THE IMPACT OF CONTAINERIZATION
ON THE NEW YORK CITY REGION

A dissertation submitted to the Caspersen School of Graduate Studies

Drew University in partial fulfillment of

the requirements for the degree,

Doctor of Letters

David L. McMillan

Drew University

Madison, New Jersey

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ABSTRACT

The Impact of Containerization
on the New York City Region.

Doctor of Letters Dissertation by

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The Caspersen School of Graduate Studies
Drew University December 2017

New York and New Jersey during the post-World War 2 era saw a growth, not just in the cities, but also in their suburbs. Suburban growth was in no small part due to the new technologies in the shipping industry; the container ship and the shipping container revolutionized this industry. Moving cargo by train, truck, and ship, later to be renamed intermodalism, made it possible to achieve true global trade. Although not a new idea, it came into its own with the invention of an interlocking mechanism. This interlocking mechanism allowed for trailers, later to be renamed containers, to be stacked thus stacking provided a structurally sound way of transporting them to and from ports. This further allowed trucks, trains, and ships to interwork with one another with minimal fuss. They could transport the containers from one to the other without ever taking the cargo out of the trailer thus saving all involved many hours of removing and reloading cargo from ships, trucks, and trains to one another. The labor that took days to perform now takes hours with less longshoremen needed to do those tasks. New Jersey ports in Elizabeth and Newark flourished why New York City ports declined.

DEDICATION

Dedication to my family, Thomas McMillan, my father who did not live to see this final, project, but who will always be Dad and forever in my heart. Thanks Dad, to my mother Barbara McMillan who told me always to encourage not discourage. My sister who instilled in me a mental toughness that helped me during the more lonely parts of a dissertation. My loving wife Shannon, who encouraged me and kept me from taking myself too seriously. To Kayla Abigail, Kayla you are my light as I wrote this your words, My Daddy is going to be doctor, rang in my heart and brain. I love you all very much for putting up with my absences.

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Committee chair: Richard A. Greenwald, PhD
School of Humanities and Social Sciences, Brooklyn College

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GLOSSARY OF KEY TERMS FOR CONTAINERIZATION

Abandon -A proceeding wherein a shipper/consignee seeks authority to abandon all or parts of their cargo.

Blocked Trains- Railcars grouped in a train by destination so that segments (blocks) can be uncoupled and routed to different destinations as the train moves through various junctions. Eliminates the need to break up a train and sort individual railcars at each junction.

Blocking or Bracing -Wood or metal supports to keep shipments in place to prevent cargo shifting.

Bow -The front of a vessel.

Boxcar- A closed rail freight car

Break Bulk– To unload and distribute a portion or all of the contents of a rail car, container, trailer, or ship. – Loose, non–containerized mark and count cargo. – Packaged cargo that is not

Bulk Cargo Not in packages or containers; shipped loose in the hold of a ship without mark and count." Grain, coal and sulfur are usually bulk freight.

Bulk–Freight Container- A container with a discharge hatch in the front wall; allows bulk commodities to be carried.

Container- A truck trailer body that can be detached from the chassis for loading into a vessel, a rail car or stacked in a container depot. Containers may be ventilated, insulated, refrigerated, flat rack, vehicle rack, open top, bulk liquid or equipped with interior devices. A container may be 20 feet, 40 feet, 45 feet, 48 feet or 53 feet in length, 8'0" or 8'6" in width, and 8'6" or 9'6" in height.

Dock – For ships, a cargo handling area parallel to the shoreline where a vessel normally ties up. – For land transportation, a loading or unloading platform at an industrial location or carrier terminal.

Draft– The number of feet that the hull of a ship is beneath the surface of the water.

Dry–Bulk Container-A container constructed to carry grain, powder and other free–flowing solids in bulk. Used in conjunction with a tilt chassis or platform.

Flat Car-A rail car without a roof and walls.

Flat Rack/Flat Bed Container-A container with no sides and frame members at the front and rear. Container can be loaded from the sides and top.[CITATION Uni081 \l 1033]

I**ntermodal-**Used to denote movements of cargo containers interchangeably between transport modes, i.e., motor, rail, water, and air carriers, and where the equipment is compatible within the multiple systems.

Longshoreman-Individual employed in a port to load and unload ships.

Ship Types:

Barge Carriers: Ships designed to carry barges; some are fitted to act as full container-ships and can carry a varying number of barges and containers at the same time. At present, this class includes two types of vessels LASH and Sea-Bee.

Bulk Carriers: All vessels designed to carry bulk homogeneous cargo without mark and count such as grain, fertilizers, ore, and oil.

Combination Passenger and Cargo Vessels: Ships with a capacity for 13 or more passengers and any form of cargo or freight.

Freighters: Breakbulk vessels both refrigerated and unrefrigerated, containerships, partial containerships, roll-on/roll-off vessels, and barge carriers. A general cargo vessel designed to carry heterogeneous mark and count cargoes.

Full Containerships: Ships equipped with permanent container cells, with little or no space for other types of cargo.

General Cargo Carriers: Breakbulk freighters, car carriers, cattle carriers, pallet carriers and timber carriers. A vessel designed to carry heterogeneous mark and count cargoes.

Partial Containerships: Multipurpose containerships where one or more but not all compartments are fitted with permanent container cells. Remaining compartments are used for other types of cargo.

Roll-on/Roll-off vessels: Ships specially designed to carry wheeled containers or trailers using interior ramps. Includes all forms of car and truck carriers.

Tankers- Ships fitted with tanks to carry liquid bulk cargo such as crude petroleum and petroleum products, chemicals, Liquefied gasses (LNG and LPG), wine, molasses, and similar product tankers

Stevedore- an Individual or firm that employs longshoremen and who contracts to load or unload the ship.

Stowage- A marine term referring to loading freight into ships' holds.

Terminal- An assigned area in which containers are prepared for loading into a vessel, train, truck, or airplane or are stacked immediately after discharge from the vessel, train, truck, or airplane.

Tramp Line- An ocean carrier company operating vessels not on regular runs or schedules. They call at any port where cargo may be available.[1]

1 [CITATION Uni081 \p 1-114 \l 1033]

CHAPTER 1: BACKGROUND HISTORY

Commerce by the seas and oceans is not unique in human history. We have traveled the streams, rivers, lakes, seas, and world's oceans to set up trading centers and to establish trading centers. We as a humanity have sought to construct boats or ships that could take our goods and transport them to another to establish a working relationship with other societies to exchange goods and to grow their societies. These vessels were locally grown materials, reeds in the case of Ancient Egypt and other Middle Eastern countries, later wood. Reed and wood relied on materials to assure the boats were watertight and had the ability to move across open seas without capsizing. [2]

Sailing is the preferred method of propulsion, however, it is not the only form used in the ancient world, brawn also propelled boats, and the brawn came from slave labor. Slave labor came from conquered nations; humans at these markets were just another commodity. [3]

Trading on the Mediterranean encouraged the growth of empires and many of the empires relied on the Mediterranean as their highway. It was helpful that there were resources that could accommodate the demands of the societies. These ancient peoples shared a willingness to design and build better ships and boats to cover the vastness that was their world as they experienced it.

Trade on the Mediterranean encouraged the growth of the city-states in Greece.

2 [CITATION Rey74 \p 20-30 \l 1033]
3 [CITATION Rey74 \p 32 \l 1033]

Athens and Sparta made a name for themselves in very different ways. Athens considered being the founding city of democracy, Sparta the military dictatorship. Athens used the seas.

Athens built an empire using trade-founded colonies that would expand the Athenian empire; this expansion relied on sea power and ocean going ships. These shipbuilders benefitted from having resources, wood were plentiful, and labor was very inexpensive. Availability of resources helped the Ancient Mediterranean empires flourish and become formidable forces in their known world. The empires on this vast sea saw the Mediterranean as their superhighway grew and their colonies helped make them rich and often the colonies became success on their own, breaking away from their colonial masters.[4] Carthage, a colony of Athens located in present day North Africa, flourished, and over took its colonial master, becoming a powerful city-state in its own right.

Carthage became after the fall of Athens a powerful country and built a strong merchant marine and navy that Athens would have had a difficult time beating. Trade was far more important to Carthage than naval warfare; it however was unafraid to flex its muscle if it needed to defend itself. Carthage also did have a standing army, that when called upon could carry out wars both on Carthogean soil and overseas. Trade on the Mediterranean in the ancient world relied on slave labor not only to propel the boats but also to load and unload them once they were on the docks. These docks did use some manual cranes, pulleys, and human power to move cargo. Trade helped empires grow. In addition, stories between sailors and merchants expanded their knowledge.

4 IBID

The Athenian and Spartan empires both fell and in the case of Athens its colony in North Africa did flourish. An aggressive instituted only complicated its relationships towards its neighbors, in particular the emerging power of the Republic of Rome. Rome was growing in strength and Carthage became a threat not just as a maritime threat but also a military threat too. Rome understood that Carthage would have to be defeated and Carthage understood that Rome was its adversary. The so-called Punic Wars began and eventually Rome did finally conquer Carthage. [5] Rome became the most powerful empire in the Mediterranean. The empire that Rome built extended to modern day England, Spain, Portugal, France, Italy, North Africa, the Middle East, and present day Turkey. Rome expanded its merchant marine and built better ships that could carry more cargo and if needed more troops.[6]

Troops on board the ships did do some of the labor to move it about; mostly slaves did rowing, but there were soldiers who participated in the navigation of the ship. Cargo was stored on the decks and the crew who rowed was below the decks, there were dangers to the cargo from both the elements and piracy. Rowing supplemented the use of sails. With sail and oar power Roman, ships could out run most of the pirates who posed a threat to their shipping. Rome having the most power in their known world would eventually fall and when it did, there was a division of east and west. The grandeur of a united Rome gave way to two empires also changed. The Byzantine located in the east and the crumbling empire of the west. Both empires tried to maintain their wealth and power, with the east being more successful than the west in both power and prestige.

5 [CITATION Rey74 \p 35-40 \l 1033]
6 Ibid 41-50

In the Western Roman Empire, the so-called Dark Ages, there was very little change in ship design in Europe. Trade was mostly a land-based endeavor. Slavery existed in both the west and the east but under different names, with the serfs in the west and slaves in the east. Serfs often worked the land and had little to do with the docks and shipping in the middle ages. Europe did not explore nor colonize as Rome had done and Constantinople in the east did not colonize in the same pattern as Rome, it maintained an empire in the east that flourished unlike the west. Dock work performed, most of which performed by hand with some simple machinery. [7] Simple machinery did not mean an automated system of machines; they used pulleys, levels, ramps, and cranes all of which relied on people to work. While there was a mechanical advantage of using machines, it did not replace workers; ironically, it required more workers.

Human brawn moved cargo off the ships, although simple machines were used strength was still required to work those machines. Oxen provided an important component of moving cargo, albeit from the wagons they pulled off the docks. These animals also assisted in working the simple machines, especially the kind of machinery that was repetitive. The dockworkers, later to be known as Longshoremen, that term did not come into existence until the 1840s, [8] working alongside sailors helped load and discharge cargo from the holds of the ships. Warships and merchant ships designs had the distinction of being interchangeable. Designs of ships needed to have similar designs so they could be used interchangeably.

7 [CITATION Ung81 \p 233-36 \l 1033]
8 [CITATION Oxf \p 1989 \y \l 1033]

Ships' designs emphasized their dual purposes. Ancient and Medieval ships used designs that did not require a conversion from one to another and it did save time and money. Late middle ages shipbuilders changed all that.

The end of the middle ages gave to a reconnection to the lost knowledge of the ancient world. This rebirth did not just affect the literature of the ancient peoples; it also affected the sciences and the sense of curiosity. Education while not unheard of in the middle ages did expand in the Renaissance. Scientific inquiry became an important discipline and such inventions, the compass, sextant, better map-making, and were soon put into common practice. Ship navigation, done by the sun and stars, had the improvement of the magnetic compass and sextant. [9] These tools made it easier to determine location on an ocean that did not have landmarks.

This improvement also meant that sailors would be able to go longer distances. The only thing that limited the sailors was the amount of food that they could carry, that dictated how long of a voyage that could be done. Before the compass and sextant navigation a sailor had to know celestial landmarks, the sun rose in the east, settled on the west, Polaris, the North Star, all helped sailors have an understanding of their location. These fixed locations provided the necessary landmarks to assist sailors get an idea of where they were on the earth but it is not precise. In addition, it is common knowledge (even today) where the planets are and that too serves as an aid to navigation. [10]While not common knowledge outside the mariner community, it would be a necessary skill set to possess whether a sailor or mapmaker.

9 [CITATION Ung81 \p 45-6 \l 1033]
10 [CITATION Tay49 \p 58-61 \l 1033]

Survival on the oceans demanded that the men who all shared in the dangers on board the ships would have to have knowledge that could and would save their lives. Success meant that goods and sailors all returned to the safe harbor and went to their respective final destinations.

After the Renaissance, there was a reawakening of exploration and Spain, Portugal, Holland, France, and England all felt the urge to explore the far reaches of the world. Some searched for trade routes to India and others were interested in expanding their power, all explored the North and South American continents new exploration also meant there was a need to redesign ships. Ships had to have the ability to go longer distances under wind power. Human brawn was not a resource that had stamina for the more than a month journey to the rediscovered continents. Ships became larger and their reliance on the wind and currents helped them rediscover North and South America. Due to the space required for sails, ropes, and other infrastructure required to run a sailboat, ships needed to have cargo space below decks. This is another reason why the oarsmen became an outdated means of propulsion. [11]

Sailing requires knowledge of the winds and currents; this too means that the sailor needs charts to know where to find those currents. Oar power once the major source of propulsion is retired and sails took sailing to new heights. Sailing also provided a speed that humans who rowed had no way of beating and sails do not require breaks. Sailing also required piers and docks that could support these ships and in turn, it developed a system of workers who would handle the cargo. [12]

11 Ibid
12 Ibid

Dock and their construction gave rise to other support professions that all supported the maritime trades. These docks, named finger docks, after their appearance, would be the way cargo was handled before containerships. These long docks extended outward and allowed for berthing and discharge of cargo in any weather.

Sailing ships made possible global trade possible and in the newfound colonies, it gave their countries newfound wealth. These colonial powers also established harbors that their merchant and naval forces could use for the benefit of the home country. Laborers on these docks, were not very skilled, with the most skilled being the stevedores, who understood cargo placement. This is an essential skill; one does not want ships overturning due to misplaced cargo. Slave labor during this time came from both Africa and the indigenous peoples in both North America and South America. Ship design during the Age of Sail gave the mariners and merchants an additional bonus of more space and this space was below the main deck of the ship. This space gave merchants some secure feeling, knowing their cargo away from the elements. While not extremely safe, it offered more protection then from the previous generation of ships. [13]

Dock construction at this time needed to be long in their length but not very wide. Shipping required dock construction in ways that could maximize output of the workers on the docks. These finger piers afforded the merchants an ease of access that permitted ships to be loaded and unloaded easily. Trucks and railroads did not exist at this time and wagons did not have problems being on the piers. These piers also had sometimes multiple ships docked at the same time.

13 [CITATION Ung81 \p 48-50 \l 1033]

This made finger piers very convenient for the merchants to get cargo off and on to their ships. It was to the advantage of the merchants to have multiple ships at the same time and cost effective. The bottom line was always to get the ships in and out of the harbor quickly.

Sailing and shipping made possible the idea of global trade, one cannot imagine not using ships as an extension of both foreign policy and trade policy. In the British colonies, as well as others, trade flourished and made sponsoring governments very wealthy. Unfortunately the people who lived there both as indigenous and colonists did not get as wealthy as their sponsors did. In the British colonies in North America, the colonists did flourish due to the economic policy of Laissez-faire capitalism. Britain allowed their colonies to flourish as long as there was something in it for them, and there was more to gain by having this system than the way Spain or Portugal ran their colonies.[14]

The triangle trade routes allowed the British colonies to grow in commercial power, this meant starting in Africa, slaves were picked up and traded in the Caribbean, and run and sugar was picked up in the Caribbean and in North America, pig iron, tobacco, and grains were picked up and traded in England. This trade assured England's wealth and the colonies would grow. Growth in the English colonies also means a growth of ports. The major of American ports at this time located in Boston, New York, Philadelphia, and Baltimore.

Mercantilism as it is known allows for the system of laissez-faire, where the government has policy of not being involved in the affairs of business or commerce.

14 [CITATION Rey74 \p 111-144 \l 1033]

Increased demand for skilled labor in the colonies also gave rise in the demand in the trades. Trades began to grow in the colonial period and many new ones too.

Shipbuilding in this age became an important industry; the North American forests gave shipbuilders ample trees and supplies to make ships for the British merchant marine, their own merchant marine, and the British Royal Navy. [15] The hardwoods of North America built these ships.

After the American Revolution, the thirteen colonies gained their independence; the colonies could and did concentrate on building their country. This included the use of canals; these canals could take cargo further in than ships and thus bring more monies into the state's coffers. It is important for merchants to get their merchandise to markets and wagons have their limits, where canals too had limits. Weather being one of the major factors, iced over canal routes being one of the worse cases for merchants. It took into account when it came time for shipments to utilize canal routes. [16] Investors seeing what they believed to be a bright future for the canals, invested in the necessary infrastructure. [17]

Canals and shipping worked closely together to deliver goods to the far reaches of the canal service. Cargo on the barges and canal boats could move quicker and thus get goods to markets faster.

This would be the normal practice and it did not take long for the emergence of a greater technology, the railroads. It was about this time that the term "longshoremen" came into

15 [CITATION Har73 \p 372-398 \l 1033]
16 [CITATION McC68 \p 102-23 \l 1033]
17 Ibid

existence and according to the Oxford English Dictionary, it came from the term along the shore men, meaning these workers worked along the shore moving cargo. [18]

Movement on the canals with ice and snow made it difficult to run a business all year round. The railroads, which at first look to the people seemed a curiosity and many, scoffed at the idea of the iron horse. Railroads understood that they needed to be close to the docks, some going right onto the docks, to assure quick transfer from ship to train. This process did speed the process of freight transfer, with machinery assisting in this process.

One of the first successful railroads in the United States was the Camden and Amboy Railroad. Although not the first, the Baltimore and Ohio, it did run a successful freight line from the Delaware river side of New Jersey to the Atlantic ocean side, albeit the Raritan Bay, which led to the Atlantic ocean. [19] New Jersey and New York are becoming important transportation hubs in the United States and access to the ports in New York is one of the reason for New Jersey importance with the railroads and earlier the canals. Changes in the United States, from an agricultural society to a more industrial one would also change the interstate relationship between New York and New Jersey. Industrialization means that wood becomes less important to shipbuilders as the demand for iron increases.

The Industrial Age saw changes in social and work history. One of the major developments in this new age of steel and factories is the invention and implantation of the railroads. Railroads sped up the process moving cargo from the docks to the markets.

18 Oxford English Dictionary
19 [CITATION Hau90 \p 61-85 \l 1033]

Railroads benefitted the merchants by this easier means of transit from the piers to the markets.

Maritime companies looking at the steam engine rightfully believed they too could take advantage of this new technology. Steamships would become the new means of propulsion. Due to the heat generated from boilers from the steam plants, England first designed ships made out solely out of iron, later steel. Iron and steel construction meant that factories would need to build to furnish the steel needed to make ships, rails, and other structures.[20] Iron in the nineteenth century became the foundation of all industry and transportation. Improvements in producing steel from iron used the new process called the Bessemer process.

The Bessemer process is the process of purifying iron, to make iron into steel and thus making it stronger, by removing the impurities in iron. High heat is needed along with limestone and coke. Coke is the burnt out coal that increases the temperature. Slag is the byproduct of the impurities burned out of the molten iron. Although today this process is not used, its replacement uses processes that do not pose dangers to the environment. [21]

This process of changing iron into steel, encouraged by the ship builders, allowed for stronger hulls and ships.

Factories also benefitted from stronger steel, structures are more durable, and this durability allowed for larger structures. Shipbuilders sensing how the future could turn out with their craft embraced steel.

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20 [CITATION Tem66 \p 187-205 \l 1033]
21 [CITATION Tem66 \p 182-205 \l 1033]

Steel production revolutionizes the industrial age. Railroads too embraced the idea of using steel; with steel, the railroads built better locomotives, improved rails, spikes, and other much infrastructure tools.

Longshoremen, while not making tools out of steel did use steel, wheel barrels, steel hooks, and steel, powered by steam cranes. Work removing the cargo from the ships took a step forward with the improvement of using steam power. Steam power along with steel is an important step in shipping and the railroads. Steam power in many industries propelled the United States into an industrial powerful country. Shipping and railroads relied on steam as their source of propulsion and it is still the most common form of propulsion for both industries. Timber and coal became the fuels of choice for the furnaces and steam power plants located in the factories, ships, and locomotives. [22]

Steam power on the docks did make the lives of the longshoremen easier, cranes on the ships helped move cargo out of the holds and onto the docks. This meant the cranes on the ships could take the cargo and place it in the holds of the ships. Most of the work done was difficult work. The importance of steam power in shipping, railroads, and those workers who supported those industries encouraged mechanical improvements. These improvements would give new tools to the workers and would not displace workers. Displacing workers on the docks would not be a fear realized until later in the mid twentieth century.

Steam engines both on the rails and in the ships helped move freight quicker than horse or oxen pulled carts. Steam ships unlike sailing ships require propellers and tis would be the mechanism for thrust. Propeller design evolves with the hope that the

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improvements will give speed to the ships. Propellers and their designs are always evolving over time.

Engineers and designers are still improving based on because of their knowledge of hydrodynamics and metallurgy. [23] Fuels sources in the beginning relied on wood, coal, and later in the United States, coal became the dominant fuel for both shipping and railroads. Petro chemicals became very popular later, with the discovery of oil in Pennsylvania. Wood as fuel ceased to be as important to the railroads, wood's importance became for the rolling stock of the railroads and other needs in their infrastructure.

The railroads understood the needs of having access to the docks and thus built their railroads to the docks. Tracks went up to the piers and warehouses making cargo easier to transport. Locomotives and steamships although important needed support machinery. This support machinery would be able to help the longshoremen to load and unload cargo. Steam powered cranes performed those tasks.

Cranes that relied on steam power helped longshoremen load and unload, being on the decks of the ships, they were able to move cargo on and off the ship. .

While cranes are not new in the shipping world, what made it new was the availability of steam-powered machinery. Cranes with their mechanical advantage gave more work for the longshoremen; a crane operator is needed to work the crane. Work in the holds of ships changed little in the industrial age; it did make it somewhat easier. [24]

Technology affected the docks and it affected the shipbuilders, with improvements in shipbuilding. Power plants were improving and so was the power these

23 [CITATION Rol08 \p 113-130 \l 1033]
24 [CITATION Mid05 \p 89-106 \l 1033]

engines produced. Although steam improved many lives, it also had the drawback of displacing workers.

Displacement due to technology is not new; many old jobs that went away during the industrial age, the age also so job creation in new areas. This included jobs on the docks and on the ships. The new technology of railroads also created new jobs. Firemen and engineers who both worked driving the train also had to be familiar with steam engines. Technology did not increase wages nor decrease hours working. Typical working hours were sixteen hours to eighteen hours and the conditions were far from ideal. Wages also decreased as the work became less specialized and more generalized. Wages going down was not something the government did anything about nor intended to insert itself in the economy.

Dock work the usual domain for the lesser skilled workers in the early days of industrialization came from Ireland. Irish workers escaping the Potato Famine fled Ireland and went to North America, mostly the United States, and took jobs that most Americans considered below them.

Longshoremen became very clan like and this clan as if behavior often meant families or members from the same county in Ireland who moved to the United States controlled the docks. Irish labor in the industrial age consisted of mostly unskilled labor-intensive work that required little expertise.

Irish workers who did the work in the ships, on the docks, understood each other, their common bond of being Irish. Inner city America saw micro societies flourish, based on common heritage.

