west to east railroad lines. For example as Lee passed through Hagerstown on June 23rd, he got a progress report. When Meade's headquarters were pushed beyond that place east of Lee, they lost telegraphic connection altogether. They got it back from Hanover Junction (20 miles to the east of Gettysburg) route, a day or two later (June 25th). From that point to Hanover (15 miles to

the east of Gettysburg) there was a railroad wire. Thence to Gettysburg the line was on the turnpike, and the service was poor and intermittent.

Although Meade, who replaced Hooker on June 28th, had little use for the telegraph it mattered not. While the army was moving northward, even when Hooker was still in command, it encountered rail line after rail line. Each of these had telegraph stations such that the intelligence was reported promptly to army headquarters. While the main body of the Army is well south of Lee the cavalry is right on Lee's eastern flank. They fight brief engagements which continue to provide valuable information. On June 25th Stuart heads north of his army and leaves Lee in worse shape than ever before. He is unaware of the concentration of his opponent while his own forces are widely scattered about the Pennsylvania countryside. If it were not for a spy, he might never have found out. As a result of this intelligence, Lee orders all of his units to converge at Gettysburg. This is a natural spot as many roads lead there so the corps can come together from three directions and meet up.
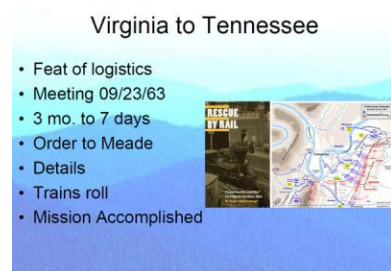
However, the Union cavalry knows what is up. Two cavalry brigades under Buford are already north of town and they call for infantry support. A corps under the command of John Reynolds answers the call. This corps form into defensive positions north of the town. At this point the civilian press, which has been getting plenty of reports, is all but shut down. The wire are humming with military traffic, but the newspapers are getting nothing.

In the Field at Gettysburg

• Tactical use
• Setting up defenses
• Interior lines
• Down to division
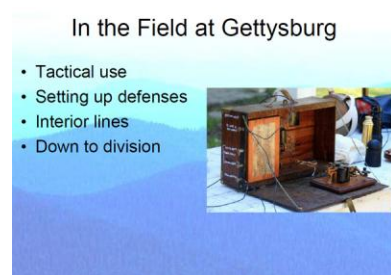
During the first day of the Gettysburg campaign the forces under Reynolds hold off the arriving Rebels. Although they are taking casualties, including Gen. Reynolds, they fight a delaying battle through the town of Gettysburg. Shortly after 4:00 PM Major General Winfield Scott Hancock arrives and begins to deploy fresh units to form along the defensible high ground of Cemetery Ridge and not be tossed into the battle in a piecemeal fashion. Now on the ridge they can operate using interior lines. Not only do they take up positions in line, but they lay telegraph wire all along the ridge line from Culp's Hill to Little Round Top. Meade arrives later that night with four corps and files into the line. Meade, who has not shown that he is a big fan of the telegraph, is now in position to communicate to all of his units arrayed to the right and left of his headquarters. The telegraph not only kept Lincoln informed, but also assisted Gen. Meade during the fighting. Unlike previous engagements, Meade had telegraphic communications with his corps and divisional commanders during the battle.

Having the telegraph and using same turned out to be two different things. At the height of Dan Sickles folly, Meade's Chief of Engineers, Gen. Gouverneur Warren, mounted a horse, galloped downhill, and persuaded the V Corps commander, George Sykes, to send a brigade double-timing to the crest of Little Round Top just in time to meet the charging Rebels. The horse, rather than "lightning" was the communication vehicle of choice that day.

Virginia to Tennessee

• Feat of logistics
• Meeting 09/23/63
• 3 mo. to 7 days
• Order to Meade
• Details
• Trains roll
• Mission Accomplished

For those of you who heard my talk on northern supply, or those of you who have studied Civil War logistics know of the bold move of two Union corps from Virginia to Tennessee by railroad in September of 1863. This was a feat of logistics that had no

equal until World War II. In 2010 I did not have enough time to give much detail to the importance of the telegraph. It may have seemed like an act of faith on Stanton's part, but that is very wrong. Stanton had good reason that it could be done and the planning and execution made it so.

The Union was in despair following the defeat of Rosecrans at Chickamauga. If it were not for Thomas the army would have been destroyed. It is interesting to note that Chickamauga means River of Death in the language of the Cherokee. They are hanging by a thread and are in need of serious reinforcements. The reporter, Charles Dana, who was in the field with Rosecrans, wires for help. On September 23rd Lincoln met with Halleck and soon afterwards with Eckert, Stanton and Charles Dana by telegraph. When Lincoln reached the War Department Halleck was asked how long it would take to move two army corps from Virginia to Tennessee. Halleck replied that, in his opinion, it would take nearly three months to complete the transfer.

Major Thomas Eckert, the senior telegrapher present, was asked by Stanton what he knew of railroad routes to Chattanooga. His former railroad experience enabled him to supply important data, and when told of Halleck's three months' estimate, he promptly demurred and said it was much too long; that sixty days or perhaps even forty would be sufficient. Upon further study of railroad schedules and maps it was found that from Washington to Nashville, seven days were required for the movement of fast freight traffic. Passenger trains, of course, take much less time. Eckert was thereupon instructed to submit a written report that night.