In some cases, specific docks had specific Irish workers, who came from the same county. This clan like behavior defined the docks, longshoremen also ran in families. Once established these workers protected their own and perceived outsiders with suspicion. Irish workers on the docks would not be the only ethnic group to approach work in clan like ways, other groups included the Italians, who also used the same types of techniques as the Irish.

Working on the docks required stamina, in order to tolerate the extreme temperatures of working inside holds of ships. Weather is an important factor in working inside the holds, with little safety and worker rights, longshoremen had to endure the elements. The elements were beyond the control of the longshoremen, and it did not matter, the work must be done. Weather although beyond anyone's control and this unpredictability included the arrival and departure of ships. These ships did not have instant access to weather forecasts, as we do today. Due to the unpredictable nature of ship, arrivals longshoremen needed to live in close proximity to the docks.

The stevedores who hired the longshoremen used a technique called "Shape Up" and this determined who worked on the docks.

Although not free corruption very, few protest the corrupt ways in which longshoremen were called to work. [25] Corrupt and fraught with organized crime, longshoremen were intimidated and their silence guaranteed their jobs. [26] These factors gave the longshoremen and the outsiders who tried to break through the thick wall of silence pause to try to expose the corruption and criminal elements.

25 [CITATION Joh05 \p 1-25 \l 1033]
26 Ibid

Organized crime from both the Irish and Italians seized an opportunity and profited from the absence of law enforcement on the docks. Workers paid for their placement in the ships. This was a part of the shape up process, shape up also meant that there existed a hierarchy and those who were favored received the best working locations. One of the issues was also the rampant use of no work jobs. Workers hired by the union's thug bosses who kept an eye and ear on the workers. Dissent was not permitted and it would mean severe punishment, losing a day's wages, beat downs, severe injury, and death. Death would be in the form of so-called "accidents." It is no wonder that workers forced into silence did little to go to the police or other interested parties. [27] Brutality did occur to the workers who reported to the authorities and the brave who did might not survive. These hearings brought in union bosses and these bosses knew who spoke to the waterfront commission. Union officials made examples of those longshoremen who spoke to investigators, reporters, and police. One of the lines was "Snitches get stitches." This kind of mindset prevented men from going to the authorities; it was their brutal reality.

Although organized crime presented problems to the longshoremen, it was not the only problem on the docks. In the days of sailing ships, the oceans, elements, and currents all affected arrival and departures of the ships. This inconsistency was one of the major problems longshoremen faced that was beyond their control. Steam powered ships gave the longshoremen more predictable timetables. Ships too underwent change, in both function and design. With steel ships, shipbuilders created new ship classes.

27 [CITATION Joh05 \p 9-13 \l 1033]

Ship construction during this time meant that ships could take on new designs. The new ships that carried the bulk of the cargo used bulk break carriers. This meant they would carry a variety of cargos. These cargos relied on the brawn of the longshoremen and the newly developed steam powered cranes, later forklifts. Labor and management had an uneasy truce as the work performed with statutory neglect. Organized crime had its own laws and enforcement of those so-called laws.

The laws on the docks, although not statutory in nature demanded an obedience that often ran afoul not just with the law, it also was in conflict with the shipping companies and shipping board. Wildcat strikes, those strikes that gave no warning to the owners, when called caused all work on the docks to come to a complete stop. This work stoppage forced the shipping companies to concede to the demands of the ILA. [28]Striking while not the ideal way of dealing with the companies became an effective tool of achieving results and often having organized crime backing up the unions gave muscle to the strike. Companies not wanting to lose money due to the strike often would give into the demands of both the unions and their organized crime protectors. This also meant there existed a culture of fear and intimidation amongst the ordinary workers. Union bosses who owed their positions not to the membership of their locals, but to the organized crime bosses who bought union officers. This corruption on the docks, being rampant saw many workers who did little work and cost the shipping companies money. Costs from featherbedding would not be the only concern of the shipping companies. Pilferage from the holds of the ships, some of the stolen items would end up in the hands of the crime bosses and union bosses.

28Ibid

Interindustry cooperation existed between the maritime and railroads, it would be a necessary arrangement. Later trucking companies joined the alliance between these two powerful groups. Railroads and trucking companies although adversarial also saw the need for an alliance with each other. Cargo transportation has evolved from oxen pulled carts to trains and trucks transporting goods from their warehouses to the waiting ships. Ships with American made goods traveled the globe. Technology allowed for the development of shipping in the United States.

Speed is very important to commerce and shipping, the railroads, and trucking companies are very aware of this aspect. With speed comes quicker turnaround times for all concerned with commerce. Commerce getting to market and getting there in a timely manner and with increased speed to market meant to the merchants an increase in profits. Profits are very important for these transportation companies; it allows them the ability to invest in new technologies to improve delivery. [29] Delivery meant the ability to get to the ships, trains, and truck terminals and with speed. Greed in commerce is not uniquely American nor is it prejudiced, it is an equal opportunity offender. Companies attempted to make theft harder, and although a reduction in pilferage is ongoing, removing theft will never happen. Shipping, trucking, and railroads all are working to make pilferage less common and harder to perform. Unions have done well in cleaning their houses up, it was however difficult to remove the criminal element without the intervention of persistent clergy, reporters, politicians[30], and honest longshoremen, who wanted a clean union.

29 [CITATION Cud06 \p 2-10 \l 1033]
30 [CITATION Joh05 \p 140-145 \l 1033]

In the earliest investigations on the waterfront, longshoremen did not give interviews to the press or law enforcement. Fear of reprisal existed on the docks for a very long time and this fear went from generation to generation. The docks had their own rules and longshoremen and their families knew their boundaries. Boundaries just did not exist on the docks and improvements while benefitting most of the workers did have some negatives.

In the post-World War 2 world one of the goals by the Eisenhower administration, 1953-61, was to create an interstate highway system. These highways would cross the country, east to west, north to south, and would hurt the railroads and help trucking. Trucking and railroads had a history of not being too fond of each other. Truckers and railway workers had mistrust towards one another. [31] The interstate system made commerce flow more smoothly than the US Highway system. Trucks are able to move across the continent in days, and sometimes it was quicker than the railroads. Railroads did have trailers they used in the "Piggy Backing" system. This system of carrying trailers on flatbed railway cars also made it convenient for both truckers and railway workers. Transporting goods became easier and today due to containerization; containers are loaded from ship, to truck, and to the train and vice versa. Intermodalism is this process of using trains, trucks, and ships in unison. Transcontinental transportation is the new reality and it greatly affected the New York City region. Trade within the continental United States meant one could get produce from California and it could be in New Jersey in one week. This too revolutionized the way we think about consumerism.

31 [CITATION Mic08 \p 683-701 \l 1033]

Interstate highways did not post the only threat to trains, and this threat also was to the trucking industry, the jet, this allowed goods to go and arrive even faster from the airports. It did pose some issues, airports are not always close to centers of trade and upon arrival, and they still have to rely on trucks or the railroads. Airfreight is not new; it is however faster than truck or train. It is too a part of intermodalism however its speed comes at a greater cost. Trucks and trains can compete with the airfreight companies, airports have to have convenient locations. Trucks and trains still have more access points and trains and trucks can run in most conditions.

Unions in both the railroads, trucking, and docks reacted to the jets in similar ways, feeling threatened and believing their jobs would be eliminated, if they went on strike. Technology has always had an effect on the working class and automation usually replaced the most vulnerable of workers.[32]

Striking sent the clear message to managers that jobs need to be preserved; this was especially true with the longshoremen. Truckers and the railway workers did not have as much as a threat to their jobs as the longshoremen, mostly due to the nature of them already having trailers and not having to load them or unload the trailers. Trains have also used the system of "Piggy Backing" since the nineteen twenties and it was not difficult to transition to containerization. Trucks whose very existence is due to railroads not being able to get to all markets also did not have the feelings of having their jobs cut due to the Trans modalism. There was though a mistrust, even though Malcolm P. McClean was also a trucker, who also owned one of the Southeastern United States' largest trucking companies.

32 [CITATION Lev06 \p 70-75 \l 1033]

Cargo movement after the Second World War came from ships to either the shore by way of trucking or the railroads needed a standard that all could agree on. This agreement did not affect the ships as much due to the nature of removing cargo from trucks and trains. This process could leave open the door of temptation of pilferage. It often did occur that some dishonest workers did steal from the ships, trucks, or trains. Ship design included hold spaces to carry goods without very much in the way of protection and containerization would change that and make it harder to steal from the ships.

Ship design changed after the Second World War, in no small way due to the changing needs of the maritime companies. Oil tankers during the war constructed to carry thousands of gallons of oil and transported oil to ships all over the world. These oil tankers did not have the same designs as bulk break carriers. Tankers once the war concluded needed to find another use; with the small number of oil, companies that needed tankers and some maritime architects began to think about conversion.

Several ideas by interested parties illustrated proposals around the maritime community to repurpose surplus ships from the navy and army. Technology was changing with the maritime, trucking and railroads. Trains and ships once used coal as their fuel source and by the end of World War 2, both switched to Diesel fuel. [33] While most ships made the conversion, earlier it was standard procedure to have ships designed with fuel oil engines and these engines used the economic and cleaner fuel oil. Railroads relied on fuel oil for the convenience and cleanliness too; they also used electric powered locomotives. Trucks use and did use from the very beginning Diesel oil as their fuel of choice.

33 [CITATION Rol08 \p 335-345 \l 1033]

Shipping companies found once the cargo reached the shore there needed to be alliances; this began with the teamsters, those who worked the horse drawn wagons, later trucks. Trains also are an important alliance with the shipping companies. Transportation is very important; it is far more convenient to move goods from the ships to the markets via wagon, truck, or train. Convenience for the owners of all involved in the process of moving cargo want it done cheaply and quickly. This means that all involved need to work together to achieve the greater good of on time without theft of goods in a manner that is both economical to consumer and to companies.

CHAPTER 2: PHYSICAL AND POLITICAL STRUCTURE OF NEW JERSEY

The Port of New York and New Jersey has a geological advantage, brackish water, not quite fresh water but not quite saline. This water does not freeze as easily as fresh water and is able navigable almost all year round. Because of these ships can and do go freely from the ports to the open Atlantic Ocean.[34] This made New York and New Jersey desirable port locations, with Manhattan having the majority of ports in the region. Infrastructure is also very important to the maritime companies, dry docks, shipyards, and ship construction all took place in this bi-state region. Shipping also needed allied industries, this would include the railroads, trucks, and the ability to support all three as needed.

Dock construction utilized the concept of finger piers. These piers or docks extend outward to the channels. They were long and not very wide, wide enough to load and unload ships, both passenger and freight. Dredging is an issue that the ports in Elizabeth and Newark face frequently; dredging often means the United States Army Corps of Engineers, who have to dredge the ports. This procedure done on the Hudson River takes with it silt and soil and left to its own devices would clog the ports. The Corps of Engineer has the responsibility of maintaining the sea-lanes of the port cities. They are also the only ones who have the committed resources to do such an operation. It remains one of the issues in the ports today. Dredging is the issue that has not gone away with containerization and it will not go away just because the ships have changed. Containerships demand more dredging due to the low draft of the ships.

34 [CITATION Rol08 \l 1033]

This means the ships sits lower in the water once the containers are fully loaded on board the ship. This low draft causes the ships to scrape its bottoms on the rocky bed of the channels. Causing harm to the hull, and if one of these ships runs aground it could delay the ships coming and going from the harbors. This would in turn cost the companies much more money to resolve this problem. Delays in the container industry cost shipping companies and their allied industries money. [35] Obstruction of the waterways is costly not just to the companies but to the port authority. Interstate commerce is something that the government takes very seriously; it is a priority of the army to fix the problem before it becomes a major problem.

Due to the dangers posed by the silt, mostly caused by the chemicals used by the companies there is more concern about what is to be done with the dredged silt. It still is an issue and will continue to be one in the near future. Labor and management are both trying to find ways of make dealing with the silt less dangerous. Dredging there for must be done with concern to the environment and preserve jobs of those work on the ships and the docks. This will be a recurring issue until we come up with a solution that does no further harm to the environment and does not cause more labor unrest. Part of the reason New Jersey's ports are confronted with the burden of dredging more than New York is timing and how these docks in New Jersey are constructed. New Jersey does not use finger piers. In New Jersey, environmental laws became stricter as containerization was picking up momentum. New York piers did not have the legal issues that now face New Jersey.

35 [CITATION Rod04 \p 64 \l 1033]

The piers in Newark and Elizabeth were lumber ports; lumber ports need wide-open spaces. Cargo in particular lumber needs to have wide access to ships. Lumber is loaded horizontally. . [36] Another reason why the ports in Newark and Elizabeth became the ideal location of the new container terminals was access to highways, trains, and to the airports.

New Jersey also had many railroads that served to all parts of the country, the Baltimore and Ohio, Pennsylvania Railroad, New York Central, Erie, Lackawanna, and other short lines that served the bi-state region. Railroading is important due the amount of yards located in New Jersey and that these railroads transported goods all over the United States. Fruit or vegetables from California make the trip in about three days by rail. With the invention of the boxcars, transporting goods overland is convenient and added to the convenience is the use of refrigerated boxcars food never spoils. Another reason for the container to end in New Jersey is the location of the railroads and later interstate highways.

Trucking in New Jersey is also very important, with many freight terminals located in New Jersey that are by the rails and ships. This access also assures that freight will make it to market without too fuss. Before containers, the process was slow, due to the moving from one means of transit to another.

One had to take the goods off the ships, trains, and trucks and have it put back onto the way it was going to market. Containers did not exist; cargo taken from the ships was then put into trucks or trains.

36 [CITATION Vig99 \p 3-7 \l 1033]

It all had to be done manually and with the unions, dividing labor it became even more chaotic. Each union would only handle those loads that they were charged with, longshoremen were charged with loading and unloading the ships. Teamsters moved the trucks into place to be unloaded and loaded from the ships and trains. This process took time and this time was what was commonly lamented by all involved. Maritime, the railroads, and trucking companies all understood the problem but very few wanted to fix the problem. The fear was that the unions would strike and cause even more delays. [37]

Rail and truck access to the ships was common but could only be used on a limited basis. Limited space meant access to the ships from both rail and truck had to be restricted. With trains, it is easier to move them forward or backward; engines can push or pull boxcars. Trucks need room to turn around and truck traffic is impractical on the docks. Inefficiencies make this design of docks one of the major drawbacks of finger piers.

Construction of these ports is also an issue, it takes time to construct them, and this construction has to include the needed infrastructure. This means roads and or tracks and they have to be spurs for the railroads that must be maintained by the railroad companies. This also means the ships have to be near main lines of the railroads and trucks.

New Jersey ports excluding the ports in Elizabeth and Newark were located in Jersey City, Hoboken, Weehawken, and they handled some passenger and freight lines. Not in the same numbers as New York City, they did have many advantages over Manhattan. Smaller in stature New Jersey ports did serve the lesser-known shipping companies. The famous Cunard and White Star Lines whose piers were a fixture in New York City, while

37 [CITATION Vig99 \p 3-7 \l 1033]

New Jersey ports had the Holland American Line, and several German shipping companies that discharged passengers and freight in New Jersey.

Employment to work these New Jersey docks numbered in the thousands and this army of longshoremen with just as many workers in New York City. New Jersey piers like their New York counter parts did not have cranes or other heavy machinery to assist the longshoremen in their daily work. Loading and unloading ships is not one that can be rushed. Rushing this sort of work would mean that the ship could capsize, which would be even more of a headache to the owners. Replacing stolen cargo is expensive and replacing a ship due to a sinking could and would bankrupt lesser companies. Careful care is given when the ships are to be loaded with stevedores orchestrating the movement of the cargo. This means that longshoremen inside the ship are conscientious over where the stevedores tell them to place the cargo. [38] Shipping companies valued the skill of the stevedores and the longshoremen did maintain a sort of love hate relationship with them as well, often stevedores assigned the work to be done. Assigned work often at the behest of the union bosses, often due to corrupt practices. Not all who worked the docks were properly vetted, often with theft being common and union officials not looking.

New Jersey ports as well as the ports in New York had the advantage of being deeper than most, considered deep water ports meant larger ships could dock without too much worry of being grounded. The term being grounded referred to the ship having to worry that its bottom could be stuck and would have to be pushed or pulled into deeper waters. Both New Jersey and New York still had to maintain their waterways to assure that their docks maintained their status as deep-water ports. Deep water also meant that dredging

38 [CITATION Fin83 \p 306-315 \l 1033]

the harbors would take more time if preventive maintenance were not ongoing it would cost the companies dearly for not doing it.

Construction and maintenance of the docks also meant natural resources; wood in particular would have to be used utilized. Wood is used to construct these piers and later what was used was concrete. Piers need wood that would resist rotting and could handle being in extremes of temperature. Repair of the docks fell into the hands of the New York City Maritime Commission, who was charged with maintaining with piers. One of the bi-state Port Authority of New York and New Jersey biggest complaints, New York City took care of its piers and did not feel they did not have to help with caring for New Jersey ports. [39] Precautions need to be done frequently that would benefit both states and their ports and often times one state is paying more for it than the other. It at times goes to the courts and the federal court, which is their role, gets involved in the process. Navigation and hazards to it are in the domain of the federal government, which is executed by the United States Army, Corps of Engineers. New York and New Jersey often rely on the army to clear the hazards to navigation, with each finger pointing who pays for it.

Before the nineteen fifties workers were not too far from their jobs and could easily get to their work by bus, walking, or train. The suburbs was not as common and it was considered luxury. Working this close to the work meant that those longshoremen could be there quickly. One of the results of containerization is mass consumerism. We were a consumer society before nineteen fifty and it only became more common. Companies were moving to the suburbs and workers too were moving.

39 [CITATION Rod04 \p 297-313 \l 1033]

Highways, ports, and railyards became bigger and faster paced; the new interstate highway system connected the country by road. Trucks made the trip faster than before and goods could be sent from to California to New York in days, much in the same way as railroads. The American people began to demand more and demanded it faster. Trucking, the trains, and ships could work together. This process became known as intermodalism and with containers; it became more inexpensive to do this process. [40] Access points in New York and New Jersey meant that goods could be received in New Jersey and be in California in a week. This is not received well by the unions and many of them fought to maintain the status quo.

New Jersey, in particular Elizabeth and Newark are important places for the development of container ports because of their close proximity to major transportation hubs. Railroads, trucking terminals, and airports are all located close by to the container ports. These ports unlike the ones in New York were not long narrow piers. In the New York City region, the ports were an ideal location for having a maritime presence, open access to the ocean and the waterways surrounding the area were deep enough for shipping. [41] Later New Jersey's ports in Newark and Elizabeth would too be found to be ideal locations for shipping container terminals. Modern day containerization uses many of the same terms as trucking companies, as the railroads borrowed from the maritime trade, so did the containers borrow terms from trucking.

New Jersey and New York share a port authority and their docks are under the watchful eye of an interstate agency, Port Authority of New York and New Jersey. This agency regulates the docks among other interstate concerns as tunnels and bridges

40 [CITATION McC68 \l 1033]
41 [CITATION Ken70 \l 1033]

connect both states. New Jersey piers before containerization were found in Jersey City, Hoboken, and Weehawken their roles were not as dominant the piers in Manhattan but still played an important role. New Jersey had some minor ports in Newark and Elizabeth; they dealt with smaller ships and cargos that did not need the expansive pier structures located in New York City or the piers in New Jersey. Ports in New Jersey, Hoboken to name one, had many shipping lines as customers who took both freight and passengers around the world. Hoboken and Jersey City gave access to the railroads and this in turn made it easy for freight to be moved out of the ship in a quicker manner than in Manhattan. Shipping companies unloading their cargoes were at the mercy of the longshoremen and railroads to assure their freight would go to intended markets. This relationship was not ideal but they were able to work together even when there was labor unrest and strikes.

New York's ports as well as New Jersey was deep-water docks this gave shipping companies an advantage in bringing their goods to this region. Deep ports meant ships with deep displacement could make port in the region without the use of ferries and did not have to worry if the bay and rivers were deep enough for their ships. It did mean though the states of New York and New Jersey had to maintain that depth to accommodate those ships. Dredging was done often to keep the silt from building up in the areas where ships were coming and going. Navigation into New York Harbor is a tricky operation and the skilled tugboat operators understood New York Harbor and the surrounding ports. New York Harbor although a cold-water port rarely froze over thus shipping could and did come into the New York City region all year round and the ports that surrounded the area were in full operation in all kinds of weather.

The geography of New York is important not just for its access to the Atlantic Ocean it also has access to major highways, airports, railways, and markets. Shipping to New York made sense for the merchants to have a major presence in the New York City region. Freight and passenger ships who called on these ports in the New York metropolitan area came into the ports in large numbers, carrying people and freight to many places in the United States. These ports had thousands of support laborers who allowed these ports to function and they came from the tough neighborhoods in both New York and New Jersey. Often these workers were multigenerational and it was common for fathers to work besides their sons. New Jersey docks located in Weehawken, Hoboken, and Jersey City were as important as the piers located in Manhattan and Brooklyn in New York City. Railroads often had terminals in New Jersey eager to take their freight and passengers to other cities across the United States. In the early days of the republic and even in colonial times New York Harbor was important for trade, although New York during colonial times was not as important as Boston, it still was and still is a port city.

Geography plays an important role in placing ports and the New York City region is ideally located, with access to the Atlantic Ocean. This is important because the Atlantic Ocean can take you to all over the world. With most of the exporting and importing of goods and immigrants, coming from Europe it is the ideal location for a port. Ports if they are going to be global need to have access to the ocean and having a body of water that is frozen in the winter would not be a good location for a port. With the globalization of trade and the speed in which it occurs access to warm water port is crucial and New York and New Jersey fit this perfectly. The climate of the area is moderate and the moderation allows for shipping to make its way into the markets in the

United States. Rail, trucks, and airports are all accessible from the ports located in New Jersey and New York, to assure that goods can be transported easily. This ease of transport was an important piece of the equation in selecting a container port.

Container ports unlike other ports need open spaces and access to major arteries of transportation. Competitors gave way to colleagues and important partners in securing trade and building upon positive working relationships. These factors were important about the location of Newark and Elizabeth in container ports. New Jersey has many railway lines that go to the many markets in the United States. New Jersey also has many trucking terminals and these terminals were ideally located to allow transferring of goods from the ships to those terminals to go to markets across the country. Airports also were close by with Newark (Liberty) Airport located across the New Jersey Turnpike from the container ports. New Jersey's access to the interstate highway system was an important reason why these container ports were so convenient for the owners of these companies.

New Jersey was and still is an important container port location serving much in the same way it started, with the first containership the Ideal X, little thought of the ship. Most on the docks viewed the ship with a great deal of suspicion. Maritime shipping did not even believe in its intended mission. There were competing ideas in the gulf coast, the southeastern United States. Buying former navy ships during the 1950s could be done cheaply. The Ideal X was a former navy tanker, it was modified with the best naval architects, and marine engineers' money could be back then. The Allied victory in the Second World War was an important morale builder for the American Merchant Marine,

with this success they felt they could build upon its success and become more successful globally. Success tends to create more success and marine and their unions felt they would be building upon that success with more growth. Containers and shipping would be facing the next hurdle and it accepted the challenge. Malcolm P. MacLean, the trucking company executive who founded SEA LAND, looked at how other companies were transporting trailers. Most were using the trailer with a chassis and it restricted the number of trailers. Further complicating it was the location of where these ships could load and unload their trailers. Having retired navy LSTs meant that it could only work in ports that allowed space for a ships' bow to be opened. This required a great deal of open space and once the ships' bow was closed, it became unusable. Port infrastructure that was needed for some of the earlier designs of container ships were not realistic.

Space was one of the primary concerns, an open bow that allowed the movement of the trainers and trucks was not an easy task to complete in some ports. Trailers that could be loaded had the additional problem of being stacked with the chassis attached. There was no way to remove the chassis from the container. This limited the amount of trailers these ships could carry.

They were designed to land at the beach and open up to discharge tanks, trucks, and men thus it was not very practical to have them at the conventional piers and docks. They would require a transformation of the port structure and port authorities were not willing to do that.

Geographical concerns about containerization included concerns about ease of access to the ocean and how navigable the waters were to the ports. Ports in the

northeastern United States had the issue of freezing and in winter this would limit the amount of time spent using the ports, and the brackish nature of the Ports of New York City and its surrounding area assured that the ports were not frozen over completely. Longshoremen worked regardless of the weather conditions and in winter and summer, the extremes did not matter for the work needed to be done and the weather would not curtail the people working the docks.

New York City and its surrounding ports were considered deep-sea ports and this important for shipping. Ships have to be able to move freely in the ports and this freedom of movement has to be maintained. It is maintained by the Army Corps of Engineers who assure that the harbors are safe and deep enough to have ships move around safely and not run aground on the shoals in the harbor. They also removed all navigational hazards and obstacles. This is one of the main concerns today; container ships today are wider, longer, and stacking containers higher and higher. The bridges were not constructed with this is in mind nor was it conceived that the ships would grow as they have. New York and its many bridges that connect New Jersey to New York are directly in the way of the newer ships and the bridges must be constructed to be higher and give room for the ships to go under them.

This was not anticipated and it will be one of the major issues facing the ports in New York and New Jersey. Containerization is currently still an issue that changes the geography and infrastructure of the region. [42]

Ports also need to have access to transportation hubs, trucking, railroads, and airports to assure that their freight makes it to market.

42 [CITATION KenJ70 \l 1033]

New York and its surrounding ports have had the reputation of being one of the most successful ports in the United States and with containerization starting there it continued to live up to that reputation. It led the United States in trade and it ease of access to major transportation hubs made it a leader and it continues to do so. Port locations for container ships in the beginning needed to be mindful of their current infrastructure. Bridges and highways that existed before the ports in New Jersey had to accommodate the new type of ships. Shipping companies whose business was out of New York looked with a new appreciation to the new ports located in New Jersey. It also was attractive with all the incentives New Jersey was giving the shipping companies and the ease of access to rail, trucking terminals, highways, and the emerging airport in Newark.

Geographically New Jersey and New York City offered shipping companies' ease of access to the Atlantic Ocean and to the international sea-lanes, with its brackish waters, which seldom froze over it was a northern port that allowed ships access all year round. This access is important for world trade, countries want access to markets and these markets were at one time only accessed by ship, shipping therefore had to have ports available all the time.

This did influence the Longshoremen; they would have to work in the extremes as well as the temperate times of the year. With the high heat and humidity in the summer, work in the ships' hold was extreme as well as the winter. Winter conditions had the additional problems of icing and the slick conditions. These slick conditions also made it difficult because the workers could have accidents and fall into the Hudson. Through oppressive and corrupt officials some workers accidents were not so accidental.

The Port Authority of New York and New Jersey published a report in 1967 and it reported why it felt containerization would grow. Port location was ideal; the sea-lanes were close in proximity to New Jersey and New York. This ease of access to Europe, South America, Africa, and closeness to the Panama Canal made it easy for shipping to move about from the area. Shipping also liked the policies in New Jersey and New York that attracted their business.

The political landscape in both New Jersey and New York during the nineteen fifties was diverse as it is now. In New York, you have a growing concern for life along the docks with movies like On the Waterfront and newspaper exposing the harsh realities of life along the docks. Reform minded politicians were being elected in New York to clean up the waterfront and with allies in the Catholic Church who saw radical unionism as being an arm of the Godless Soviets and a Red Scare fomented by the Wisconsin Senator Joe McCarthy. We began to take a good hard look at unionism. While unions were gaining credibility in the liberal policies of the Democratic Party, they also were gaining allies by supporting mainstream candidates. There would be no need for communists or socialists to run under the false umbrella of protecting worker rights. The Democratic Party embraced the unions as their kindred brothers in arms against the Republican Party.

Politically the unions and their leaders understood that if they were to remain in power they needed to tone down their rhetoric and talk about working within the capitalist system. Not all unions and union leaders believed in this shift in the old way of fighting and many resisted the more moderate approaches of some union officials. Some

unions in particular those on the Pacific coast never truly removed themselves from their socialist roots.

An example of such a lack of removal from their radical roots was during the Korean War, the Longshoremen refused to load and unload ship destined for the war in Korea. The outcry from their unions led to the federal government to work around the Pacific coast ports. This would be the same in the Viet Nam war where they felt the United States was engaged in imperialist wars and wanted no part of this intervention. Once again, the east coast

Longshoremen did not feel the same way as their Pacific brethren. Unionism on both the Atlantic and Pacific had differing views of what it meant to be a unionist, some saw their unions as patriotic, with the chant, ILA, I Love America, would be their cheer, wanting to preserve the United States and hoping it could be reformed from within and present system. With willing allies in the political process and their willingness to clean up the dirty dealings of the union, this was the common view of the Atlantic Longshoremen.

These Longshoremen did not feel any kind of kinship with the Pacific Longshoremen who often struck when they had to load ship destined for those locations they saw as imperialistic. This created more than its fair share of controversy especially during the Second World War, with the British being one of the largest empires and one of America's allies. Many of the Pacific Longshoremen and merchant sailors refused to

work if anything was headed to Australia. This antagonism manifested itself in several wartime strikes and the federal government had to intervene to force compliance.

Labor on the Atlantic side was not as radical as the Pacific but it was more known for its corruption and with its organized crime connections, they were able to utilize this to help invade Italy. With organized crime helping the war effort the government needed to turn a blind eye in order to win the war, the enemy of my enemy is my friend. Once again, principles are damned as the ideals of the United States fell short on the reality of making strange political alliances.

Unions could continue to be corrupt as long they cooperated. This corruption would come to end with reform minded governors and journalists. The era of the state ignoring the abuse and criminalization of work was about to end. The media and popular culture was beginning to take a hard look at the unions. They were accepted and not as seen as extreme, society at this time was undergoing a new Red Scare of the 1950's was causing public scrutiny of unions and communist infiltration of the United States. This fear of communism created witch-hunts in every aspect of the United States, going from the highest positions of government to high-ranking officials in the unions and suspicion was raised with anyone who was or ever joined the Communist Party of the United States. During the 1930s, many felt communism was the answer to the failed economy. Economic depression in the nineteen thirties crippled not just the United States; it also crippled the world. Industry and related jobs were dried up, farmlands were in dust, and maybe this new belief system in Scientific Socialism would lead the United States better. With the purges of Stalin and his paranoid behavior many American communists wanted to distance themselves from this but did not resign from the party. The Communist Party

of the United States was at first active in unionism and some remained powerful influences, others broke away from the Communist Party of the United States, they felt they could work within the capitalist system and reform minded politicians.

Corruption took many forms along the docks, many of the corrupt practices assured that the status quo would never be replaced and it had built in safety measures to assure its longevity. Unions and their officials hired people who although it was illegal to hire convicted felons did it anyway and they would be the enforcement agents of the union and their corrupt ways. Dock work was also peer enforced with workers assuring that their co-workers followed the unwritten codes of the docks. This included many corrupt practices that cost shipping companies profits. However, for the sake of keeping labor at peace and not striking they would turn a blind eye toward it.

New Jersey and New York present many things to the shipping world and without the willingness of both labor and shipping companies this region would not have had as many chances as it had. The political climate with New York and New Jersey was an interesting contrast of dynamic personalities. New Jersey is buffered between two large port cities, Philadelphia that is one of the oldest port cities in the United States and it is one of the oldest shipyards in the United States. It also was a major shipbuilding city where ships of the navy and merchant ships were constructed. While New York was the most glamorous of the cities and the most heavily populated Philadelphia held her own with shipping companies. New York like most of the east coast ports had many of the same offices; there were immigration centers, port tax collectors, and duty stations. New Jersey historically saw itself as East and West New Jersey, the terms of central, north, and south are recent geographical reference points.

New York City while one of the largest international cities it as a port city was more known for its passenger traffic then its commercial traffic. Northern New Jersey ports, such as Jersey City, Weehawken, and Hoboken were part of the Port Authority of New York and New Jersey.

With the naming of the port authority, New York assumed the role of senior partner in the managing and daily workings of the ports. The ships that came into the ports in New Jersey did not get the same treatment as the larger Manhattan piers. Ships entering here and if it was their first time (maiden voyage), it was greeted with a grand ceremony. The ceremony that greeted the new liners was not the same reception of the working ships that entered the ports. Liners did a lot of business transporting immigrants from Europe to the United States and their reception was not always so cheerful and full of welcome.

Longshoremen and immigrants especially if they were from the same country tended to find work easier than non-connected workers did. This was true of most immigrant labor and it often led to abuses within communities. The Catholic Church and its priests often would counter the communists and their threats by offering important solutions that could not be offered by the radicals in the labor movement. Labor did not always welcome immigrant groups; some were threatened that the new groups would do the jobs and do it for less. Common views of immigrants were that they would depress wages and push established workers out of a job. While it is, was not always the case, some embraced their immigrant brethren, and created work for them.

Dock work was hard work and the growing desire for improving the work was on the horizon. Tools of working on the dock were not sophisticated and the work was

physically demanding and unpredictable. Ships would come in on and a schedule but this did not always go as planned, ships had the elements to contend with and had their own labor issues. Strikes and weather could delay the arrival of ships. Shipping delays were something that the Longshoremen could do anything about and on their side; there could be “wild cat strikes” which could delay work for the maritime companies.

American owned businesses paid dearly for delays with the loading and unloading of cargo from the ships. It was in their minds worth paying off the unions and keeping the workers from striking.

Neither such promises nor guarantees could be made from other locations and from other unions. Longshoremen tended to be isolated from other unions; they were not yet associated with the AFL nor were welcomed in it. This left them with little influence other than having the weapon of calling for a wildcat strike they had little power. They also had the problem of not being affiliated with the big names in the labor movement. This would change with the Teamsters.

The Teamster Union is one that is concerned with the land-based transportation of goods over roads. Originally, it was horse drawn carriages over dirt trails. These were rugged individuals who worked long lonely hours often not seeing others for weeks if not months at a time. Dirt roads much like the sea-lanes presented challenges and opportunities for this man of the open road, he often road with one other not a crew of several as is the case of ships. Threats from the native populations who may not wanted the incursion into their lands. There was also the risk of highwaymen who would rob them at gunpoint and often at great risk of losing their lives. This was before the

expansion of the intercontinental railroads. Railroads did not connect every town in America. There were towns that could only be served by wagons and these wagons sometimes could be several days away, other times railroads did not serve the communities as often.

Railroads had the bad reputation, deservedly so that they charged higher prices and were not as good to the customer.

Their revenue was freight but it was bulk freight and some of the smaller items carried by the wagons was often materials that just would not make the railroad money and other times there was a great deal of competition between these two means of transportation. Competition also attempted to discredit the other with means that today would be illegal and unethical. Today trucking companies and railroads have a better working relationship. The system of intermodalism, the system of how goods are transported from ship to train to truck to plane is commonplace and all sides profit from its success. So having a working relationship is imperative. This took time to develop and it took even a longer time for these groups to trust one another, being that there was no historical reason to have trust, but there were historical reasons for mistrust. Many things had to happen for this historical angst to be eliminated and a new system of trust to be instituted amongst all the players in this transportation of goods chess game.

Goods and services needed reliable means of transportation and it beginning to become well established there were other important infrastructure issues to consider. The most important infrastructure item is the highways, railways, airports, and sea-lanes. Although you cannot do much with the sea-lanes, treaties by countries agree upon them

and they are usually the fastest and most effective. Design for airports need to have open spaces to land jets and maintain them. The railroads have their own set of logistical demands.

Geographically the railroads owned the land in which their trains ran on and often several railroads operated on the same tracks. Railroads early on had to agree on the standardization of the tracks and they had to agree on many infrastructural demands. These demands assured that all would benefit, they needed that, if for example the Baltimore and Ohio Railroad needed to a train to go from Baltimore to Jersey City, part of the system of tracks would be owned by several different railroads.

It could travel on Central New Jersey, Pennsylvania Railroad, and other companies tracks all of which had to be paid for using their tracks. This meant that there had to be contracts between the railroads for this use. The nature of being cutthroat with one other had to be one that assured both companies could survive. They needed the revenue and each knew that about the other so while they could charge and often did charge high rates they understood it was a cost of doing business. They also knew the customer would be willing to pay. With contractual pricing and agreements between the railroads, commerce would flow easily on the rails of competing railroads. Trucking companies whom had a rivalry with the railroads had to build up customer bases facing the legal and statuary obstacles thrown at them by the railroads. Railroads and the trucking companies had a fierce animosity towards one another that did finally go away but it took much after decades of mistrust.

Mistrust from the competing companies that serviced freight was not new and it often led to violence from the competing men in those fields. They did not understand nor was an understanding attempted because management may not have seen a benefit in a united worker front. If they could show, the other was stealing jobs and making their work more difficult they would be too busy fighting each other and not busy fighting the owners. Owners did have the upper hand in the labor unrest and often used it to take advantage of the workers. Unions also fed into the distrust amongst the workers. In the nineteen fifties a truce was sort of truce was made, between the Longshoremen and the AFL. This truce was in the form of sponsorship. The AFL sponsored the ILA into the AFL. This would show to the labor world that the ILA was making mends and trying to be less corrupt. Corruption on the docks was so common that other labor unions wanted to distance themselves from them and their illegal connections. This only made the Longshoremen look more and more lawless.

The lawless reputation was one that reminded some of the Old West and how mob rule really did rule the docks. Pay offs and corruption were so common that the other unions refused to acknowledge their right to be called unions. The first unions take up their cause was the Teamsters. Teamsters believed that the ILA and its reform minded leaders could bring them to the table of other trades.

Bringing them to the AFL was the first step to assure their credibility and regular members' members of the ILA looked forward to having normal relations with their other union comrades. These positive views of the acceptance into the AFL would also give much needed good press to a union that was known for its honesty and being brutal. The AFL would set the bar high for the ILA and they had to meet criteria that would be

monitored. The monitoring would include how they met their goals and how they ran their union, it would not be easy, and the membership understood this and voted for this process.

This process would take them time and it would be one that would be monitored by both the federal and state governments of New York and New Jersey, then governor Dewey who fought for less corruption on the docks saw this as a step in the right direction. He believed that the benefit of the AFL was it could bear down on labor better as a peer than a government.

Interstate government agencies also wanted to have a system of checks and balances with the unions that worked the docks. The AFL would also give that much needed check and balance that the interstate agency was looking for and hoped for, believing that their methods fell short of getting the kind of corruption that was affecting the docks and the unions that worked them. This corruption was often loaded with not just graft and payoffs but intimidation.

There was loan sharking; there was murder and assaults, with crime so common on the docks it was difficult to believe anyone would want to work under such difficult conditions. Often work was done by families, with sons following fathers and often many generations worked the docks. In the movie, "On the Waterfront" there was an example of three generations of worker on the docks.

Multi-generational workers were not unique to the unions or to labor, often jobs were common in families. What made Longshoremen unique was that workers, were forced to work well past most men and it was the adage work or starve. Many men

worked long and usually to their deaths. Mostly due to the parasitic nature of the job along the docks and that, the worker owed somebody something and it would take their lifetime to pay back the debt. This was another example of gross injustice done to the longshoremen. In New Jersey and New York, the corruption was from not just corrupt union officials but the corrupt union official's connection to organized crime. These corrupt officials grew rich and received protection from organized crime, as long as they continued to give what was expected in the form of monies or cargoes from ships. This kind of corruption was common before containerization.

The unions in the nineteen fifties facing the fear of an American people who did not trust the Soviet Union and their fear that there lurked in all unions a Soviet Spy. Unions wishing to court the good will of the American people had to purge themselves of the Soviet influence. This was not an easy divorce, the Communist party and the Socialist party of the United States was traditional allies of the labor movement.

This alliance of the radical left would be also the catalyst for the unions to move into the progressive liberal camp for self-preservation. Unions needed to tone down the rhetoric to court the good will of the American people and worker. American workers who arrived home after the Second World War were not radicalized nor were interest in the radical left. Unions they felt could give them good jobs and protect them but the union leadership did not have antagonize the establishment. Not all union officials agreed with the returning labor force. They however did tone it down and labor worked unions, in order to give the impression that they were not too radical moderated their tones. Not

all union leaders felt they had to remain that way and some faced the more moderate laborers with votes out of office.

Labor in the United States along with members of the unions became more and more middle class. Less concerned about global rights and labor rights, these laborers became a part of the growing blue collar middle class, who once they achieved a degree of creature comforts did not strike very often and often became less radical and became more conservative. Leadership who did much of the fighting for their rights and protections remained solidly in the liberal wing of the Democratic Party and their membership took a right turn embracing later republicans. Republicans won them over with promises of apple pie and mom, the union officials were the one who were cowering to the Soviets and were quite possibly agents of the Soviet Union.

The membership was played by the images of an oppressive Soviet system where their basic freedoms were denied. This was quite effective in neutering the power of the unions. Geographically the unions were popular in the industrial centers of the United States and centers were blue collar work was common. Unions also still powerful as the nature of the American economy shifted from industrial to the new economy. Work along the docks was changing too, with the new idea of containerization.

Containerization as an idea began as an idea of a truck driver who saw the means of transporting across oceans as grossly inefficient. Trucks had to wait along the piers for long periods, as their trailers were loaded and unloaded. One of the truck drivers was Malcolm P. McLean, who drove from North Carolina to New Jersey with his cargo of usually cotton. Sitting along the docks not only cost him time it also cost him money.

During his early career, McLean needed to build his trucking company. The Second World War interrupted this trucking company and while he grew his company, he kept thinking about containers.

Early attempts at containers after World War 2 included using navy surplus ships that were being sold by the government. Some of these attempts were less successful and others were impractical. McLean's idea was the most successful due to his ability to get the talent to work for his company. McLean believing in his idea was able to secure funding and loans to build his idea. He went to the Webb Institute and the United States Merchant Marine Academy. He also commissioned engineers and men who could make his idea of containers work. One of the most important inventions was the interlocking mechanism invented by one of his engineers. This allowed trailers (later named containers) to be placed on top of each other. This idea would allow containers to be stacked high and the whole idea of containers was begun.

The containership itself was a navy freighter and the freighter had its cargo holds expanded to allow for placement of the containers. Cargos never needed to leave the trailer and those containers could be taken off the chassis and placed on board the ships. It was a simple idea but it needed solid engineering on board to assure that the trailers would not fall off. One of the reasons the interlocking mechanism was successful was it was place on board the ships and on the trailers; it did not take much room.

One of the interesting things that were done was to see how much the trailers moved during transit were the engineers placed gum on the four corners and measured. When the first voyage of the Ideal X, the first real containership, arrived in Texas from New Jersey

they took measurements, the containers moved less than a micrometer. McLean and his engineers greeted this as a successful run.

Success was not without its critics and some of the harshest criticism came from the Longshoremen, who really did have the most to lose from the containerships. The need for a new means of transportation was obvious to all but the reactionary longshoremen threated strikes and labor actions and there were labor actions against Sea-Land, McLean's company. There were strikes against the new technology of containerization and the antipathy was typified by the union president who when he was asked about the Ideal X, he did not think it would be a success and wished it would just sink, the maritime world watched carefully the voyage of the Ideal X. It started out of New Jersey and sailed into history, by transporting the containers from New Jersey to Texas without incident. This change of how goods were being transported would never be the same; the American merchant marine took notice. The United States never did have the strength of a large merchant marine and the innovation of the containership did not expand its role. What it did do was give the Americans the prize of being innovators. These innovations would be in the new type of ship construction and these ships were not constructed in the United States.

American ships for the most part were not home ported in the United States, where provisions of the law made it expensive for ships to home ported in the United States. Much of the laws written favored American sailors and due to the high costs and the strict laws regarding American flagged ships, many moved their business off shore.

These ships would have their registries in countries where the labor laws were less strict to maximize profit. Sadly, American laws however strict they were also benefitted the sailors with safety provisions and strict labor conditions. Contractual obligations assured the sailor was not under a captain who ruled the ship with an iron fist. These captains were no longer the ultimate authority, the union contracts were strict and kept captains from asserting too much authority.

Union did also lose members; some through retirement and workers along the docks saw the once proud army of thousands of longshoremen dry up and become hundreds. These workers were not needed in the large numbers as the previous generations. Work was done in cranes and it was highly mechanical and less physical. The stevedore who directed where the cargo went too saw the job change, he did direct cargo, but it was the containers not bulk cargo. Once again, you did not need the amount of stevedores nor longshoremen. What was given in return was job security and great wages. Longshoremen and stevedores would be paid very well for their service and the unions' peace was assured. There would be fewer strikes in this union and the peace was bought at high wages and decent working conditions. Workers who stayed would receive the specialized training that would make containerization the success that it enjoys today. These workers also had predictable work schedules and many of the corrupt ways of hiring workers was seen as a thing in the past. Many of the workers could work without worry of being penalized in ways that in generations before would have resulted in them not working. Dock work was not a physically demanded profession.

The New Jersey waterfront and its landscape too changed and not just with the workers, it changed the infrastructure of the port of New York and New Jersey. These ports were what are called finger piers, these piers extend out to the harbor.

Ships are in long narrow wharves and are unloaded and loaded by hand and some mechanical assistance, however it was mostly done by the brute strength of the longshoremen. New York City and its piers were once some of the most active ports in the world and now they are rarely as busy as they once were. New York and its piers were sacrificed for container terminals; most of the terms used to describe container ports are taken from trucking. New York ports gave way to the former World Trade Center, which at one time was a large network of piers in lower Manhattan.

These piers were replaced and filled in with office buildings and Wall Street and the financial district expanded. This expansion helped New York grow in ways that the marine trades could not let it grow. Piers gave way to high rises and more land and New Jersey too grew. The container terminals in Newark and Elizabeth both grew. Newark and Elizabeth were small lumber ports that did not get much in the way of trade and ships soon became the premiere container ports. With the large open land that was located in close proximity to Newark airport, major highways, and major railways these two terminals would be the ideal location for such facilities. Location is always very important and Northern New Jersey and its ease of access points made containerization the ideal location. McLean also understood this as he placed his idea in New Jersey. He started his trucking company making the deliveries from North Carolina to New Jersey, this route he understood and wanted one that had access to many different modes of transportation. He envisioned containerization as working together not working against

each other. Perhaps he was idealistic as he began the idea but most of what he believed has come into reality.

Northern New Jersey and the location of the container port (terminals) presented a unique opportunity for New Jersey. Logistically speaking New Jersey has an ease of access to major markets and transportation hubs, trucking, shipping, airports, and railroads. The containerships also have the advantage of having open areas that can support the infrastructure of a container terminal. Terminals require open space where cranes that load and unload containerships can move about freely and can have trucks or trains be loaded with ease. There also needs to have access to highways and railways to take the full containers to markets. This is an additional reason for the success of the ports of Newark and Elizabeth.

Before the construction of the interstate highway system the United States had a system of highways that did not always serve the trucking companies well and often there were traffic tie ups that delayed cargo getting to the ships and railroads on time and making deadlines was fraught with logistically headaches. Trucking and the railroads did not have a collegial working relationship and with the government, more often than not siding with the railroads created an animosity between these two industries. Eventually the industries would come to terms and would come to an understanding between them that both could live with. Their unions also had the historical angst between each other but containerization at first united their antipathy towards the new technology. Containers in the beginning were not favorably looked upon seeing the loss of workers and union

members both the longshoremen and their allies believed that this new way of doing business was just a temporary phase that the shipping companies were engaged in. They did not think it would last more than a couple of years, which it is now going sixty. Dock work has so radically changed very few of the old timers remember the old ways of packing and unpacking ships. Shipping companies today rarely use bulk carriers and transporting liquids and gasses now use the same process to transport their cargos.