At 2:30 AM Stanton sends a telegram to Meade ordering: "prepare the Eleventh and Twelfth Corps to be sent to Washington, as soon as cars can be sent to you. The troops should have five days' cooked provisions. Cars will probably be there by the morning of the 25th." By 8:00 AM Stanton had Eckert's report and was very happy to learn that the move could be made in 15 days. He was moved to ask further questions of Eckert: "How do you propose to get so large a number of men, with batteries and horses, across the river at Louisville safely and quickly?" Eckert replied that at that season the Ohio River was full of coal barges, loaded and empty, and that a pontoon bridge could be made ready in twenty-four hours.

Next, "How will you feed the hosts without losing time?" A force of cooks and waiters every fifty miles or so along the route could be positioned. At each eating station a supply of hot coffee, bread, etc., with waiters, could be put on the train and be carried to the next eating-place. The waiters could then come back to their starting-point on regular trains. The plan was so well laid and withal so sensible, that Lincoln and Stanton both indorsed it, subject to the approval of the railroad authorities and military officials.

Railroad executives were order to come to Washington with telegrams like this one to the B&O Railroad's John Garrett: "Please come to Washington as quickly as you can and bring Smith with you. Stanton" An essential part of the plan was to have the government take military control of all railroads on the route, so that every required facility would be subject to the orders of the War Department. For this they called on Daniel Craig McCallum, Director of the Department of Military Railroads. He was a railroad engineer, a general manager of the New York and Erie Railroad, and a Major General. He was one of early pioneers of management. He laid down a set of general principles of management, and is credited for having developed the first modern organizational chart. This was, of course, accepted by the railroad authorities.

From the moment the orders were given for the great movement, everyone involved in it was kept busy day and night.

Rosecrans and Dana were kept informed and were greatly relieved by telegrams like this one from Halleck: "The corps of fourteen or fifteen thousand men to be sent from here has the usual amount of artillery, but no cavalry. If the artillery is not deemed necessary, the railroad transportation will be greatly diminished. Please answer."

At 9:00 AM General Meigs telegraphed from Nashville that he would look after matters from that end and cooperate with the railroad people. At 11:10 AM, Garrett and Smith reached the War Department. McCallum went by special train to Meade's headquarters and telegraphed the following: "Will commence loading 17,000 men at Bristow (thirty-seven miles south of Washington) tomorrow morning" (09/25/63)."

Stanton kept sending out telegrams all up and down the line asking pertinent questions about capacities, time, and rail gauge. As the operation got under way he received status telegrams such as this one at 1:20 PM on the 26th: "The first three trains, of over 60 cars, with 2,000 men, passed Martinsburg, 100 miles west of Baltimore at 8.45 and 9.45 this morning, in good order. The men have been promptly and fully supplied there by the commissary with coffee and other rations."

The first of Hooker's men arrived at Bridgeport, AL, just to the southwest of Chattanooga, TN, on October 2nd. The last of the men were there on the 7th. And the animals and wagons took two weeks longer, but everything was in place for the offensive shown in this map in late November. This turns out to be an excellent case study of management planning and follow-through.

Lincoln Suspension of Executions
• Largest number
• This example
• A young soldier
• Lincoln Telegrams Project
• John F. Abshire

I would like to conclude with a bit of a post script to this story of the telegraph and the Civil War. Of the over 1,000 telegrams that Abraham Lincoln sent during the war. The majority of them concerned themselves with the suspension of executions. The speed of these lightning messages allowed this to happened. Although US presidents had always had this power, it was the use of the telegram that made it possible to exercise this power.

The example on this slide is typical of his mercy. He is uncertain if the name is Thomas Doherty or Thomas Welsh and further, he did not know if the execution had already taken place. This person was a Confederate spy being held in Ft. Monroe. The President was moved by the story so he moves to grant him life. The execution had not, in fact, taken place so the man lived.

In another example Lincoln spares the life of a very young deserter. President Lincoln telegrams on October 6, 1863 to General George C. Meade, commander of the Army of the Potomac. In the case of one of three soldiers he reasons: August Blittersdorf, charged with desertion, President Lincoln writes: "I am unwilling for any boy under eighteen to be shot; and his father affirms that he is yet under sixteen."

Just as I was completing the development of this talk I discovered a treasure trove of information about Lincoln and his telegrams. The Lincoln Telegrams Project presents 324 telegram memos written by president Abraham Lincoln between March 10, 1864 and April 12, 1865. It could be

the basis for another Civil War Round Table presentation. The project presents lesson plans, including his dealings with the suspension of executions. One is of particular note and is one where the subject is ultimately executed.

Over 500 soldiers were executed during the Civil War, and 276 of these soldiers were Union troops. The vast majority of these executions were for violent criminal offenses, although by 1864 the number of executions was increasing as commanders in the North and South were trying to combat increasing rates of desertion. John F. Abshire (spelled incorrectly on the telegram memo) lived most of his life in Missouri, and served as a Confederate soldier. He was captured at Vicksburg in 1863 and held in prison in Illinois and St. Louis.

There are at least two reports about Abshire's crime. First, Abshire was "sentenced to be hanged for murder and 'violation of laws and customs of war.'" Abshire was sentenced to death despite a recommendation from General Rosecrans for leniency. Second, he was condemned for being a "guerrilla and murderer," for participating in the killing of William Hayes of Wayne County, Missouri". Lincoln approved the death sentence on February 9, 1864, but suspended it temporarily. Lincoln's temporary suspension of the death sentence for John F. Abshire was not unusual. Lincoln suspended and commuted hundreds of such sentences. The changes in Abshire's sentence suggest that Lincoln wanted to exhaust all possible avenues for review before the execution was carried out. Abshire was hanged on October 14, 1864.

I hope you all gleaned some insights into technology and management through the vehicle of this presentation. Thank you.