Newark unlike New York and its surrounding ports are not constructed in a similar fashion as the ports in New Jersey. The New Jersey ports with their history and function were different; they were lumber ports in the beginning and needed more open spaces, although this is mostly true of the ports in Elizabeth and Newark. The northeastern ports in Jersey City, Hoboken, and Weehawken were constructed in a similar way as the ports in New York City and the boroughs. Hudson County were constructed to serve ships that used the on board cranes and loaded with forklifts and by manual labor. Lumber ports did not have the same needs of loading and unloading lumber. Lumber had to be loaded with wide-open spaces and the ships that loaded lumber did not have the same configuration in their holds. Lumber ships are similar to the iron or ships of the Great Lakes, the hold are wider and longer so they can accommodate the lumber.

Shipping from New Jersey had the bonus of having access to major railroads to take the ship Bourne cargo to major American markets. Railroads could north, south, and west to the major American markets not just the ones in the New York Metropolitan area. Shipping in the United States relied on the railroads and the shipping companies worked hard at developing positive working relationships with the railroads and later trucking companies. Trucking companies that had to deal with the railroads made sure it was their

trucking companies. Railroads were threatened by their access to highways; they could go places that were not accessible by the railroads. Railroads that owned trucking companies also tried to buy out regional companies to maintain their monopolies.

Railroad in New Jersey could take cargo across the country, they would switch carriers, but due to standard gauge, all trains could travel from the New York area to California. Freight would be able to go from growers, for example, and make to the east coast quicker than by ship.

Freight trains moved faster than the ships and could deliver their cargos faster and more efficient.

Container and efficiency are important components of what allowed containers to grow in popularity as they did. There was also the added bonus of having the risks associated with bulk cargo removed. Theft of goods from hold was harder to take place. Later containers would have time clocks and seals that could only be broken by receiving side of the container. Often the keys were mailed to the recipient of the container and there was no other way to open it. Theft from shipping was reduced and shipping companies took notice. Crooked dockworkers and other dockworkers acting as proxy agents of the crooked union officials soon had to find other means of ripping off their maritime companies. Stealing from the ships, which was once very common, became less common also due to the location of the ports. Wharves, piers, and cargo holds of ships are not in plain sight, so theft could be done in the darkest places and not too many would see anything. It also helped longshoremen were threatened often if they ratted out the other workers who were stealing. Threats could include bodily harm, loss of work, and loss of

life. There were also threats of violence against their loved ones; their silence was bought and insured by those threats. Theft was very common along the docks.

New Jersey and New York sought to curb these acts of violence and theft from the ships. Due to the willingness of certain workers to look the other way either out of self-preservation or out of just not wanting to be involved theft was common and often the goods stolen were transported in stolen trucks, it became difficult to trace and locate the stolen goods. Unions faced with these negatives needed to find a way of giving a better impression. It would not be fair to say that all longshoremen and their officials were crooks.

Dissent on the docks was silenced by threats of harm to family or self. Examples were made out of those who spoke to legal authorities about the docks. New Jersey and New York's joint port authority needed help with the law and willing district attorneys who would be willing to tackle the longshoremen and the corrupt docks.

Geographically the New York metropolitan area and its surrounding states benefitted from containerization. Ships, railroads, trucking, and the airfreight business all grew due to the ease of access that Newark and Elizabeth provided for the transfer from ship to all modes of transit. This made it easier for them also to send their good overseas the European, Caribbean, African, and Asian markets. Transfers to one form of transportation to another was easier in this area due to the ease of access to the trucks, planes, and trains, it worked well going both ways. The infrastructure needed to assure the success of the containerships and its ports was the amount of wide-open land. Open

was needed because there needed to be a system of cranes, roads, and rail lines that all could be used working together.

Containerships needed cranes that could go into the deep holds of where the containers were located. Containers would be taken off with the top one is going off first and as the ships were, being loaded with quicker speeds than if it was done by hand. This is important because it is about convenience for the longshoremen and the companies. Containers nowadays are refrigerated and the power supply to keep goods cool is monitored and maintained on board the ships. Crews on the ships must be mindful of the concerns of the particular cargo that is being shipped. Today's ships can organize the cargos by type of cargo to assure as if containers are with like containers. Refrigerated units will be with other types of units, they can be monitored all at once, and this makes for an easier movement. Crews do not have to go to different sections of the ship to look for the specific types of containers.

Like containers are kept together and with computers all can be monitored from the bridge. These monitors keep track of temperature, if the cargo shifted, or if anything in the container needs to be checked. This has made transportation for goods a lot easier and more cost effective.

New Jersey with its ease of access allowed the journey from start to finish with containers and their methods of transportation. Transportation in Northern New Jersey was always important; it served as an important crossroads for the American Revolution, where both the Colonists and British saw New Jersey as an important means of access. After independence was secured, the American Confederation relied on New Jersey to

ferry goods from the northern states to the central and southern states, New Jersey also had canals that also eased transport of goods to the other states. The first American railroad ran in New Jersey and this railroad ran from Camden to the Amboys (present day Perth and South Amboy).[43] The first successful locomotive run ran in Hoboken and this success encouraged New Jersey to build railroads. Being in such close proximity to New York City and Philadelphia allowed railroads and shipping to grow in New Jersey. Both the East and West parts of New Jersey had plentiful land for dry docks, shipyards, and piers these reasons helped New Jersey flourish to one of the leading locations for trade in the United States. New York and Pennsylvania both needed New Jersey in order for their ports to be the success that they would become with both states needing the free and open ports that were located both on the Delaware River and on the Hudson River. New Jersey also had the industrial infrastructure to support the needs of shipping companies. Industrial might as important as it was in the northern part of New Jersey it was the railroads and their close proximity to the ports that made them viable partners with the shipping companies. This would also be the case with trucking and the airfreight business, New Jersey had the ease of access that made these three means of transportation work well together. It had rough origins and the three had the historical antagonism towards one another. Eventually it did work itself out and the three were able to better work with each other so that each would be profitable.

Geographically the location of the ports in New Jersey and New York were ideal location, not just from an infrastructure point of view. They were important due to the location of key centers of learning, in the New York metropolitan area there are several

43 [CITATION Cun97 \l 1033]

maritime schools. CUNY Maritime, the United States Merchant Marine Academy, and the Webb Institute are major schools that teach marine engineering and naval architecture. Containerization would have to have some of the brightest minds working on the design, McLean did not have the technical knowledge those marine engineers, and naval architects understood and could design. However much of a visionary McLean was he did need to have engineers and architects employed by him to make his vision a reality. With these colleges in close proximity to the piers and docks, McLean could and did hire some of the more talented students from these schools. They would design the earliest containers, containerships, and would be the ones who would see the vision in practical terms.

New Jersey and New York also had dry docks and fitting docks that could be used to renovate the ships that were bought from the United States Navy. These naval vessels were freighters and were the classic bulk carriers that needed armies of longshoremen to load and unload them. Loading them was long work with few power tools, they did have cranes and forklifts, but for the most part, it was done by hand. It was a long process and McLean and other like-minded people wanted to find a better way of handling freight. It would not be an easy process to change, loading and unloading ship changed very little since ancient times.

Northern New Jersey was also the home of several shipyards in Kearney, which provided easy access to the bigger bodies of water that eventually go to the Atlantic Ocean. McLean saw the potential of having these ports and facilities benefit his idea of container terminals. These terminals would have the ease of access for trucking, railroads, shipping, and airports.

Northern New Jersey has several rivers that feed into larger bodies of water that could and did accommodate shipping; there was also a system of canals. Canals were the precursor to the modern railways, New Jersey had many canals to take cargo from New York to New Jersey, and vice versa, New Jersey had this for the Philadelphia ports. Canals lost to the railroads and the railroads used New Jersey effectively. The railroads could take you anywhere in the United States. Immigration affected the growth of the United States and the new immigrants often stayed in close proximity to where they landed in the United States. If they did leave the area trains were the prefer means of getting there. Some walked, some took wagons, but the growth of the country meant they needed workers. Workers needed to be found who would work the mines, the factories, shipyards, and docks. Working the docks was not a very skilled job but when you moved up and became a stevedore, it did require more than just brawn. There had to be a skill set for loading and unloading bulk carriers.

The ships that occupied the piers in New Jersey and New York required armies of longshoremen with their drill instructors (stevedores) barking orders and placement of cargo. This is very important for the needs of the shipping companies had to be weighed, as the cargos had to be placed in the holds with caution. Much of the concern was having too much weighed on one side of the ship and it could cause the ship to capsize or if the seas were rough, the ship's cargo could break the ship causing it to sink. Thus, the importance of having a balanced ship was one of the more critical skill sets of the longshoremen and stevedores.

Ships and their companies had to be at the mercy of the unions who worked the docks and often the corruption was written in the cost of doing business. In order to keep peace

amongst labor maritime unions and the longshoremen the owners would give into some of the more outrageous demands. These demands would assure peace although striking was still common and often it was unpredictable.

Maritime companies who paid dearly for peace at the docks often had to have contracts that gave the unions much more authority than some shipping companies were willing to pay. Those corrupt union bosses whose allegiance was bought by organized crime often hired workers who would not have ordinarily worked the docks but had to in order to pay back the debt from the union bosses patrons. These patrons were often involved in illegal activities and for the most part governments either through their own corruption or through incompetence. Machine politics and politicians looked the other way at the docks, workers on the docks were often seedy characters, and often it was perceived that they were not worth fighting for, there were exceptions of people who would fight for their rights. Work along the docks did not have many allies and some of the allies needed to be aware that they might not be received well. Some of the work done by these men provided counseling and encouragement to fight for their rights.

Labor, labor leaders, and civic leaders were often at odds and some of the reasons were the great wall of silence between workers and legal authorities. The workers who were grateful to have jobs often had their silence bought or extorted. Threats of violence were all too common against families, members, and these threats were often carried out as warnings to others. Snitching was not only punishable but also negative peer pressure made the snitch one that often would be cut out of work. They would find work but at undesirable times, hours cut, location of work would be changed, and sometimes they would go weeks without money.

Social pressure included ostracizing of the worker where they eventually would leave and find work elsewhere. Dock work was also clan like and due to the strong family ties, many of the workers were interrelated and if one were facing scorn and ridicule, their family members too would face the same punishment as the worker. Peer pressure was an important tool of control that the union bosses and their masters employed in keeping the status quo on the docks, little could be done to stop it.

Trucks and railroads have roads that they use to take and take away cargos from their destinations. Ships too have assigned paths, called sea-lanes, established ocean highways that the entire world's shipping companies know and use. These lanes are based on the first trans-oceanic sea-lanes that served the Europeans, Asians, Africans, and later Americas. Sailing ships needed to sail on routes that had predictable winds swift currents that could take them if the wind was not fast. Travel on these sea-lanes also needed to be secure with minimal concern for piracy. Although piracy did and still does exist in the world's oceans.

Trucks on the roads too faced theft from bandits who would hijack their trucks and often it was done to intimidate trucking companies. This intimidation came from both crooks and some union members who sought to unionize the trucking industry. Trucking before the interstate highways transportation was done on the U.S. highway system, state highways, and local roads, some of which were dirt roads. Transportation to the northern ports was long and the process could take two days. Truckers did not have the regulations of today where they could only drive a certain amount of distance in one day and had to maintain a log showing when they slept and rested, for safety reasons these laws became

standard and nationwide. Trucking before these laws was dangerous and trucks and truckers were often in accidents.

These accidents could be linked to the long hours and the road conditions. Roads at this time used materials that were not as durable, often needed to be in good repair, and maintained more regularly than today.

Trucks needed to make the trip to the docks and needed plan enough time for the trucks to be loaded and unloaded in a reasonable amount of time and they needed to adhere to the shipping companies' schedule.

Ships would leave on time and the trucks who did not make the deadline risked losing money by not having the cargo delivered to the ship so it could make it to the markets. This at times put the trucking and shipping companies at odds with one another.

Longshoremen added to the problems of the trucking companies with unpredictable labor issues and with wildcat strikes further delayed trucking and shipping companies. Shipping companies found a way to buy peace, however trucking companies did not buy peace the same way as the maritime shipping companies. Trucking companies were often small and regional in the early days of trucking. These small trucking companies did not have the muscle and deep pockets of the maritime companies. It would take time for the trucking companies to grow stronger and flex their muscles. Trucking and the need for roads that could handle the weight of heavy trucks would have to wait for the end of the Second World War.

The new interstate highways made it easier for trucks to make the trip from North Carolina (for example) to Hoboken, New Jersey faster and more efficient. In northern

ports, the same problems resurfaced after the Second World War and the new interstate highways would alleviate some of the issues that trucking companies faced and it took time for the new roads to be constructed. Railroads also faced similar issues as the trucking companies.

The railroads with their established roadways worked with their marine counterparts to assure goods went to their respective warehouses and then to the docks. Railroads faced fights from the trucking companies who saw them engaging in monopolistic trade practices. These practices often put the railroads and trucking companies in direct competition with each other and their labor unions often fought over their mangers practices. Federal and state governments finally got involved and the railroads were being broken up. Railroads, which ruled the freight business all but, monopolized the freight transportation business and trucking companies that did not work with the railroads often were pushed out and into less desirable routes. These routes encouraged the trucking companies to grow and reach markets that the railroads could not get to by rail. Railroads did employ trucks that complimented their industry but theses trucking routes had to be in an area that was close to the rails.

Port relations between the unions had a rocky start and often it was a turf battle between the Teamsters and the ILA [International Longshoremen Association] these turf battles often distracted the unions from the real issues that they both were facing. These two unions fought over changes in their work and these changes were affected by technology and changes in work. The work would be radically changed post containerization and the radically changing waterfront and ships.

Changes in the ships would radically change the world and the work of the Longshoremen and Stevedores. These workers along with their peers who worked transporting goods to and from ships were facing a shift in their paradigm. From a physically demanding workload and an army of longshoremen with the drill sergeants in the guise of stevedores, it was a well-orchestrated process of loading and unloading ships.

Teamsters and longshoremen often fought one another over workplace and the workplace battleground only made the division of the labor unions worse. It would take a united enemy to unite both of these unions. Union bosses who saw the coming issues of containers argued against the use of shipping containers. Later the new enemy would be trans modal transportation of goods. Transportation of those goods before relied on the goods to be taken out of the trailer, placed onto pallets for loading onto ships or trucks or box cars and then to their respective markets. Containers take out the workers who loaded and unloaded those goods from their respective containers and to the next process of getting goods to market changed. Changes in the work did not alleviate the concerns and inter union rivalries. Boundaries that once were blurred were only further blurred by the changes in the way shipping companies worked with the Longshoremen. Traditionally operating engineers operated cranes and related heavy machinery and longshoremen did the manual labor, this would change due containerization and this change would give longshoremen a new set of job skills.

Port location is an important one to consider and the geography of the ports of New York and New Jersey both presented unique ports and infrastructure. Infrastructure is important for the development of ports, before containerization the ports could be located in narrow areas of land as long as ships could be docked it could be a good

location for a port. Containerships need open space and New York City that had a system of finger like piers could not support the new containership. Containerships, trucks, and the railroads when they work together need access to each other's means of transportation of goods. In the case of containerization, it was made easy by the standardization made by the Pennsylvania Railroad.

The rationalization for using the Pennsylvania Railroad standards for trailers and later containers assured that all could the shipping, trucking, and railroads could use the same standards as each, much the same way that in the previous century railroads switched to standardized tracks and rails.

Standard gauge (the space between the ties on railroad tracks) is fifty six and half inches, this was adapted out of necessity, before every railroad had a different gauge and it became a hazard and a conference was called to set up a standardized gauge that all railroads could agree would be the one they would all use. Since the Pennsylvania railroad was the most powerful in the United States it was decided by brute force and political power that theirs would be the national standard for the gauge. Trucks then standardized their trailers (later containers) to fit the "piggy back" flat bed railroad cars, which most of those trailers were owned and operated by the railroads. With all the standards put into place containerization and later still intermodal transportation became an easy process. This process needed to have the set standards established for it to succeed both with domestic and international containers. It would also assure that much

to the dismay of unions and their bosses that it would be not just a passing fad and that it would be the future of freight transportation.

Freight that was transported in trailers on the seas, rails, and roads would not be the only goods that could be transported using the standardization of trailers. Containerization according to the "1969-70 Jane's Freight Containers" shipping containers did not just have to be the set standard for transporting containers; the frames of the containers could (and are currently used) for chemicals, gasses, and other materials other than goods that were normally put into containers. This too would change the means of how freight was transported.

Containerization would revolutionize the whole freight and shipping business.[44] In the early days of containerization was balked at from the unions, it was about losing members and members losing work. Technology often displaced workers and the ILA did not want to lose workers. The union of the ILA best summed this up, as he watched the Ideal X leave the port in New Jersey, "I do hope this damn thing sinks." [45]

Malcolm McLean who was an experience truck driver and who understood the rivalry of the ILA and the unions who worked the dock needed to make allies with all the union bosses and employees for containerization to work. It would require skill and diplomacy to bring about the necessary changes and improvements along the docks. This would also require that the men involved in the process of work along the waterfront needed to be brought on board and made into allies not adversaries. McLean used his personality and experiences to make alliances and deals to assure the success of his idea

44 [CITATION Jan70 \l 1033]
45 [CITATION Cud061 \l 1033]

and it did take time to change. Change was something that the industry was willing to accept and in time, the working life along the docks was changing. The docks in New York were being emptied and moving to the terminals in New Jersey and the landscape of bulk carriers was changing over to containerships.

Location in New Jersey as opposed to New York involved give and take from the port authority of New York and New Jersey with the piers in New York being eliminated their needed to be something given to compensate New York for their loss of the piers. New York's loss gave New Jersey a big gain and New York received the World Trade Center. This deal assured that the New York region did not suffer economically.

The ports in New York would be used, in a limited way and the major commercial traffic would be redirected to New Jersey in Elizabeth and Newark. These terminals, as containership ports are called, had the infrastructure that this new technology required. New Jersey also had the benefit having a the New Jersey Turnpike that was big enough for the trucks that containers needed and the Turnpike connected New Jersey with the emerging interstate highway system.

Highways before containerization and the interstate highways involved the US Highway system and this system of highways was four lanes wide, two in both directions. This congestion would only delay the trucks more as they made their way to the congested port cities of New York (and other cities). Containerization would have not been as successful if not for the interstate highways and the foresight to widen the roads. Expansion of the roads is important because of the need for trucks to get to ports quickly and efficiently. Increase in traffic meant that the roads needed to have room for both cars

and trucks to co-exist without getting in each other's way causing further delay. Railroads did not have this issue, they faced other issues and still face some of them today, with consolidation and merging of the rails it is less of an issue of competition. Car traffic and the amount of cars on the roads have complicated the truck routes but it is not as bad as it was in the early days of highway travel with two lanes in either direction. Trucks and their ability to carry larger loads did require an infrastructure that could handle the roads and their conditions. Roads to the ships would be less congested and more accessible.

Trucking like the railroads did not occur organically and there needed to be an infrastructure put in place for it to succeed. Railroads in the United States began in New Jersey and the first successful railroad that ran with regularity was the Camden and Amboy, which ran from Camden, New Jersey to Amboy, New Jersey (later renamed Perth Amboy and South Amboy respectively).

Paterson, New Jersey was also the first industrially planned city that had many industries associated with it and the railroads needed the railroads to send their goods to all points. These cities of Amboy and Paterson shared the common needed to have goods shipped and sent to markets not just by train, wagon, and later ship. The only harbors with access to the ocean were located in New York to the East and Philadelphia to the West. These cities were traditional port cities with wharves, piers, and the necessary infrastructure to allow ships to be loaded and unloaded.

The piers in New York and their workers for the most part did the necessary work of loading and unloading ships by way of shipboard cranes, which placed the pallets on board with the Longshoremen and Stevedores assigning it a specific

location on the ship. The work was done mostly by hand and it could be under extreme weather. In the winter, the weather was extremely cold and in the summer, it was extremely hot. Crews working inside the cargo holds had to contend weather and sometimes violence. Violence could be found inside the holds as well as the docks. Wayward longshoremen who did not tow the party line often found themselves victims of organized crime. Crime was often not reported as there was a code of silence on the docks and very few men wished to bring upon himself, herself, or family members violence. Some men did fight the powerful corrupt union officials.

Men like the Jesuit priest Father John M. Corridan who was an outspoken critic of the corruption found on the docks. He was also instrumental in bringing about public awareness of the troubles along the docks.

Waterfront union troubles did not begin with organized crime nor did it end with containerization. Organized crime influenced unions and the officials who ran the unions. With the leadership in the back pocket of organized crime, it became easier for organized crime and their bosses to get access to union members' vices.

These vices could include gambling and other crimes that organized crime participated in and how these union members were victimized by organized crime often paid their debts by getting goods to their debtors. The shipping companies and those who exported well to the United States understood these costs of doing business. Some goods that made the voyage from all over the world did not always make it to the intended market; some were stolen, to be given as payment to organized crime bosses or corrupt union officials. Corruption and those who participated often had the added disadvantage

in that if anyone who reported it could find themselves hurt, dead, or families receiving the same treatments. Waterfront work life was hard and filled with brutality. [46]

Brutal treatment was not just at the hands of strangers; there was also peer pressure from enforcers who worked alongside the longshoremen. These enforcers often were criminals whose identity the corrupt union officials with the help of organized crime bosses, to be an enforcer was to assure that no worker reported the misdeeds of the bosses.

Illegal activity along the waterfront that was frequently investigated often ended up in dead ends, mostly due to the rule of silence. Workers understood silence was bought by threats against them or their families. In the movie on the waterfront, it accurately portrays the brutality from the corrupt union bosses and very little in the way of outrage and when there was it was silenced quickly.

Containers and shipping is relatively new before we used containers everything was done in bulk carriers. These bulk carrier ships relied on pallets and cranes. These ships did not change in shape and the means of loading and unloading changed little.

The end of the Second World War saw changes in shipping, with the amount of ships that were released from wartime service, which meant there were many surplus ships. Some of these ships were used for intercostal cargo service and others companies tried for different applications. Some of the lesser successful ventures employed the use of Landing ship tanks, these ships known as LSTs featured a bow that opened up at a beachhead. This opening bow worked well for transporting tanks to an active battlefront,

46 [CITATION Joh05 \l 1033]

it may not have worked as well for trailers. Trailers and their trucks that pulled these trailers often could not be stacked high. Trucks had to be able to hitch the trailers efficiently and often times it was not very efficient.

Efficiency was important as observed by the trucking and shipping companies and the old ways of doing business was losing customers. Shipping companies who were vested in the status quo and did not want to risk irking the labor unions did not invest in new ideas or technologies. Many of the shipping companies did try new ideas with old technologies but they did not do the job any better than the old way of doing business. Ships they felt just could not be redesigned and reformatted so many gave up on the idea.[47] These new ideas would have to come from the outside and these outside sources would have to come from outside the maritime trades and organizations. Trucking was seen an the internal contender for handing interstate traffic along with the railroads, intercontinental it was not clear at the end of the second world war who would be the victor for transporting goods overseas. Trade overseas was only viable by way of ship but that too would change with the large cargo carrying jets.

Ideally, the location of ports is near the oceans that are convenient for the shipping companies and their major markets. New York and Northern New Jersey both give shipping companies location for their goods.

These goods can be transported from ship to waiting trucks and railroads. The construction of the ports in New York began their life as all ports before containerization as finger ports. Finger ports are those ports that have long piers that extend outward and load ships using shipboard cranes and manual labor. This labor-intensive process of

47 [CITATION Cud061 \l 1033]

moving cargo which containerization replaced needed to evolve. Containers that have replaced many of the old ways of handling freight, railroads do not use boxcars as much and trucking too uses containers. Although trucking companies still use the trailer but they are not being delivered to the ports or railroads.

McLean who worked hard as a trucker and later executive saw opportunity where others experimented with improving boxes, he saw the trailer. This trailer is what needed to be changed and that along with the skilled engineers designed the interlocking mechanism. This mechanism would allow the trailers, later containers, to be stacked. Stacking is what containerization a reality and the next thing needed was a ship that could hold the containers. [48] Technology and looking ahead is what proved to be the real success story of McLean and his idea of containers. Shipping would have to move forward and it was in the form of a box and many of opined it was the single most important event in shipping since the invention of the steel hull. This revolution was not well received by the shipping unions and many fought against it, but once again, they were over run and were forced to accept change. Change would be slow, it did finally make more sense to move forward then to fight it, and they began to fall into line. It would be an important concession to management. Unions would be rewarded for their willingness to accept change.

McLean while not the new comer to containerization, as the former executive of Matson wrote about the "unholy trinity" that was loss, damage, and pilferage causing McDonald, the Matson executive, to come up with small boxes that were called "Jensen

48 [CITATION Rol08 \l 1033]

Boxes" that were some of the earliest uses of containers. [49] Preventing theft was never easy for shipping companies and the corruption of Longshoremen was well known and documented, sadly, they shipping companies did little about it, sensing they could not win the battle with the Longshoremen and their corrupt union officials. It was far more trouble than it was worth and effort so they turned a blind eye. After the World War 2, shipping companies began to contemplate better means of preventing this abuse.

The earliest use of containers gave some companies hope; they could secure the cargo before it reached ports. This securing would be a lock or seal that could only be opened at the location where it was intended to be delivered. Change was going to happen whether the unions liked it or not and their piers would never be the same. Work on the docks would not be the only ones who suffered from change; it would affect the trucking and railroad industries. Working on the docks while physically demanding and unpredictable after the containers came to the docks changed everything. Work became less demanding and less unpredictable. Workers and corrupt union officials did not have the temptation of stealing goods from the ships. It was harder to steal from containers and the ships, trucks, and trains. Shipping companies were slow to accept this because of the labor unions and fear that some union bosses gave them, there would be threats of strikes and violence if they moved forward with the idea of containers. Enough of the shipping companies did make the shift that the corruption would lessen and containerization moved forward and so did the shipping companies.

Atlantic shipping companies did not have the same issues as their Asian counterparts, Asian docks, and their workers unlike the Atlantic side had different issues.

49 [CITATION Rol08 \l 1033]

They ports in San Francisco could not carry the weight of containers. This is one of the reasons for Oakland becoming one of the largest container terminals in the world. Shipping out of San Francisco moved all operations to Oakland and thus labor too needed to move with the new location. [50]

Matson who was the competition for McLean did not develop the same types of tools and infrastructure. Making McLean the dominate force in containerization. [51] Matson while being competition for McLean was not the first use of using containers. One of the earliest companies was Seatrain, which was a company that moved railway cars by ferry and these ferries were equipped with track on the decks. This helped with coastal trade where it was cheaper and more efficient to move goods by rail on ferry than the standard break bulk carriers did. [52] Seatrain lasted for thirty years and its success paved the way for other like-minded companies. Due to the Cuban revolution, Seatrain went out of business. McLean who saw Seatrain and thought he could and eventually would do the same for the trucking industry. Wanting to use RO/RO (roll on roll off) technology, which he hoped, would carry his idea forward. Seeing that there was a gap between the trailer and chaises McLean needed a better idea. Taking trailers of the chaises would work both economic and practical interests. His idea of removing the trailer then became his mission and he succeeded in this push to change the way business was done. Changes in good transportation changed shipping, trucking, and railroads into a new means transporting cargo, making it cheaper and more practical. Nineteen fifty-five trucking companies; buy a shipping company, a small regional one that served the intercostal routes.

50 [CITATION Ken70 \l 1033]
51 [CITATION Rol08 \l 1033]
52 [CITATION Rol08 \l 1033]

It was the estimated that sixty-five to seventy- five of all waste and theft was at the docks from labor and their corrupt bosses. There had to be a manageable way of reducing those numbers and many of the shipping, trucking and railroads were trying new ideas to prevent such heavy losses. Containers and containerization needed ships and these ships had to be outfitted to carry some containers therefore the shipping companies needed to find a way of making that a reality. The American navy and its surplus fleet of World War 2 came to the rescue providing the companies with cheap ships. Cheap ships and active shipyards meant that the conversion from tankers, freighters, and other similar types of ships would be inexpensive. Shipyards eager for work soon took the ideas of McLean, his engineers, and naval architects and developed the modern containership.

Although the modern containerships can carry much more and look nothing like their predecessors they still served well as containerships. The first ship that successfully carried containers was the Ideal X. This ship was a converted from naval transport use and was made into a container ship. It worked from New Jersey to Texas and delivered just fewer than twenty containers. It proved to be very successful. The container revolution began in New Jersey and it was from a reformatted navy ship. Later naval architects would design the modern containership that from the keep up would be a modern container carrying ship. In New Jersey longshoremen and in New York they watched the Ideal X leave destined to history.

Many of those on the dock were naysayers, thinking that the shipping companies would only use this as a passing fad. It was hoped it would be a fad and that the shipping companies would go back to their way of loading and unloading ships. After being

successful for fifty years there is no plan to change, the only change is to make ships bigger and wider to fit more containers.

The American Coast Guard fought with Sealand in the courts over allowing containerships about carrying fuel oil and other cargo on the same ship. This battle cost the company dearly and it operated at a loss the first five years of its existence. Often times robbing from Peter to pay Paul, Sealand was on the verge of going under often. Money was constantly being reinvested in improving technology. Containers also need to define its standardization of those containers, it was agreed to use the trailers on the roads as their base. It also served the railroads well; they were using that standard as well. Matson was the first to device land based cranes to carry off the containers from the ships. McLean in Sealand did not use those cranes at first. They used shipboard cranes for moving containers to the ship holds and out of the holds. [53] Shipping was changing and its allies were too changing moving away from bulk carrying to container carrying ships.

Sealand needed to prove its merit and it by using intercostal routes and building the reputation of his company in those markets. The tough sell would be the international markets, shipping companies, and governments that this was a good idea. This company had to overcome many obstacles to their development and not just from the unions. Government intervention too was problematic with regulations that made it difficult for this new technology. It however changed over time and became successful. The Fairland, the first transatlantic containership, made it from the Port of New York to the port of Rotterdam; Sealand had to create its own infrastructure in Holland in order to have their ship given a port there. McLean was never the most cash wise investor, more often than

53 [CITATION Rol08 \l 1033]

not putting his company into great debt in order for the ideal of containerization to grow. It did not always go as planned and often he and his board needed to sell pieces of the company and at times even larger pieces to see the idea succeed.

Success is not always easy in competitive industries and the ocean going trade industry is particularly cut throat. With companies constantly fighting for the coveted trade routes, some of the intercostal were just as competitive. Some companies were always close to the edge of financial ruin and some were bought and sold by other companies. Sealand was such a company, McLean and his officers sold off so much of his companies that the need for deeper pockets never seemed to be satisfied. This satisfaction was found with an unlikely company. R. J. Reynolds in the late nineteen sixties bought Sealand and later in the late seventies sold it to CSX. CSX would later sell it to Maersk.

New Jersey for container ship terminals was a natural fit was the access to the major points of access with regard to the rails, roads, airports, and shipping areas. Trucking allowed containers to be loaded onto trucks and go to all points all over the United States. Trains were located nearby and could easily be loaded off ship to the waiting cars. Newark (now Newark Liberty) airport could transport using heavy-duty jets to take their cargos to anywhere that did not have ship, train, or truck access. These are the major reasons for the success of the New Jersey and New York ports, New York harbor became more of a junior partner to New Jersey with freight carrying ships. These ships that once carried passengers and goods became extinct, jet travel was faster and could move faster than any ship took over as the easiest way to get to anywhere in the world for passengers. Ship borne freight was easily moved from place to place by rail,

truck, and ship so this would not be something jets could take away from the ships. Some jets that could take cargos but they were limited to use. Containers and containerships became the way to move goods across the oceans of the world.

Other reasons for the success of New Jersey was location, New Jersey was and still is convenient for shipping companies. New York City is close for the financial side of business and location to the Atlantic Ocean by way of the water highways. New Jersey also had many railroads that did business in New Jersey. Container shipping was just a natural progression in the evolution of goods being transported.

Technology moves in New Jersey very quickly and companies like Bell Labs were located in New Jersey and developed many technologies. Although not high tech, containerization did change freight transportation. Infrastructure was needed and it had to be invented cranes, pulley systems, and other supporting structures would be constructed. . There also has to be locking mechanism in place on the containers to prevent slippage of the containers. With Stevens Technical Institute and the Newark College of Engineering (now New Jersey Institute of Technology) container shipping and the needs could easily be satisfied. Also due to the impractical nature of self-regulation there had to be an agency of the government that sought to have a set standard of containers, if these shipping companies did not sit down, negotiate with one another, and establish it themselves. With willing allies in the mechanical engineering fields who came up with standards for containers, the materials used in containers would too be scattered. Much of

the work needed to assure the success of containers and containerization had to be done and most of was done in New Jersey. Container shipping has evolved into a profitable way of doing business and has made globalization even more possible. Shipping had to move and it took many moves for this new idea to develop into what it is today. Some of the failings were the lack of willingness by the United States to adopt the metric system. This is still a thorny issue with the world. We are one of the few nations that does not use metric and to our folly.

Containers and container shipping needed to be sold to trucking and railroaders with the hope that they would embrace this new technology. The leaders in this idea hoped it would serve and assure that they all would profit from it. Railroads whose existence from the end of World War 2 to the present always suffered economically as the trucking industry dealt a serious blow to the railroads. The government did them no favors as they previously did for them. Intermodalism develops in New Jersey where it managed to do quite well, all embraced this newly improved idea on containerization. Execution of this idea developed New Jersey into a major player in global trade. Transportation of the containers from port to warehouse by means of trucks, railroads, and ships without the cargo leaving the safety of the trailer and having the cargo exposed and avoiding theft.

McLean and his companies succeeded in New Jersey and the world for many reasons, his idea flourished due to many factors, and these factors encouraged New Jersey to become the founding state for containerization. Containerization and their companies had to win over unions, who in the short term would lose workers, but in the long term, they traded better conditions, better pay, and less corruption. New docks

needed to be constructed not just redoing the old docks in the old port cities but they needed new spaces in the case of both Rotterdam and San Francisco. Containerships do not need the same amount of crewmembers as the bulk break freighters. Refrigeration on board some of the newer ships needs to be monitored regularly by the crew and officers of the ship to assure goods do not spoil. Some of the new containers are equipped with refrigerators are monitored to assure the freight gets to market without spoiling. These cargo ships have the ability to run such refrigerated containers. Some ships now carry liquid carrying container, which now can hold petrochemicals and other liquids and gasses. This ability was not something that the founders thought would occur. Containers have come a long way as they evolved and they will continue to evolve as long as we want to trade on the oceans of the world.

Containers and the benefit they have given the market place is just an amazing success story. Wages go down when goods became more readily accessible in the markets, and when goods are scarce wages go up. . The world is getting smaller and New Jersey and New York helped make it smaller but in doing so they may have sowed the seeds for globalization and an exploitation of non-maritime workers. The transportation industry has changed so much from the early days of containerization.

New Jersey too has changed from an urban industrial state, with rural parts the nickname the Garden State takes it from the areas of New Jersey where it is mostly country. Containerization has made New Jersey more congested; we are the densely populated state. Maybe not directly related to containerization but there has to be a

connection, and with our access to major highways and railways shipping companies find New Jersey the ideal location to have terminals for their freight carriers. New Jersey also has access to sea-lanes with access to the markets in Europe, South America, and Asia. New Jersey has made containerization an important part of its trade package that it can offer companies. These companies do relocate to New Jersey for these benefits and in the early days of containerization, it was very attractive. Movement in New Jersey meant farmers and village life forced these workers to seek the city for work.

Changes in the piers had to take place in order for the growth of containerization. These piers, which were called “Finger Piers” due to the outward nature of the wharfs and docks they stuck out of the harbor like fingers.

Freight in a similar way as passengers on the American East Coast landed in New York first and the minor ports second. . These piers were the primary location of the larger ocean going merchant ships.

Each of these ships carried cargo and passengers from Europe to the United States. Allowing ships to move about freely in New York harbor is tricky.

New York Harbor had fifty-two piers and they occupied both side of Manhattan Island. With both sides covered in piers, it looked like New York would need to grow to accommodate the amount of piers. New Jersey also had finger piers, while neither the size of New York nor the numbers of New York it was still very busy. The Port Authority of New York and New Jersey came to existence as part of the constitution of the United

States. It was considered a lawful pact that allowed states to work together to improve navigation. [54]

Unlike ports in California the New Jersey container ports did not have to be built out of open space. The space reformatted from one use to another use that served the Port Authority. [55] New York and New Jersey relocated their merchant shipping to the reformatted ports in Newark and Elizabeth. Ports underwent a redesign to make them more efficient and more accessible; containerships that docked there had the benefit of wide-open spaces to disembark their containers. Federal arrangements with the Port Authority allowed them to run three airports, construct tunnels, bridges, and later ports. Container ports did not need the amount of time as regular break bulk carriers to load and unload their cargos.

These ships were unloading containers that could remove cargos in record times and the turnaround times for these ships was unlike their predecessors. Land in New York City already was in high demand and using it for a container terminal was not feasible. New Jersey with quick access to rail, roads, airports, and shipping ports won out over New York City.

New York City does not feel it benefitted from the arrangement, some have seen it as a stab in their back and the ultimate betrayal by the Port Authority.

The pulsating rhythms of the busy port city is in many ways a distant memory for the citizens of New York and New Jersey. Bulk break ships, the old mode of transportation gave way to the containership.

54 [CITATION Uni \l 1033]
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Docks once filled with the sounds of armies of longshoremen loading, unloading their cargos needed a new way of doing business. Cranes replaced the armies of longshoremen and replaced with crane operators. Their job is rarely glamourized or fully appreciated in the movies, like the movie, “On the Waterfront”. Rarely do you hear of longshoremen strikes or corruption on the docks. Time locks have helped hamper theft from the containers, although it will not eliminate theft. Pilferage while not eliminated is far less common, in no small way it is because of the changing nature of the work. Their job (Longshoremen) is one of the best-paid jobs in the trades. New York and New Jersey were among the first to capitalize on the containership revolution; many hope they will continue to look forward and invest in keeping pace with the other container ports.

New Jersey and the importance of containerization is one of progress, they built the first terminals for containerships. They grew the business and its growth allowed the Port Authority to be one of most forward thinking in the United States. Its container ports in Newark and Elizabeth were always in the top ten of freight handled from year to year. Ports that served the transatlantic liners are not as common. Passenger and cruise line companies are looking at the recreational cruise market.

These ships and companies are not carrying freight and people from Europe to the United States, ships like the SS United States, at one time one of the fastest cruise liners in the world, now rusting in Philadelphia; it could make the trip to England and back in under a week. With jet travel, few people want waste two days at sea, when a jet will get them to Europe in hours not days. Ships enterering New York Harbor received a ceremony celebrating its arrival, this is rarely done anymore. Not too many people line

the waterfront to welcome in the containerships. . The fan fare for the new passenger ships entering New York Harbor is just a newsreel memory. Shipping has changed.

New Jersey is now facing dominance in the container ports with Los Angeles and Long Beach moving forward and in some cases surpassing the New York-New Jersey ports. These ports in California with the convenience of being closer to Asian manufacturing are over taking the once powerful New York and New Jersey ports. Port activity in New Jersey will still be important but as the manufacturing locations change so does, the importance of where the ports are located change. New Jersey will remain competitive but it will lose number status to the ports in California.

The United States with its interstate highway system will make it easier and easier for trucks to transport goods from California to the East Coast of the United States. Containership companies can discharge their cargo in California and it can arrive in New Jersey quicker than if the ship went to New Jersey directly. Containership founders did not anticipate the growth of super containerships and their extra wide beams, which cannot go through the Panama Canal. The Panama Canal built in earlier times did not anticipate ships having wider and wide beams. Now they must make the journey by going around South America. This further delays goods getting to market.

One of the reasons why intermodalism is as successful as it is, you can take goods and put them on trucks or trains, and they will arrive to the markets quicker than a ship going to South America and coming back north to the ports in New Jersey. Ships are becoming larger in length, width, and have deeper drafts, which means more and more

dredging of the harbors that support them. This will be difficult for New Jersey to compete with the other ports around the world. Infrastructure in New Jersey and New York's ports is to assure that they can compete in this new global economy. has asked for aid to allows this but it seems not to be a priority to the federal government, it is hoped New Jersey and New York can pull together to get their ports to be the proud ones they once were and can continue to be.

CHAPTER 3: THE LONGSHOREMEN OF NEW YORK …

Longshoremen one of the oldest trades is not and never was a gilded trade, it was not one that one that had an artisan origin. Being a longshoremen meant doing backbreaking work and often under extreme weather conditions. These men (for the most part it was a job done by men) who worked the docks gave of their labor and were usually guided by brawn not by aesthetics. Dock work is not an artisan craft and it lacks the appreciation of trades that are valued for artisanal quality. Loading and unloading shipping and holds is not glamorous. It was fraught with dangers from both the elements and manmade dangers. Workers who handled freight were not just working the holds of ships. Other workers worked the freight yards of railroads and trucking terminals. Handling freight is labor intensive and those who supervised these workers probably did not think it highly. Moving freight is a physically demanding job and it is one thought about often.

Corrupt workers and union bosses stole from companies and each other, making dock life a difficult one. The officials who encouraged unlawful acts against the shipping companies and it took the form of theft. In addition to theft other crimes included, loan sharking, assault and battery, and other crimes amongst workers. These workers did not have background checks done and often to the annoyance of elected officials in both New Jersey and New York. Both governors Dewey in New York and Driscoll in New Jersey both of whom set up government oversight of the docks. Government intervention did not have appeal to the ILA and union leaders to protest the government investigating their unions and leaders called often strikes.

These investigations found many irregularities within the union and many politicians wanted to clean up the unions from either management of the shipping companies giving pressure or the citizenry. Disgust and distrust were common views of longshoremen.

Investigations from both state and federal authorities looked into the unions and their practices, which by all accounts was suspicious. Without having willing workers on the inside to report the misdeeds and illegal activity, the docks would maintain the status quo of corruption. Workers had very little incentive report anything to the authorities. Those who did would face punishment that could include their death, death of family members, physical injury, and or removal from work, causing fiscal injury. Longshoremen knew to talk to the authorities meant injury and they were not willing to risk everything. This is what law enforcement faced, in the early days of the ports it was the Irish and later Italian with their criminal elements. The Irish and Italian were neither all corrupt nor involved with organized crime; the corruption unfortunately tainted the mass of workers and their union bosses.

Investigating the unions was a thankless job and both New Jersey and New York had determined governors they would have to work together to assure the success of their attorney generals and law enforcement agencies. Organized crime made that prospect difficult; they had deep pockets and long memories. They often bribed officials and police with local judges and police in their pockets the docks' justice was mob rule. Honest longshoremen and workers who they worked with were often intimidated into silence. These tactics would include threats of violence against families, the worker themselves, and it included loss of work and working under harsh conditions.

Working on the docks and inside the ships demanded strength and stamina putting up with the heat and cold both inside and outside the ships taxed workers. Work done deep inside the holds of ships was full of hazards some of which were unique to the ships and often times it was man on man violence. Organized crime bosses often protected union bosses under the guise of being ignorant. They also pretended not to know of such orders of violence against wayward longshoremen and criminal strong men. These strongmen assured that organized crime and criminals enforced their rules.

Enforcement of the law at the waterfront, under the Governors Driscoll and Dewey would end the blind eye of law enforcement. Both governors saw the corruption as a threat against the public safety. The New York Times reported on in the July 1 paper, New Jersey governor Driscoll, he would “drive the gangers and hoodlums off the waterfront." Much later New York governor, Mario Cuomo was still trying to combat organized crime’s influence not just on the waterfront but the unions in New York City involved with many of the related unions with organized crime connections. These connections on the waterfront did not go away with the pressures from both states government. In the nineteen fifties when containerization began, there was no RICO statute.

Exploitation of workers did not receive the press until Malcolm Johnson exposed the dirty secrets of the longshoremen. While most of the public believed, it was the bosses of the shipping companies. The exploitation was coming from unions, their strongmen, organized crime, and shipping companies. The public could not comprehend the amount of abuse and corruption these men committed. These crimes were often with a strict unwritten code, what happens on the docks stayed there and never reported to the police.

One of the contentious parts of the contracts between labor and management involved how they negotiated into their contract, “Public Loading.” This meant only “Public Loaders” could move cargo between pier and truck, while it does not seem to be illegal, it did put the economic health of the docks in jeopardy. The New York Shipping Association found it hard to tolerate and it fought the union over this part of their contract. Tension increased between these two.

Criminal activity and the New York Shipping Association who had a strained relationship at best, they did not actively steal from the members of the NYSA, and they instead stole from the union coffers and from union members. Much of the abuse at the hands of union leadership and their willing henchmen, who used force to enforce the code of silence, some did resist and stood up to the code of silence. Life before containerization needed a strong moral voice and they found it in a Society of Jesus priest, Father Corridan who openly fought against the brutal treatment of workers along the docks. Workers were not the only ones who suffered from the treatment of the workers, consumers who ordered materials from overseas had to pay higher prices due to theft. With higher prices gave way to higher profits and union officials and shipping companies grew richer. Organized and professional criminals too grew rich from the status quo. Containerization did not cut out and eliminate all organized crime. Organized crime just had to learn to adapt to new way of doing business.

Legally the states of New York and New Jersey needed forge a legal alliance to combat the corruption, both states had a joint Port Authority, thus had to present a unified front. Although pilferage was common and written into costs there were examples of grand larceny committed by workers who were acting on the orders of their bosses.

Silence bought or threatened to the workers, by organized crime enforcers, workers formed unions to act as a buffer between the abusive owners of the shipping companies; little did they realize that their union bosses would be more oppressive than their corporate bosses would.

Much of the problems that existed with unions became more complicated with organizational errors. These errors led to other problems that just were not legal issues but logistical. Normal practices in bookkeeping and normal business procedures did not get followed. Dissent from within did not get acknowledged. Unions formed paper chapters to buffer against the complaining locals who wanted to be free of the corruption. Containerization while it did not eliminate the abusive practices of organized crime and workers still were being exploited the exploitation came from the corruption not the shipping companies. Some of the more common crimes against union membership included loan sharking and physical violence. There was also gambling and to cover the gambling debts workers were given severe punishment for lack of payment to their loan sharks.

People who worked on the docks did not just include longshoremen, it included guards, clerks, and others who assured the work went along smoothly. . This exploitation made work along the waterfront difficult. Corruption was one issue Driscoll and Dewey agreed on and worked hard to eliminate from their ports. One of the programs the two states instituted was the Waterfront Commission governed by two generals, Edward C. Rose and George P. Hays. The press felt these two generals would fix the broken system and straighten out the corruption. The union officials bought shape up a practice of giving work to the faithful workers whose silence.

They required the workers to undergo screenings and registrations to assure they were certified in being longshoremen and did not have criminal records or connections to organized crime. Both states asked for a uniform system of checking the credentials of all who worked on the docks.

This commission made the hiring of former convicts and those with known connections to organized crime unfit for service. There was also punishment for workers who attempted to harm other workers by intimidation or other illegal acts. This committee also enforced character lapses and would punish those lapses.

Other labor practices that were eliminated by the commission included public loaders. The law made certain assumptions about legality and behavior that assumed the following crime was a character flaw. Those who committed these acts were flawed people and that if you removed the flaw you increased the positives therefore you got a better worker. Capitalism must be preserved at all costs and all reform must be in the framework of a capitalist system. Public loaders and Shape up must be eliminated, as they caused too much corruption and allowed the criminal element into the unions and the work. They drew their belief in working for the greater public good much the same way as progressives cleaned up the food industry earlier in the twentieth century. It was commonly believed that the ILA and its allies failed to clean up their own so it had to have government oversight. This was done as a greater good and although balked by labor it was embraced by owners.

This bi state agency was able to encourage both New Jersey and New York legislatures to act as they recommended. The members of the agency hoped it would be a short-lived organization and both unions and owners could work out their differences and grow. With

the removal of the criminal element, dock work could prosper and without fear of reprisals, workers would grow and profit. Dewey who did not like bureaucracies liked the idea of planned obsolesce and other like-minded legislatures and governors.

He, Dewey, also wanted the agency to be accountable to the people and encouraged it to keep things in the open. Openness was not the only issue of concern from the politicians, who sensed the need for such honesty, as it would give them more votes and power; however, it had to be within the context of improving it in the capitalist system. Government oversight and inter government agencies were not the only groups looking into the unions and their administration.

The American Federation of Labor (AFL) who admitted the ILA into the AFL was giving the ILA a good hard look. Teamsters who advocated for the ILA on their word were admitted back into the AFL was being investigated for corruption and the ILA too was tarnished with misdeeds that they were known to participate in. Due to the corrupt practices of the ILA, they were once again expelled from the AFL and the AFL formed its own longshoremen association. Which was called the International Brotherhood of Longshoremen, (IBL) and it was the AFL sanctioned union for longshoremen. This was before containerization, it was the world in which McLean, and others who wanted to change the system were confronted with and had to make deals with unions and their leaders. Even though most of the leadership of the ILA and IBL were opposed to containerization, they had to figure out a way to make it palatable.

Unions in the early days of containerization did not think of the idea of using containers as one that could work long term or even short term. It was believed that this idea could not survive and the amount of jobs lost would be more harmful than helpful. Many

agreed with the sentiment and hope that the Ideal X would sink and be a failure. Even though it did not fail, there were tense years of negotiations with unions and owners. Even shipping company executives did not see any future in containerization. The government of New Jersey and New York did not take a position regarding containerization. Their governors took a wait and see approach to this new idea of containerization and container shipping.

Railroad workers and their unions who felt they were losing to the trucking industry was receptive, trucking companies in some ways was open but not totally convinced. All felt that their unions who often felt that one job lost was not worth the cost of any new technology, labor often would strike for reasons less than a technological improvement, would strike if containerization were over emphasized as the new way of moving bulk freight by rail, truck, and ship.

The Waterfront Commission was organized with both New Jersey and New York having equal representation, with each state having one commissioner. Within the organization, there was a director and various subdivisions. Functions included the licensing of the dockworkers, legal, law enforcement, administrative, and audits and control. This was important to have these departments to assure that dock work was done above board and with minimal organized crime involvement. Containerization saw a huge drop in the number of longshoremen. Shipping companies using containers needed fewer workers to discharge and load cargo. Before shipping companies and their supporting companies hired about two hundred thousand longshoremen who worked in New York and New Jersey's ports, these workers after containerization dropped to less than fifty thousand

workers who did all of the work. New York City is not the leading port, before containerization it was the most important port city.

Industry often makes work less physical and less skilled with factory jobs the skilled worker-artisan was not needed. Work along the docks while physically demanding was not an artisan type of trade, it did demand much in the way of brute force but not so much in artisan. Work needed to be fast but careful, loading ships has to be done with great care, and longshoremen understood how to load the ships so it would capsize.

Unions and their leaders who protested the new way of moving freight and loss of workers offered no other solutions to the shipping companies. Shipping companies embraced the new way of doing business and restructured their means of transporting goods by ship. They too liked the idea of cutting theft; it could not be eliminated. Though elimination is impossible, there can be ways to make it harder for crooks to break into the containers. Some of the later inventions included time locks that will only open when they are received on location and seals that cannot be broken.

Technological change is important to labor and when work is made easier by machine it is not always accepted and made the normal means of doing the work. This is not the only way in which containerization changed the shipping and longshoremen's work. With legislative oversight by the Waterfront Commission, there were not just legally mandated reforms but an active oversight committee. This group enforced the laws that regulated the longshoremen and assured that there would be minimal corruption on the docks. Some of the achievements of this committee have to be looked at carefully. It is not possible to evaluate the success without looking at what was mandated by the dual legislatures. In the beginning of the oversight, committee was rejected by both labor and

management. Lawsuits and counter suits were filed to stop this interstate committee from doing the work that was legislated by both states.

With corrupt officials being forced out of the local unions in New Jersey and New York many sought work in other areas that could give them access to the types of materials that they had access to when they were involved with the ILA. These workers were referred to as “Chenangoers” these workers went to work in the unions or found work into areas where the Commission did not have any jurisdiction.

Some even found work in the railroads doing the same kinds of work that they did when they were working the docks. Despite some loopholes, the unions were slowly beginning to get clean. There were still kickbacks and other illegal acts on the docks, even with saturation of workers and the schemes of the corrupt union officials there was reform. Reform was not an easy sell for the union membership who saw reformers come and go and little changed for the individual longshoremen. Their union bosses and the organized criminal organizations that backed them and supported them with monies and favors were still treating workers badly.

One of the major crimes on the docks was theft and thieves could come in different guises, some of them were truck drivers, dock workers, allied dockworkers who did not handle freight. There needed to be an honest way of assuring that workers were honest and not stealing from trailers, cargo holds, warehouses, boxcars, and later containers. Corruption from theft was not the only criminal activity on the docks. Extortion and other financial illegal acts such as loan sharking, gambling, and protection rackets made the daily work of the workers tormented. With organized crime’s enforcers who ruled with

brutality and the law was their law not the legislated law. State and federal laws were ignored and often times not enforceable.

Healthcare and insurance coverage became more common in the late nineteen sixties and with this new coverage; there became a new way of committing crimes. There were payroll and healthcare swindles that organized crime and their corrupt workers could perform and it gave organized crime a new revenue stream. Anecdotally there is an example of a doctor in Brooklyn who was in debt to organized crime and had a huge laundry list of disqualifications; he was hired to serve as medical director of a crooked clinic to pay back his debts.

This was made easier due to his contacts both in the union and organized crime's organizations, he sent back to his bosses most of the money he collected by fraud and deceit. As a society, we became more sophisticated and so did organized crime. Individual workers and abusing them for money became less lucrative than defrauding insurance companies, state, and federal governments. The labor movement and its corrupt allies moved away from victimizing their members to victimizing the system that tolerated their fraudulent acts and the shameless way in which they would go after the really deep pockets of both local and national governments.

While crime was not eliminated from the docks, it now has to be more creative on how it, organized crime, they have to do it less openly and more quietly. There is no fear factor as there once was as workers are being well paid and are not forced to work for the union bosses and the state is strict in their regulations and statutes. This commission while not one hundred percent effective in the words of Levy in his article about the commission,

"It helps plug the dike, but has not managed a permanent repair." What it lacks now is the work force to enforce the law and investigate all charges of misdeeds on the docks.

Governors Dewey and Driscoll who hoped to end corruption did not see an end to this and their commission they hoped would end on its own due to lack of reason for its own existence never did come into being. Dock work and its deep-rooted corruption will need more than a commission to remove the corrupt minority of union officials. Money and greed co-exist on the docks with their willing allies in organized crime.

Although the workers are not stealing cargo in bulk carriers, there is still theft of whole containers and hijacking of containers right off the piers. It will take more than a set of laws and strict enforcement of those laws. Workers need to have a right to organize and work as a collective bargaining unit without outsiders doing their bidding either by legal or illegal means. It would be far better if it were done as a right, as a nation we must allow for collective bargaining, or we face more examples of what went wrong on the docks both before and after containerization. Regulations are not the only answer to what ails the docks, and until honest dialogs are had between government, business, and organized labor there will be people there who are dishonest who will exploit the situation and hurt workers, owners, and governments.

Bulk carrying is the process in which labor manually moves goods from ship, truck, jet, and train. Before containerization, the work while done manually did allow for some improvements. Technology improves work by making the work less intensive however; it also means that the work is less cerebral. As work changed, going from very specialized and craft related and moved into the factory system the individual artisanship suffered. This was not the same with work along the docks. Dock work was not a craft union nor

an artisan related, as work loading and unloading docks was more about the skill and brawn of the worker. The longshoremen whose major function was moving freight from ships to wagons, boxcars, and later trucks needed to know how to move freight. The skill came in placement and that was done by how and where cargo was placed in the ships' holds.

Post world war two, saw change in the United States; America did not receive damage during the war compared to the rest of the world. America could build infrastructure while help rebuild war torn Europe and Asia. The merchant marine could grow and did grow with exports and minimal importing of goods.

It was an excellent time to be a longshoremen and mariner. Trade was taking American goods and sending them overseas and lack of competition meant few goods were being imported. Americans were also moving rapidly with the beginnings of suburbia. People were moving out of the cities and into new communities were they would commute to work on the new highways. We were becoming a consumer driven society. Consumer goods and the needs of the consumer were driving companies and the bottom line was growing.

Economic growth was also growing, with the consumer driven economy in place acquiring more stuff also increased. The growth of shopping malls and box stores growing rapidly the small business of the family owned business too suffered. Shipping companies at the time were the major source of export and import and their profits were growing. This would not last forever with jet planes on the horizon and the age of jet travel looming ahead. Shipping companies did not foresee the growth of jets as affecting their bottom line. Railroads too suffered the foresight of not seeing the interstate highway

system as detrimental to their bottom line. Shipping companies along with their allies were all caught flat footed by the changing American means of business. Railroads and shipping companies formed alliances with each other hoping to maintain their business with little change.

Change was on the way for all involved with freight shipping and the usual means of doing business no one in the maritime shipping business saw the Ideal X as the new means of transporting goods.

This ship, the Ideal X, left New Jersey with a load of trailers, later to be named containers, bound for Texas. Malcolm P McLean, who was a truck driver later owned a large South Eastern United States trucking company, financed it.

He believed his idea would be embraced by shipping, trucking, and railroads by modernizing them and assuring their success. Mclean believed he could improve all involved. The railroads were least resistant and mostly because they had a similar program they ran, “Piggybacking” and that was successful. Trucking and maritime companies were less receptive. What made it workable was the invention of the interlocking mechanism. The device that was invented by one of McLean’s engineers allowed for stacking of containers with minimal movement of the trailer. It would be the standard all shipping companies. This process had to prove itself to become the standard.

This patent, which the owner who kept the patent for seven years soon after the patent expired, asked it not be renewed. He believed it served a greater good then to have one company or person own the patent. As the process of using containers began to increase and the amount of shipping companies using them increased the unions became more and

more restless. This restlessness often manifested itself in strikes, slowing down work, boycotts, and other means of expressing displeasure with the shipping companies. Popularity with the shipping containers made labor owner relations strained, what eventually brought them around was the contract process. As older employees were not replaced and the younger workers given higher wages, strife was becoming less common. Compensation was increasing as workers needed decreased, the nature of the work was changing too, from less physical and more cerebral. Crane operators needed to work with the stevedores to assure each container was properly stacked.

Proper stacking was critical to assure that no container falls off and into the ocean. If this happened, it would be a loss for the company and losses were not tolerated too well.

Labor with their increase in wages and decrease in competition for the jobs evolved from a mob mentality to a more professional thinking group. There needed to be training and the longshoremen understood this. Training on the docks became important to assure safety and careful placement of the containers. Shipping companies and those who trusted those companies to load and unload their cargo needed to trust the longshoremen and their colleagues. Working with containers on these ships involved precision and the workers needed and still do need great spatial relation skills. There also has to be an understanding of the ship that the container was being placed on board there needed to be precision and accuracy was rewarded. Placement needed to be supervised by the stevedores who then would lock the containers. Stacking was the most effective means of assuring that the container did not spill into the ocean.

Ships before container ships often referred to as bulk carriers, which carried their goods not in shipping containers but in various crates, boxes, and other types of means of

carrying those goods. There needed to be a great deal of organization and many workers to load these ships. This did drive costs up as the amount of men needed to load each ship could number as high as hundred or sometimes more. Holds of the ships had many workers who worked inside the ship placing cargo. Stevedores inside the ships directed the longshoremen where the freight was to be located. Other longshoremen worked outside the holds bringing the cargo to the ships' holds. Corrupt union officials also hired many who were being paid and did no work, feather bedding, and this too drove up costs of the goods. Longshoremen ethnically speaking were usually the poor newly immigrated, in the ports in New Jersey and New York it was the Irish and later Italians.

They were not the only ones but they did represent the majority, there were also African Americans and other ethnic minorities. Due to the clannish nature of dock work, ethnic gangs sprang up and assured that groups received special treatment. Jobs and benefits were bestowed upon members of the same ethnic groups. This also meant that the same members of the same group committed exploitation.

Ethnic violence was not new and on the docks, it was the norm, with each ethnic group treating their own harshly and the new ones with equal harsh treatment. Union leaders often reflected the ethnic diversity on the docks and did little to change the bullying done. This bullying was often at the hands of their union enforcers. Enforcement from the outside was often avoided and to go to the authorities was met with severe punishment. As one historian put it, the longshoremen took care of his or her own. Many of the internal mechanism of control were shared as one group over took another at the docks. Workers also strictly enforced the code of silence amongst each other, which often brought acts of violence against each other.

Labor saving devices and technologies while appreciated by most workers they paradoxically cost labor workers. The locomotive and later trucks displaced the horse drawn carriage, which displaced other workers. Technology, which is important, also displaces workers, it is the pulling, and pushing that affects workers even today. Computers have displaced typists as an example of technology changing the course of work. Shipping containers have changed not just work; it also changed the work of loading and unloading cargo.

Cargo ships and how freight was transported using bulk freighter; these ships had cargo holds, where the freight would be placed aboard. Longshoremen both on board the ship and on the docks would put the cargo in the ship.

This was not done with much mechanical help; some ships had cranes on board the ship. Few piers and docks had cranes to assist the workers place the cargo. The crane was meant to assist and not be the major mover of freight. It would take the goods by cargo net and place it in the hold where the workers would disperse it appropriately. Ships in the twentieth century changed little in how they were designed and transported cargo to and from their ports.

Cargo handling is hard to gauge based on the types of ships, there has to be an agreed upon definition of what the ships were to be called. General cargo ships served multiple functions; they could carry trucks, cars, wine, and other goods all within the same ship. Many cruise liners also carried cargo in addition to mail. Multiuse ships needed a definition that worked for all concerned with shipping. Shipping companies estimated that they carried over one hundred and fifty million tons in their ships. These ships came in all sorts of sizes and their functions were multiple in their purpose. Container ships

have not made it easier to define the ships, but most know what a “box boat” is and what it is not.

The actual amount of tonnage carried by these ships is unknown, mostly because the type of ship was often hard to define. Some of the smaller cargo ships, “Tramp Steamers”, usually carried baled or sacked cargos. Examples of such cargo would be cotton or coffee and because they were specialized; the crews who worked loading and unloading these cargos were specialized longshoremen. Times for loading, unloading, and transferring had many variables and speeds due to the following reasons: ship size, ship type, cargo, and amount of workers. Workers also being human had reasons for the speed in which things were done. Humans could sometimes reduce speed if they were feeling the need to go fast but it was never very fast. Human labor is not a machine and can only go so fast. Machines unlike people do not require the same kinds of breaks, although they have their own issues.

Irregularities were not just due to ship type and cargo carried by those ships; it was also due to the routes taken by the ships. Some of the shipping companies only serviced the Caribbean or others only did the trans-Atlantic routes. Gross tonnage was calculated not just empty but also filled and that too was different from ship to ship with few standardized units that measured the tonnage. The adaption of the metric system and its global acceptance freight and ships had a set standard of measurements. Some other issues that were also affecting the shipping companies were the weak freight rates. Due to the nature of loading and unloading ships, the human element was the variable from port to port. Because the costs of human labor were varied from port to port, shipping companies needed to have a good rapport with those unions that represented the

longshoremen. Some merchants reported the goods ordered would often change hands at least fifty times before they would reach the stores. One of the issues with freight was that the labor was so irregular.

Unions became important to the workers internationally longshoremen faced the same issues and the unions benefitted them. Collective bargaining is important to all union members. Ships could not be held to the same schedule as the oceans could not be regulated and managed. Nature has its own timetable and storms could delay shipping and make it difficult to determine arrivals and departures of ships. Labor was also unpredictable with strikes being called often without provocation. These strikes could be sympathy strikes for other unions striking or just protesting against government decisions or management decisions.

Dock work had the professional longshoremen and the casual worker. Casual workers were on standby in case of an increased need for more laborers. Loading and unloading cargo was an involved affair due to the complex nature of the process of discharging cargo. There was the matter of customs' inspections and organizing goods by that inspection. Goods needed to be organized dockside and this caused further delay.

Delaying delivery on the docks was not always done by labor as a reaction, often it was the process, and this process was often slow and complicated. Labor was not holding up the work, the process itself took time. Once the goods were organized and placed on dock the goods could then be moved to the trucks or trains to get to their destinations. The docks organized the goods not just by item, the goods needed to be organized by destination, consignee, and customs designation. This process often created more logistical headaches and further delays. Delaying the process affected the chain from the

ship to the warehouse. Longshoremen and the companies that hired them also charged the shipping companies for storage, which in some cases caused the shipping companies to set up covered wharves for their goods. In order to cut costs these wharves organized and prepared their goods for customs' inspections.

Some shipping companies chose not to construct covered wharves for this organization of their goods; there were companies that would do the work for the shipping companies. These companies would help alleviate some of the congestion on the docks. Technology and its changes would be slow on the docks; most of the work it was felt could not be improved by using technology. The workers did use some machines, forklifts and cranes, but for the most part, it was all manual labor.

Port relationships between the longshoremen and shipping companies often ran afoul with one another. Ships at dock were not making the shipping companies any money and this was important. Loading and unloading cargo was a complicated process and complications were not just the work done it was the demands of the unions. These union demands consisted of guaranteed work, with the irregularities in arrivals and departures, the work was considered causal, but the unions demanded and received permanent workers. Permanent workers were those workers that were employed by the union full time as longshoremen and stevedores. In addition to the physical demands of the work, there was also the unpredictable nature of ship arrivals. Ships and their companies could give estimates and it was based on averages. Weather and labor on the other side of the ocean was unpredictable making it difficult to give a one hundred accurate idea of when the ship would arrive. Ports and staying at port cost shipping companies' time and money; this was sometimes unavoidable. Ships needed routine mechanical maintenance

and this could cost the shipping companies dearly. These ships needed to have their engines checked and routine procedures done to keep the ship in optimal running condition. These stops for routine maintenance were important for the shipping companies and if not done regularly would cost the shipping companies a great deal, to do routine maintenance was cheaper than to replace a ship that did not receive this treatment.

Due to the nature of the work on the docks longshoremen and their culture was nothing like other workers. They could directly influence trade and manufacturing, with wildcat strikes longshoremen could shut down industries that other laborers could not affect. Workers achieved remarkable levels of solidary due to this nature and often exploited it when it suited their needs. Transporting goods on barge, ferry, rail car, and later containers is not a recent phenomenon. It has been around for a long time.

What has made more workable is the speed in which containers get the work done. There does not need to have an army of longshoremen who scurry about the holds of ships with their stevedores orchestrating cargo placement.

Cargo holds unlike modern day containerships need to have workers aboard ship and in the holds to be sure of correct placement of freight. Skilled stevedores needed to be in the holds to oversee the placement of the cargo. Preventing capsizing of the ships meant that neither side of the ship was too heavy. These prevention matters were to assure that freight was not lost due to capsizing ships, which would cost the shipping companies millions of dollars. Ship owners hired shipwrights as well as stevedores to assure that freight was counted for and placed with the utmost care on board, with longshoremen

doing the work and their overseers stevedores, cargo was painfully slowly loaded on board the ship.

Life working along the piers was hard work and unreliable often fraught with issues that were usually out of the hands of the workers. Management and union officials often were at odds and striking were often unpredictable just like the ships. Being longshoremen before containerization was not an easy job and conditions were not just onboard ship. Workers face troubles not just from the ships and their holds, they too faced difficulties from their co-workers and sometimes their union bosses. Holds of ships had the extremes of temperature from heat to cold and cargo moving about could cause injury. Many accidents and deaths occurred there.

Death and accidents on the docks while not common was a real threat to the workers, some were related to the work. Injury was not always job related. Accidental deaths were caused by cargo and sometimes it was unproven murder. Workers would be facing changes in their work with the arrival of containerships.

Containerships constructed in the early days were modified freighters and oil tankers. Malcolm McLean and other liked minded people looked at the ships carrying freight wanted an improvement of how freight was handled. The handling of freight under containerization would change the way of freight transportation. It also changed the pier infrastructure model, no longer finger piers or armies of longshoremen working the ships' holds. Work would be limited to a few crane operators and some stevedores guiding the crane operators. Labor unions and shipping companies had to come to a truce and an understanding that the work would change. Work needed to change not just for the workers; it had to change for the shipping companies. In order to compete with the new

jet age shipping companies were facing competition from other technical breakthroughs. Technology was changing the course of business and it was not just about putting containers on ships. Ship design changed too and these ships would not be handled the same way as the bulk carriers. Shipping companies did not accept the new technology of using trailers that were modified to be placed on board ships. It would be a relatively short process of winning over the shipping companies, who needed to be shown why containerization would be the best to handle freight. Freight would move from being carried in bulk holds and in boxes transported by hand to freight inside containers. It would also mean theft would be reduced which one of the major was selling points of containerization.

While containerization is not a new idea, it has its historical origins in freight being transported by barges in boxes. Later the railroads that used ferries and trucks too used ferries. What made this idea of trailer-based containers different was stack ability. Trailers on trucks were transported on chassis and this chassis able to be taken off the trucks and put on train cars or container ships. It needed a means of attaching trailers to each other and it came from a mechanical engineer who designed an interlocking mechanism for the trailers.

This interlocking system is called a “Twist Lock” and it works in a similar way as a train coupler. There is a “male” end on the corners of a trailer and a corresponding “female” end on another container. These containers than can be stacked and each of the locks can be secured to the other with a lever. It was not invented at the same time as the Ideal X carried the first containers from their New Jersey port to Texas. The patent was issued in 1969 and Adrian F. Hulverson and Keith W. Tantlinger both who were naval

architects filed it. This patent assured the success and rapid acceptance of containerization. While this invention was not a large one, it became the most important invention for the continued success of container ships.

Ships needed to be designed that could hold these containers and the old worn out world war two ships, which were converted freighters or oilers needed to be replaced. Containerships would have to be designed for the specific purpose of having stackable containers. These ships would be fully developed and launched by the early nineteen seventies. As the previously used ships were becoming harder and more expensive to maintain they soon were replaced with the newer containerships. These early ships could only carry so many containers and their space could not be expanded. The growth of these ships has grown since the early days of containerization and it is widely believed they will continue to grow larger and wider. It is something that will make it harder for New Jersey and New York to compete.

Competition in the beginning was not that stiff for the shipping companies, the American merchant marine who historically had difficulty competing with the British merchant marine. The strength of the American merchant marine lay in the quick nature of construction in the United States, we did not rivet hulls in the second world war, we welded them, so it was quicker and the turnaround time could be as little as ten days. The liberty ships as they were called were mass-produced and being American shipyards were not under attack American shipyards could create more ships than the European shipyards and Asian shipyards. In addition, the United States had its own raw materials and did not have to import iron or steel to construct ships.

We became the world's merchant marine by default not just on size; we were able to lend our ships to the beleaguered allies. Replacing ships was done quickly and the German submarine wolf packs and submarines acting alone sank many ships. Although sinking merchant ships was a huge problem eventually, the allied effort was replacing them faster than the Germans could sink them. In addition, the American navy and British navy was able to find and destroy the German submarines faster than the German shipyards could replace them. Submarine losses were compounded by the breaking of the German naval code, Enigma, due to the recovery of Ultra, the code-breaking machine of the Krieg marine, (German Navy). Longshoremen aided the war effort with intelligence. The intelligence provided by the Italian longshoremen gave the military information they needed when they invaded Italy. In addition, they assisted in the capture of German and other Axis spies and agents. It was felt that even though they were supplying the government with valuable information that their union and members would be safe from any investigation. The government needed them more than they needed the government. This informational exchange between organized crime and the government would be short lived; after the war, investigations began on the docks.

Longshoremen did not just have federal and state government investigations there was also the changing nature of work on the docks. Containerships began with one ship and it now is the only means of transporting cargo by ship. Intermodalism is defined as the ability for ships, trucks, and railroads to transport goods using the same container. Shipping containers that can be put on ships, trains, and trucks, without having to unload the cargo and place into a new container. Although this definition is widely disagreed on

for the sake of argument, this is the definition. Transportation of goods, when we first looked at carrying goods by foot and currently by container it has grown enormously.

Transporting goods comes in different ways and now with containerization they are merged into one means of transport. Moving goods by wagon was made easier by truck and rail and instead of moving things in bulk by ship containers. Change is not easy for the workers; they face displacement or total loss of their livelihood. Bulk carriers are not the only benefactors of container technologies; the petro chemical industry has adopted the interlocking mechanism for transporting their chemicals. It has made moving goods on rail, truck, and ship easier and in some cases safer. Ships before the interlocking mechanism that moved chemicals by ship needed to use tankers. These tankers, which are still used, could and do carry several thousands of gallons of the chemical and if they sank, could do much harm to the environment. Shipping which later came to mean anything transported not just by ship, it included all forms of transportation. Trucking which was the model that containerization modeled itself after used the terms that are familiar with trucking companies. Malcolm McLean when he began his containership idea used terms from trucking; his trucking experience made it the frame of reference that truckers could relate to and later mariners.

Shipping using the bulk break process involved loading and unloading aboard the ship using pallets and placing cargo on board by manual labor. Shipping companies lost money on this as did the exporting company due to theft. Theft was common on the docks and shipping companies did try to stop this from occurring but it was not that easy. Stopping crime is difficult when much of the people who are employed are looking the

other way when it is happening. Whether this was done out of fear of reprisal from organized crime enforcers or union bosses who encouraged the workers to look the other way as a crime was being committed. Many of the workers on the docks were grateful for the work and did not want to risk alienating the people who gave them jobs. Their jobs were secured by silence and not going to the authorities. When district attorneys and police would question their memory would fail them and they would refuse to testify against their bosses or they would deny knowledge of any misdeeds.

Shipping companies in the United States after the second world war were having a great time in expanding their businesses, mostly due to lack of competition. European and Asian ship builders were rebuilding from the losses from the war. Ships in Japan needed to be rebuilt and this rebuilding took time and this global rebuilding of ships and shipping was undergoing rapid change and progress, the United States was leading the changes, not hard with the conditions of American ship yards and ports. Once American interests were secured and their trading partners established global trade would positively add to the American bottom line. Although American and its interests were profiting from the exchange of goods by ship it would not and could not last forever, there would arise competition from former enemies and allies alike. Containerships and the process of containers would alter the world shipping stage forever. Containerization while very efficient also meant changes in trade.

These changes would mean the old way of doing business would have to change too, and this change would affect the workers in all aspects of the process of containerization. It would begin with the shipyard workers and end with those workers working in distribution. Consumerism increased and demand too increased.

Changes on the docks illustrated the changing work dynamics as well as the process of work. Longshoremen who numbered in the tens of thousands who worked manually saw the rapid change from a small army to a few thousand workers. This is a reduction of seventy five percent. While New York City and its surrounding ports saw a reduction in longshoremen and dock work paradoxically it was still one of the busiest ports in the world. Much of the shipping moved from New York City and moved to New Jersey, it still was a busy port.

Reducing labor costs and increasing profit while not a big surprise to labor, the extent in which it was done and speed was the shock to organized labor leaders. Containers and container shipping they all believed would be a passing fad and that the shipping companies would grow tired of it and move back to the old ways. While being nostalgic about the old ways of moving freight shipping companies are not going to return to the old means of work now can focus on getting the container to consumer and not worry as much about theft. New York and New Jersey have many important factors that made containerization possible. They also presented obstacles that needed and were overcome, the amount of longshoremen needed to be reduced. The amount of laborers needed after being reduced there needed to be access and New Jersey did have the necessary access points. Interstate travel by truck and train was and still is not a stranger to this metropolitan area as containers grew so did the amount of trucks and trains carrying them did too.

One of the concessions of labor was the loss of the armies of longshoremen; however, one of the benefits became salary. Workers who stayed received good pay and it was and still is one of the highest paying jobs in the labor market. Before containers, the work was

long and hard not to mention had no skill requirement. The only requirement was strength and proximity; if you lived by the docks and knew the right people, you could get work on the docks. It also would help if you came from the right ethnic background, Irish, later Italians all worked the docks. When the docks were taken over by each ethnic group, the workers shaped to resemble their common heritage.

There were other issues involved with the growth of containerships and the process of containers. Competition also grew not just with dock work but also the structures needed this to succeed and thrive. Getting goods from ship to the home required a new way of thinking and this coincided with the new age of consumerism. The consumer and getting things to market became more important than anything did, this in turn meant that companies would ship work out. Workers in other countries where labor was cheap would be used and it would cost less to import the goods than if it was to be made in the United States. This shift changed the nature of the consumer, where once we produced goods and exported them with tariffs that protected American industrial jobs. Companies moved out of the American markets due to the rising costs of labor and manufacturing and this move began the decline in the American Industry and factories. Importing also increased while exporting decreased this was in small way due to the use of containers and container shipping. Trade that was positive in the United States' favor moved to where exporting was taking place less than importing. This imbalance in trade was another reason for the decline in of the American industrial complex. Companies moved their factories to cheaper labor locations and began to send their goods back to the United States.

Container ports unlike the older ports, which often extended into the ports like fingers, and their freight needed to be loaded from the side of the ship by using cranes. After containerization became more common, it also made it more competitive. Each coastal city needs to have a port and these ports must be state of the art. If it did not have the ability to host container ships, it would face sharp decline in business. This is what occurred in New York City; Manhattan and the surrounding ports in New York City, did not evolve to containerization. On the east coast of the United States, the major port cities that have evolved have become more profitable. Other ports cities in the United States like San Francisco could not evolve so they faced extinction and relocation, to the larger area of Oakland, as an example.

Competition also comes from the moving of freight not just on ships but trucking and the railroads. While the number of railroad mergers have decreased the amount of rail companies moving freight it is still a big business. Trucking companies, shipping companies, and the railroads competition with each other also are fully aware of how they need one another. This need has made alliances between these modes of transportation more important. The adage is that they must stand together or face eradication separately. It is far better for them to be united than to try to fight as separate groups. These groups have successfully worked out their differences and have made the transition a smooth one. Workers were displaced and the longshoremen did take a huge hit in numbers but it was not in vain. Longshoremen who continued to work the docks and received training on the new technologies received higher wages and steadier work. The corrupt hiring practices before containerization were reduced. Corruption is not as common like it was done in the days of bulk carriers.

Bulk carriers unlike containerships are not as easily robbed from, although there is still theft of containers, companies are coming up with more, and more secure means of assuring their freight does not go into the wrong hands.

The ILA and Teamsters while they shared the desire to do represent their members they did not agree on things as a united front, although the Teamsters did help get the ILA into the AFL CIO. This was an uneasy truce between these two rivals. While the work performed was similar it was not something either side enjoyed, the truce was due to the need for both to work together. Leadership of the ILA attempted to manipulate the boundaries of where their members would work and could work and often it conflicted with the IBT (International Brotherhood of Teamsters). What was the main source of contention was the use of warehouses and who would have the right to represent those workers. ILA and IBT both believed it was within their jurisdiction to represent these workers. It was an argument over economics and turf supremacy, as both had invested interests in gaining dues paying members of each of their unions.

Agreements were made between not just the Teamsters and Longshoremen, but the companies who employed those unions. In many ways the American model was different from their European and Asian peers, changes in labor politics in the United States after the Second World War made them less radical. Labor made great strides in the Democratic Party and in doing so became part of the establishment. Union members achieved credibility with the mainstream. This approval made it easier to negotiate; while not always easy, it did give them a much-needed voice in the political process. This assured there would be little violence with strikes. There will be negotiations and give and take with fewer strikes that would lead to violence.

Containers are not new to the railroads and the major player in using trailers on railway cars was the Pennsylvania Railroad, one of the largest American railroad companies. They had a fleet of trucks and trailers that transported goods on the rails as well as the highways. Handling freight was the main source of income for the railroads and the Pennsylvania Railroad did see trucking as a complement to the railroads, although they saw them as compatible they did not see them as their replacement. Railroad planners did not also see the growth of transcontinental highways and trucks and the trucking industry as secondary to the rails. The idea of using ferries or intercontinental shipping never occurred to the marine, trucking, and railroads. Once this idea was accepted as the normal way of doing business they soon had to play catch up and they did.

Sea Train, the company that developed out of the idea of containers and container shipping, soon blossomed into a major player in world trade. The Pennsylvania Railroad believed in this development and expanded on it to allow the trains to work with this new idea. The American experience with containers while there was resistance there was also acceptance and this acceptance meant expansion. While labor did expand and grow the numbers of workers, who did the work of the longshoremen was reduced. Their representation too was not the same on both coasts, the Atlantic were represented by one union and on the pacific coast another union. Representation that often ran afoul with each other, the Atlantic side tended to be more liberal, and the Pacific coast tended to be more radical. Historically the New York longshoremen struck as early as 1836 over hours and wages.

As with most labor unrest in the 19th century, it was met with brutal treatment at the hands of the mayor and the state militia. Later in the early 20th century with the Irish workers and government, the ILA established itself as the bargaining agent of the longshoremen.

New York and New Jersey and other cities on the Atlantic coast in the early days of mass immigration had a huge number of Irish workers. These workers tended to be uneducated and they came with the stigma of being Catholic and not very worldly nor have much intelligence. This is one of the many reasons why the Irish flocked to the work on the docks. It was undesirable, back breaking, and you did not need a great deal of training to be longshoremen. Only later when stevedores were being sought did the Irish work up. Irish workers also did many of the jobs that were not accepted as part of the establishment, they were the garbage men, police officers, and factory workers. Some of these jobs like police became political patronage jobs and the Irish quickly learned there was strength in numbers.

Workers and their unions gave the collective a much-needed voice that the owners never would listen to and when they were united, they became a formidable force to be reckoned with. One of the issues surrounding the longshoremen was the use of the process called “Shape up” this was one of the more outrageous abuses of union leadership. Shape up was the tactic of how work was assigned and given to the members of the local union. Shape up, was based on loyalty to the union bosses and in some cases the amount of organized crime influence over the union leaders. Workers who were loyal whose loyalty was assured would receive work and often there would be added bonuses.

These bonuses could include no show work and having prime working conditions, maybe not working deep in holds of ships or working in the more desired areas.

Shipping companies did not like Shape up, for many of the same reasons some members did not like it, it could and often did lead to corruption. Union officials often were bribed by organized crime and told whom they could hire and not hire, often these organized crime workers were enforcers for organized crime. Corrupt union officials also sent back monies to their criminal bosses and it could take the form of goods or monies.

Post World War Two America saw growth in business related shipping, no longer doing all government work all of the time merchant mariners needed to survive as businesses. Businesses that carried goods from overseas to the American markets did not have UPS, Federal Express, or other carriers and jet travel was just beginning. Jet travel would change the nature of freight but it would not take over the shipping industry. Containerization helped evolve the maritime trades and their unions and it allowed the companies that employed containerships to grow and become stronger. The strength of the unions became an issue, due to the agreements made by the union leadership with the container companies and the port authorities. While wages went up the amount of workers would be cut dramatically.

Marine companies and port authorities both understood that there needed to be changes and while change was unavoidable there had to be concessions on both sides. The major concessions on the side of labor were the drastic cut in workers and the maritime companies had to give into some of the demands of the unions. The Atlantic side of the United States and New York and New Jersey union labor leaders needed was a guarantee that there would be a need for them to have some say in who was hired and who was not.

It was not an easy agreement and in order, it for it to work there needed to be peace on the docks. There could not be “wild cat strikes” and shape up would have to be eliminated. With these agreements, the waterfront changed and it became a less hostile work environment. While it did not eliminated organized crime, it did help curb it and make it less common. The New York ILA and their leaders believed that the riches that entered were theirs for the taking. Featherbedding and theft still existed and will still exist as long as people get greedy.

With organized crime enforcing their own code of justice and the belief that “accidents will happen”, which kept the longshoremen from straying. Accidents that were not so accidental were carefully orchestrated to look like accidents often were acts of terror and violence to keep control over the workers. It sadly did keep many workers from going to the legal authorities and it too prevented them from getting justice from those who were killed by these so-called accidents.

The New York Shipping Association wanted to fight many of the practices used by the ILA and their allies in regard to work on the docks and often it was met with bitter rejection and threats of strikes and other acts of violence. Due to the volatile nature of the work on the dock at the hands of union, Hench men workers lived in constant fear. One of the fears of getting the state involved that both labor and management felt was their loss of control. It was a real threat that the state would take over and then on the side of the unions, there would be less toleration for their underworld bosses and the shipping companies would lose money too. There needed to be a compromise to assure the state would not meddle in their affairs, a truce of sorts was called, and both shipping

companies and their unions called for a joint hiring hall. This would they hope keep the states of New Jersey and New York from looking too closely at their activities.

Both state governments would get involved and much of the issues had to be taken care of on a case-by-case study. Each dock was different and geography played a part with dock work and longshoremen. Containerization would forever change the face of the longshoremen and their work. After much fighting and deliberation, containerization became the normal means of transporting goods. There needed to be a reduction of workers and much of those who lost their jobs were older workers who could not keep up with the changing technologies.

New York and New Jersey longshoremen five years after the acceptance of containerization appeared to be less disorganized. The shipping association gave into some of the labor demands of guaranteed annual income and labor agreed they would receive that provided they should up a hiring hall. Workers too had to accept what work was offered to them without reservation. With the agreement the ILA received the AFL blessing and was in good standing with them, this assured them they would be the recognized bargaining agent for all longshoremen in New York and New Jersey. Labor saved itself from maritime companies leaving the ports in New Jersey and New York. As important, as the ports in New York and New Jersey are and were at that time many felt containers would out grow them. Currently it is feared that the New Jersey ports need to expand to compete with the larger ports in North America, with Long Beach in California over taking the New Jersey ports.

Conflict and loss of jobs were averted due to the willingness for all involved to get a solution in place. It was not without faults and problems but it kept the jobs in New

Jersey and New York, although many of the workers were forced to leave the docks it was done through attrition and not done because jobs moved out of New Jersey and New York. Labor and owners both won an important battle with the new technology.

Containers were not the only form of change on the docks and it was as Donovan states it clearly …"it was one of the most radical changes and innovations on the docks" . Much of the labor related issues before containerization did become less common, they did however, some issues have, they did not go away as easily, and new forms of theft would be developed to steal from the shipping companies. Containers would overtake the bulk carriers very quickly and much more needed to be done.

One of the interesting events during containerization in it beginning days was profits grew so large that the companies could afford to have the extra workers and featherbedding without too much trouble. Wages too went up with containerization and benefits, it over improved the life of those workers on the docks. Work increased in efficiency and companies increased profits, workers improved their productivity with little in the way of labor disputes. It would be rare for the longshoremen in New York and New Jersey to strike. Workers took a more favorable look at their country as one longshoreman bragged; ILA means I love America. This was a radical departure from other labor movements. With their beliefs, union officials tended to have a less than favorable view of American capitalism.

Collective bargaining is used in industrial unions where it is easier to deal with groups rather than individuals. It was not always done this way and unions fought many hard battles with many lives lost to win the right for collective bargaining. The longshoremen were not a guild nor where there jobs so skilled that it required special protection. In the

early days of the republic this work was done by the extreme underclass of workers, often it was the newly arrived Irish. These groups of Irish looked out for one another and when they became more powerful so did their associations. Movement in the United States for the Irish was not easy, they did move as they took jobs that gave them more and more prestige. Jobs that moved them up meant another batch of immigrants needed to fill the void that Irish left, in the case of the longshoremen it went to the Italians. Over time, the Italians had complete control over the docks with some Irish but the Irish did not have the power that they once had when they started their work in the docks. Italian-American dockworkers became an invaluable source of intelligence during the Second World War. This bilingual background proved to be more of an asset during the war and later a liability.

Labor unions and maritime allied companies that hired the longshoremen in New York City were not the usual labor union relationship. Unions have put in place a system of addressing grievances and it allowed for both labor and management to hear the concern. It was supposed to be a fair hearing with both sides having representation. An objective third party would decide it and it was hoped to be binding.

Culturally speaking longshoremen along with other laborers have their own subculture as defined by the scholars Kerr and Siegel. They have stated why this subculture exists for longshoremen.

1. The casual nature of employment meant that some unions and officials did not see the need for collective bargaining.

2. The exceptional arduous danger and variability of work.

3. The lack of an occupationally stratified hierarchy and mobility outlets.

4. Lack of regular association with one employer

5. Continuous contact with foreign goods, seamen, and ideas.

6. The necessity of living near the docks.

7. The belief shared by all longshoremen that others in society consider them a low-status group.

Casual employment, there are no definite hours and it is as needed. This arrangement is typical of all longshoremen globally. The common thread of all longshoremen is their terms of employment and it something that does not change with location. Working conditions before containerization too are remarkably similar. They work deep inside ships loading and unloading cargo onto pallets and cranes. It is physically demanding.

Longshoremen unlike other laborers are not stratified, that is to say they are not organized by skill level. There are no skill levels in loading a ship or unloading a ship. Some of the work done is skilled but that skill is based on time served and not a specialized skill set. It is by its nature a job that is done manually and is the brawn of the workers not the brains of the workers that gets the task of removing cargo and placing cargo on board ships.

Mobility for longshoremen is rare, mostly due to the nature of the work. Work is specific enough that you do not have mobility; some workers are better at spatial relations and thus can better able to determine where things fit inside the holds of ships. That skill can be taught but it usually taught through experience and not in a formal setting. This work is also known to be not specialized; it did require skills but not specialized skills. Manual

labor although considered the least skilled of all workers and usually did not get the attention of most unions, longshoremen, whose specialized knowledge did get them attention with unions. They were not like factory workers or like the skilled laborers, their specialized skills necessary for trade to occur. The United States longshoremen and other longshoremen had a system in place, which allowed workers to know when they would work. It was considered the best system and the unions believed it was best of overall for work along the docks. Corruption was commonplace during shape up, as less longshoremen were needed due to containerization Shape up became less common. Longshoremen and their work was internationally the same as each other and this similarity forged an alliance that not all workers shared with one another.

As Professor Kerr and Siegel wrote" Longshoremen have their own codes, myths, heroes, and social standards." The subculture of work on the docks was not uniquely American nor was it particularly unique to any one nation; their labor was the same as other laborers across the globe.

Shipping companies hired stevedores, the company not the individual person who performed the task of being a stevedore, and the company hired out the workers. Due to the erratic nature of the arrival and departure of ships, unlike other unions where work was fairly reliable and dependable, ships, and their schedules could not be easily scheduled.

The lack of reliable means of predicting the arrival and departure of ships and the fact that ships may not all show up on time and the stevedore companies may not all need workers made for a complicated working environment. This complication was made worse due to the infusion of the criminal element where they would use varying tactics to

intimidate the workers and force them to participate in some criminal acts. Workers also would fight for their right to work and often the amount of work was not equal to the amount of workers. Worker earnings did not increase nor did the conditions improve ships cannot be easily controlled with their arrivals and departures from the ports. Sea conditions are also difficult to predict and this too made it hard for workers to know when they should report to the docks for work. This is one of the reasons for the tension between workers, which at times could and did erupt into violence between workers.

Ethnicity was and still is important amongst longshoremen, where they were from was not just a source of what docks they worked on but who hired them to work on those docks. Ethnic workers meant there could be ethnic control and this often found itself with worker run newspapers and worker politics.

Dock work in the New York and New Jersey ports were at first Irish then it became Italian, other groups also were involved, but their numbers were not as large as the Irish or the Italians. With their ethnic pride newly, arrived immigrants had an easier time securing jobs and being hired with great ease.

Culturally speaking the longshoremen in New York and New Jersey shared little with each other and the hiring managers to keep labor under control used these differences often. These bosses knew how to manipulate workers to assure there would be a certain amount of disunity.

Unions who wanted the unity had to assure that their workers would not stray from the union; they wanted them to be united under their banner and not be taken in by the

owners who could lead them away from the loyalty the unions worked so hard to secure. Ethnic loyalty also assured that the workers did not stray far from their union bosses and would remain silent when the legal authorities investigated activities.

Organized crime bosses who often wanted a means of getting money funneled their way would look to the unions and the longshoremen were no exception. Often labor leaders could be bought off and these bosses demanded goods from the ships arriving from the different ports. These goods include expensive cars, wines, foodstuffs, and other imported luxury items. Luxury goods stolen off the ships considered a payment or a token of loyalty that was given to the corrupt people in charge. Longshoremen in the cargo holds stole those goods to give to their corrupt officials and their handlers. Corruption along the docks was and probably still is common, although it is not as easy to do it now as it was before containerization. Workers on the docks needed the money and thusly were easy prey for the corruption and theft from the ships. They wanted their jobs and desired to be on good terms with their bosses. These bosses in turn wanted the protection of the organized crime bosses who would give them protections that they would not find anywhere else.

Dock work was noted as early as eighteen were sixty –one was observed as being the most callous of the work done in the industrialized world. It was not rare for there to be fighting along the docks for work and those left with no work had no money for their families. Pay was erratic and poor and these workers relied heavily on the kindness of stevedore bosses and union bosses. This meant they did not see much nor hear anything, making any kind of investigations difficult and at times impossible.

Internationally the longshoremen share much in common and it their work was universal from the ports in the United States to the ports in Europe, Asia, and other parts of the world, their conditions are remarkably similar. There was no concomitant promotion; no ladders of success, and it lacked occupational stratification. This so called casual system the employer had all the control over who would do the work and often it was the unions that gave them the list of workers who were qualified (in a manner of speaking) to work on the docks. Skilled labor was job specific on the ships' decks and they would include winch, gangway, and hooker-on, and in the holds of the ships. It may not look skilled and that brawn was needed more than brains but there was a need for understanding for cargo placement. Those longshoremen who understood cargo placement were often seasoned longshoremen. These workers understood the ships, holds, equipment needed, and the nature of correct placement of cargo. This was to assure the safety of the ship and to avoid any unpleasant events, ships capsizing, sinking, overturning, and other such marine disasters. This prevention was what the shipping companies and loss at sea was far more expensive than loss due to theft.

Some of the skilled specialties in the ships and on the docks are not easily transferrable from docks to other working conditions. It would be difficult to see a longshoreman work on the railroads doing similar work. Work division in the holds was based on the gangs of workers and there would be one boss of the gang and this position placed him above the workers but he was one of them and worked alongside them. This foreman did all the hiring and firing for the stevedores.

Sadly, to keep the job meant they needed to keep on the good side of this boss. It could be a difficult relationship, keeping on the good side of that foreman. Workers needed to

be agile and often times flexible, they needed to be able to work in the crevices of ships and in the tight spaces of cargo holds. Work was fast and it needed to be done with speed due to the demands of the shipping companies. It is no wonder that discipline in the holds was loose and often nonexistent.

Hold life was difficult for the longshoremen, extreme heat, cold, freight being thrown about, and often cranes loading more and more cargo aboard. One had to be very careful on board a ship and at times genuine accidents did occur in the holds. Due to the demands of being on call to answer the call to work, meant longshoremen needed to be available at the docks quickly. Their homes often were located blocks from the docks and they could be there very quickly. Living in close proximity to the docks assured that the longshoremen would get to the work on the docks. This meant they needed to be on good terms not just with shipping companies but the sub-contracting stevedores and union officials. Workers on the docks post containerization do not need to be so close to the docks.

The containerization world meant that the work force no longer needed to be in close proximity to the docks to get work. Workers who once were in the tens of thousands has been reduced and this reduction meant less need to be in close proximity. Containers and their cranes took the place of many of the workers who did the work inside the ship holds.

Workers who were displaced by the new technology of containers often were older workers and were unwilling or incapable of relearning the new tools of being longshoremen. Previously longshoremen followed the family into the work of being a longshoremen and it followed the family for generations.

Family and following the ways of previous generations also meant following the previous generations' mistrust of managers, bosses, and other positions of authority. Unions often became their government and it reached many of the longshoremen's lives more than the duly elected government of the towns, states, and federal government. Striking for these workers was usually unpredictable and to the shipping companies a "wild cat" strike was to be avoided at all costs. This often meant that the unions would get some of their demands, to keep labor peaceful, it did not always happen and strikes did occur along the docks. Strikes meant no income coming in and although they did occur, striking was not welcomed by anyone. Union officials who encouraged striking often did so with the approval of the members of the unions. Union leaders needed to be charismatic and maintain a good rapport with their members. Working conditions needed to be improved and reforms moved slowly along the docks. The need of the company to get its goods to market with the utmost speed usually prevailed; there were always exceptions with the strikes. During World War 2, the longshoremen provided much needed intelligence about Italy they could not get anywhere else.

Military intelligence and the Federal Bureau of Investigation ignored organized crime in order to obtain intelligence on Italy. Although most American labor leans on the liberal side of the political spectrum, the regular members ILA did not have the radical roots as their pacific peers.

They did feel the need to be brothers with all other longshoremen but they also felt the need to be loyal to the United States. As one longshoremen stated, "ILA means I love America". Working on the docks thus was equated with being a proud American, at least in the New York and New Jersey docks.

Although longshoremen wanted change, they were not so accepting of changes in their workplace. Containerization presented such a shift in their work. Armies of workers who once numbered several thousand along the docks was dramatically reduced and cut. They were cut due to attrition, retirement, death, and injury. Containers took the work of thousands who would place the cargo on board the ships. The container could hold more cargo and store it more effectively than doing the process by manual labor. Workers only needed to operate cranes and there needed someone on board the ship to direct where the container would go and then to secure the container to the ship.

Securing the container to the ship was one of the toughest challenges to the shipping companies and those who wished to use containers. Malcolm P. McLean was not the engineer behind the idea but he was the moneyman. He was able to find the right engineer to design and fabricate the interlocking mechanism for such a device to succeed. This success would later translate to the greater success of container shipping and thrusted the idea forward.

Technologically speaking containers did much to improve the lives of the longshoremen and their work changed forever, and at first, it was resisted.

Resistance to the new technology of containers was met with brutal rejection. Strikes were often called and many of the world's ports did not have the much-needed infrastructure in place to allow container ships. The port of New York and New Jersey moved from the city of New York to the ports of New Jersey. New Jersey was ideally located, across the river from New York City, quick access to the major highways, railways and across the New Jersey Turnpike was Newark Airport. The open space made it an easy selling point for the new mode of transporting goods from the ships to the rails

to the trucks to the emerging jet air traffic. Longshoremen officials negotiating the new contracts came to accept container shipping and containers as their future. It was not a future they looked forward to but they did have to relearn their jobs.

Relearning jobs that technology displaced much of their peers was not an easy one and longshoremen before containers numbered in the thousands if not tens of thousands needed to reduce the number of workers, never an easy task, but there did not need to be as many with container shipping. Marine executives did not think that this new idea of containers would work either; some were short sighted and needed to be sold on how the idea would benefit their companies. This was the post-world war two world and America was on top of it economic game and new inventions were coming out of the United States and the rival was the Soviet Union. American workers who came home after the war embraced their country and union members were patriotic. America had a strong merchant marine, strong factories, and we did not face any of the difficulties associated with rebuilding a country that was destroyed by war. In some ways, our advantage was found in the lack of the second world war scarring and destruction. Ports in the continental United States were left unscathed unlike the Italian, French, German, English, and German ports which were bombed during the second world war. In the United States, there was no need to rebuild or start over like most of the world and container ports (later terminals).

ILA officials sensing the changing nature of dock work and the growth of containers needed to renegotiate with the marine companies. In the beginning, it was not met with open arms and many longshoremen union officials balked at the idea of replacing workers. MacLean and others would negotiate with these hard-nosed labor

leaders. Labor leaders not wanting any of kind of change that would affect their numbers often would strike without notice, so called “Wild Cat Strikes”, and would protest at the arrival of the Ideal X and its containers. Shipping companies were slow in their acceptance but once the profits came rolling in with SEALAND they quickly came aboard with the new means of freight transportation.

Eventually the unions settled and received a generous contract; it removed much of the previous types of abuse within the longshoremen’s union. Unions who did not want to embrace the new means of business feared an unemployed workforce. Their belief that the any reduction meant elimination of all jobs was their major source of disagreement. Disagreements between unions and the owners often flared up in the union newspapers with scathing editorials and protests from the union membership. Longshoremen and their allies needed to be convinced the loss of jobs was going to bring those who remained into a new skill set that would pay them handsomely and that they would not suffer the indignities of the previous generations of longshoremen. This was not an easy sell but once it was made and it began to move forward many of the union members changed their minds on the new ways of conducting work on the docks. Unlike New York and New Jersey unions, the ILWU in San Francisco agreed not to interfere with technical change and they traded peace for job security.

Many of the reasons men went to the docks in addition to being an immigrant with few options was the longshoremen mindset. This mindset included a strong sense of what they could do and had the freedom to do. Their jobs were rarely routine and many ships came from all over the world and gave them exposure to different people. Routine is not a word often tossed about on the docks; you could be unloading bananas one day and next

textiles. Variety of goods being imported assured their daily work was mixed this casual workplace appealed to many for the reasons of casual work and not a formal schedule. It also meant that they needed to be located close to the ports, in order to work; you needed to be near the work. Containers and container shipping gave the worker less need to be located so close to the docks. The changing nature also meant that workers had a regular work schedule and did not have to worry about the old system of "Shape Up".

With "Shape up" eliminated work on the docks was radically different, there did not have to be patronage and kickbacks to the union bosses. Although sometimes it still existed and probably in some small ways, it still does exist, workers have less access to cargos. This limited access to the cargos of ships mean less theft. Theft still does occur and you cannot eliminate theft from the shipping world but you can and it was reduced by containerization. Shipping containers today have time sensitive locks and seals that make it harder to steal cargo but not impossible. Some of the old problems on the docks still exist today, they however are not as big as they once were and the new technologies are causing concerns for the new generation of longshoremen. Cranes who are not operated by people is on the horizon and fear of displacement due to the new scanner technologies is a fear. Computers and automation that took place in other industries is catching up to the freight industry. Working on the docks once an army of men who loaded and unloaded shipping has become a smaller well trained workforce.

Longshoremen whose work by hand and few mechanical changed so little for many years and when it did change it was a profound one for the workers and their unions. Unions' officials needed to work with members to assure them that the new means of doing business was going to help them in the end, many would lose their jobs, and retraining

became an important part of negotiations with marine companies. Crime will be eliminated but certain protections for cargo have been put into place to make it harder. There are examples of containers being stolen by truck and broken into. With computer tracing technologies and transponders on containers, it is more difficult to hide a container. Technology has made it easy to track a container from port to ship back to port.

Changes in the workplace for longshoremen have been slow, but they, longshoremen, have survived a world in which sail was the main source of propulsion, to steam, and the means of transporting cargo changed little. However, containers came suddenly and in a very short period became the new normal. Manual labor on the docks is not as common and the older port cities like New York, which were bulk break cities, needed to be moved or face extinction, New Jersey the first container terminal location became the largest (at one time) and the example of how container shipping could work. Workers needed to change their mindset of moving cargo from ships to shore by their one backs to an easier less manual means of moving cargo. It did cost the individual work and a job but the workers who remained achieved a job security they could not achieve during the days of bulk break carriers. Container ships are able to move more cargo than the bulk break carriers are. Working on the docks is still a dangerous place but not in the same way as it was in the past. Workers still need to be aware of their surroundings with containers being moved around and although not as common, shipping containers can cause injury or death if they are misplaced. Longshoremen face less violence from their ranks.

Put Container ships are defined as ocean going ships that use trailers that have their chassis removed and are stacked on ships' deck and hold. Before shipping was done by containership it was done by break bulk carriers, this meant that ships would be loaded and unloaded using manual labor and longshoremen did the work. Before containerships, the idea of ships changed very little since humans have used the ocean as their highways. Ocean going trade is one of the oldest human endeavors, once we began to settle down and organize ourselves into larger communities; we began to look to trade with neighbors. At first these trades were an equal trade, you had barley and I had wheat we would trade for the other equally. This was done on foot and animal drawn wagons. In Ancient Mesopotamia, the idea of using the sea as an ocean going trade highway took shape. This society built ships that could travel all over the known world, the Mediterranean, and they were able to set up colonies and trading posts

Maritime trade in the Mediterranean world was important and it helped build empires, and the first empires relied heavily on ships to assure their empire's success. In history, the country that controls the sea-lanes controls commerce and in the maritime world this is especially true, maritime trading power denotes world power, England being an example of a maritime power that relied heavily on maritime trading. England engaged in global trade and built an empire that used the oceans as their superhighway. Although England was not the first European power to have achieve sea dominance, they were however the one that had one of the greatest impact on the United States.

The first ships that were able to sail across the oceans used sails and these sailing ships used manual labor for their loading and unloading of cargo. Piers were constructed to support those sailing ships and they would continue to be useful as sail power gave way to steam. Steam power would not replace the pier structures used for cargo loading and unloading.

American shipping companies began with sailing ships, they were privately owned, and with the help of the small American navy, they were able to open up ports for American trade. Trade would be the important in building the United States' reputation as a global trader and not a military power. Power in the early days of the republic was seen in the power of trade and having a good economic relationship with other nations.

The nineteenth century saw a radical change in ships and shipbuilding, iron, and steel became more common as a building material than wood. While wood was still an important source of building ships, it was losing to the iron and steel manufactures. Steel gives the ship builder strength that would does not have. Shipbuilding out of steel also meant ships could and would grow in length. Shipping also benefitted from steel construction, with strength and the ability for steel ships not being dependent on the wind for propulsion. Steam engines gave the shipping industry a much-needed source of power that was reliable.

Designing ships that used steam engines was a new discipline and ship designers sought to improve how goods could be transported across the oceans of the world.

Designs included paddle wheels that were on the sides and stern. Many designs of the early steam ships were impractical due to their flaws, which were both seen and unseen by the ships designers. It was very hard on ships, and the Pacific was no better. Much of the world's oceans and its currents were not very well known to the mariners, and up to date maps were needed to travel.

Trade was done on known and well-documented charts (maps) and shipping companies demanded accurate maps. Maps were not the only issue that maritime companies faced and with new technologies, it meant that crews had to be trained to operate the new ships. Running a steamship is not the same as a sailing vessel and sailing has very different means of operation than that of a steam ship. Both crews are trained in the operations of their ships; however, their jobs are very different.

Steam powered ships needed coal and their engines for the most part used reciprocating engines, this meant that the ship needed fuel sources that create steam. Steam would generate enough power to power the engines that then turn the propeller. Propellers in the early days of steam were not as today, with their multi-blades. Some were designed to be two blades and before steam, sail or human power powered some propellers.

Power plants on ships too changed and their crews who worked in these engine rooms needed to be trained in their maintenance and care. Engine rooms needed to work with the crews who added fuel to the boilers that generated the steam. This collaboration was necessary for a ship to run. Merchant vessels used many designs with propellers and power plants to move their ships. Some ships like the Great Eastern used sails, side wheels, and propellers. It covered all bases with regard to the propulsion but it also was

very expensive. One of the functions it served was laying of the Trans-Atlantic cables. It also was a freighter, passenger ship, and general jack-of-all-trades, it served the British merchant marine for many years and later in its career when it was just too expensive to maintain it became an amusement park and finally it was broken up for scrap.

Merchant ships in the early days of steam relied heavily on coal and coal was needed to create steam that then drove the propellers. Many of the early designs used reciprocating engines and those engines turned shafts that in turn turned the propellers. These early propellers were not very sophisticated, often with two or three blades. These were made out of bronze and had to be maintained to assure they functioned properly. Bronze is used in propellers because it resists corrosion that occurs with steel. Steel ships unlike wood ships present their own set of issues in their up keep, painting the hull and using antifouling paints below the waterline help the ship from getting rust that would cause metal fatigue and would cause the ship to sink.

Merchant as well as tankers come in a variety of shapes and sizes, which often was done to show what country or line owned the ship. Markings and location of smoke stacks also tended to be a unique identifier. Reference guides were soon published with the oldest being “Jane’s” this is the definitive guide to shipping both military and merchant. Merchant vessels have changed little before containerization; cargo was loaded and loaded into holds. These holds carried cargo and often the way freight was handled changed little. The technological change that greatly improved the work of the longshoremen was the crane. Cranes have been used on ships but often were manually controlled and operated, this changed with steam power. Cranes could be operated with steam and later diesel or gasoline powered cranes.

Cranes before containerization were onboard the ships and they took the cargo out of the hold and loaded it onto the docks. This was done since we invented the process of using levers and pulleys. The crane itself is not a simple machine, by definition, complex machines are two, or more simple machines working together, the crane uses a lever and two pulleys. Ancient times this meant that a ship could only be so long, and often this was the limiting factor for the ancients.

Human muscle was the primary means of moving cargo off ships and onto ships, with the invention of the wooden slewing level luffing crane cargo loading and unloading became easier. It still did require manual labor, in order for it to work. Later when we developed motors people still had to operate the cranes.[56] Crane operation was still a process that needed human care and oversight. This would be continued with containerization and shipping companies with their allies in the port authorities would work on improving the cranes that discharged cargo and loaded cargo.

Before containerization cargo loading was a long process and often meant trucks, trains, and other means of transporting goods away from the docks would take a very long time. Labor often would strike which also caused delays for both shipping companies and their allied businesses. Working with the cranes on the ships, where most cranes existed, allowed cargo to be unloaded easier but it still took time. Cargo needed to be placed on a pallet and the pallet needed to be placed in a cargo net and the net was then taken out by the crane, sometimes the cargo net was not used and the pallet itself was tied up and taken out of the hold. The pallets that were made out of wood often were taken out of holds one at a time and this loading onto waiting boxcars, trucks, or other

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ships took a great amount of time. The reverse was true from factory to boxcar or truck to ship. Once loaded onto the boxcar and truck the cargo had to make its way to the dock where the longshoremen would take it to the ships' holds. The ships' holds also had longshoremen under the direction of a stevedore determining where the cargo would be placed. This skill of cargo placement is an important one, if you place too much cargo that is heavy on one side with the first severe wave it could sink the ship. This was undesirable as the need for skilled labor who understood where cargo needed to go to assure safety of the ship.

Holds of ships were either hot in the summer or freezing cold in the winter and were worked on in all kinds of weather, longshoremen and shipping companies never let weather determine if a ship was loaded or not.

Boxes and other means of securing cargo were also employed, which meant the workers inside the holds had to have excellent spatial relations to make sure everything fit in the ship.

Under ideal conditions, this was a seamless process and there was nothing-illegal going on inside the holds. Sometimes there was theft and theft was often to benefit the union bosses and their organized crime bosses. Crime was not eliminated with cranes or a deterrent; it just was a tool.

Containerization was done not so much as a way of preventing theft or getting organized crime out of the docks. It was done to speed up the process and the process needed to be sped up. Labor could not just physically pick up, place containers on top of the ships, take them off, and place them onto trucks or trains. Cranes needed to be

designed to handle the task of lifting and placing the containers onto the waiting ships, trains, and or trucks. This had to be further developed due the nature of the containers. The use of cranes is based on two simple machines, levers, and pulleys. Before the Industrial Revolution, cranes employed by shipping companies were operated by manual labor. Labor loading and unloading on the docks was mostly performed manually, cranes on board the ships did assist in moving cargos. Freight and ships grew larger and when this occurred, the cargo they carried too grew. This growth encouraged the development of cranes that did not require manual labor and automated cranes became more common. These machines often were on the ships themselves and not on the docks. Finger docks had the problem of being long and narrow and this did not allow crane operation to be done on the dockside.

Shipping companies thus invested in shipboard cranes that carried their cargoes to the waiting longshoremen on the docks or trucks or boxcars. Both boxcars and trucks would have the longshoremen carry the cargo to the truck or boxcar and loaded the cargo. Manual labor moved cargo from the ships, trains, and trucks thus the world of trade moved with little change. Using steam power for crane operation on board ships made it easier to move cargo deep inside holds of ships. This movement of cargo from holds to the waiting longshoremen who then moved it by brawn or sometimes forklift to the waiting trucks or boxcars to go overland to the waiting markets.

Crane operators on ships were members of the crew of the ship and not a part of the longshoremen labor community; they worked with stevedores and longshoremen to move their cargo. Once the cargo hit dry land the longshoremen took over the work and moved it to their waiting vehicles, whether a boxcar or truck.

The invention of the crane to load and unload containers from ships to their shore is just as important the interlocking mechanism used to stack containers on top of each other. Shipping as well as their allied trades needed these cranes to assure their growth. Cranes did carry the pallets from ships; however, the growth of containers grew the need for heavy-duty cranes. McLean who helped encourage containerization who pushed for the interlocking mechanism to assure that the containers did not fall off the ships. He also pushed for the new types of cranes that would be needed to load and unload those containers to and from ships and to trucks or trains. McLean also believed that handling freight twice would be labor saving and save the companies employing the new idea of his would also save money. [57]

In the nineteen fifties the United States believed that it could win the world over with its trade policies and having been left relatively unscathed by the Second World War, it was partially right, and it developed new technologies in regard to trading with the world and container shipping was that change. American shipping companies did not all embrace the idea but McLean and his allies saw the benefits of this new idea, the harder sell was to make it global. Ports around the world had to change their infrastructure and set up of their ports. These cranes were an important piece that had to be placed at the reconstructed and new ports around the world. Ports that accepted containerships had to have the new cranes.

Cranes are two simple machines, a lever and a pulley, and they are by definition a complex machine. In 1956 the newly formed Sea-Land company that was bought by McLean, and he bought the later named Ideal X, which was a former oil tanker company.

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Containers had the standardized lengths of forty or twenty feet long without the chassis which also excluded the wheels. These containers also had the interlocking mechanism that was first designed by Sea-Land's maritime and mechanical engineers. In the nineteen fifties ports were not equipped for the containerships and the older style ports, like the port of New York, were ill-equipped to handle this new mean of handling freight. New Jersey ports in Elizabeth and Newark that did not have the finger like wharves and piers was suited for this new way of moving cargo. Cranes would be needed to take the containers off the ships and place them onto trucks or trains.

Early cranes were not efficient and designers needed to work out better ways of handling the containers. Engineer Les Harlander was commissioned by the Matson Company to study the use of cranes. Furthermore, they were charged with on how to improve those cranes. His and the members of his study all agreed the current (in the nineteen fifties) cranes were not the best option for handling containers and that there needed to be who new design of cranes.

Designing a crane is not an easy task; many factors go into the design. One has to understand what kind of weight will it bear both empty and full.

The physics of designing a crane are one of the many obstacles faced by the engineers at Matson and Sea-Land. Designers also wanted to it to look pleasing as well as durable and have a great deal of strength. The design that they came up with had the following: all welded box girders, and an A frame gantry. This design was clean looking and it was located in Alameda, California. [58]

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The A Frame design was the first working crane for containerships and containers, it would evolve into a system of cranes. American cranes were the pioneers in container crane manufacturing and later Europe offered cheaper but similar quality. The emphasis of the European crane model was not just cost, it had to have eye appeal, in their words was a "clean looking A Frame crane"[59] Matson corporation succeeded in being the first company to build container cranes and their success led to the standardization of those cranes. As containers grew in popularity and the ships grew in length containers remained generally the same. The larger containers were twenty feet long or forty feet long. With these lengths, transporting them by way of truck or train or ship became standardized. Standardization was an important aspect of the container revolution. Cranes needed to be able to lift these containers both filled and empty and companies that ran the docks along with their unions helped shipping companies formulate the standards. The early paradigm of weight and length instituted by the Pennsylvania Railroad was still an important one, although currently the Pennsylvania railroad is defunct, it was merged with its rival the New York Central, later Conrail, and currently the Norfolk Southern.

Railroads once the rival of the trucking companies now work alongside with one another. McLean envisioned this ideal when he bought his shipping company.

Cranes and their development have grown, as did the length of containerships. The first containership leaving Newark, New Jersey, left the old way of transporting freight in its wake and it launched the new way. Although balked and fought against, eventually it replaced the bulk break carriers. The infrastructure needed to change and designs for cranes had to be forward thinking enough to anticipate the growth of

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containers. Containers today come in a variety of purposes. They can include such purposes as moving gasses, heated or refrigerated, and can be carried in planes as well as ships, trains, and trucks. In the early days of containerization, the cranes manufactured were made in the United States and they could ship them anywhere in the world and could fit the new emerging container ports. In the late 1960s, competition came from Japan and many customers in search of something different tried the Japanese business. European cranes also competed with the Americans in the crane market. Soon after due to the rigidity of the crane manufacturers a new design and paradigm of construction was launched. The "Tailor Made" crane, cranes were designed to fit specific ports and were not a one size fits all model. They became we come to you and design your cranes the way you want them. [60]

Designing a crane system that was uniform was not always easy and the benefit of using a system that was tailor made helped grow containerization. Workers in America as well other parts of the world in the beginning protested the loss of jobs. McLean and other leaders in the container revolution negotiated with the unions and sometimes successfully. Unions who began looking at the new tools with suspicion and fear needed to be convinced it would be in their self-interest to accept the new tools.

New tools and new methods of moving freight with cranes being the largest tool change. Freight removal from ships would never be the same and shipping containers needed to be uniform to allow them to be placed on ship, train, and truck.

Modern shipping utilizes the containership and companies that are engaged in global trade use them more than they engaged in global trade use bulk carriers and the

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use of containers is not limited to sea. There are jets now equipped to handle the shipping container while not as large as the newer super container ships they are an important part of the Trans modal revolution. Cranes while they started on the decks of ships have too evolved from the deck to the dock. Longshoremen are the workers who move the container to and from the ships to the waiting train or truck and back to the ship. The stevedore equipped with a handheld radio and is in constant contact with the crane operator (Longshoremen) to assure that the container is loaded and unloaded safely; it is also the responsibility of the stevedore to lock it in place. While the changes in work has changed over time and the skill set too has changed; the predictability of a ship arriving has changed little, it still is unpredictable.

Cranes and their placement is an important part of port development and must be aligned with the ships that come in and out of the terminal. This placement was very specific and it had to be accurate to assure that the cargo would be placed on board and unloaded safely and efficiently, this often meant that the stevedore working alongside the longshoremen had to be in touch with the crane operator. Before hand held radios ("walkies talkies") this meant that the longshoremen and stevedores needed to communicate with each other's often with runners going between the crane operator and the men in the holds of the ships. This often delayed actions due to the speed in which someone was able to run to and from the crane. One of the dangers of loading a ship was this; the operator of the crane could not see the deep holds of the ship.

Not being able to see the depths of the ships' holds could lead to unforeseen dangers. These dangers could and often did take lives. This danger from above was one that although rare in today's containership age. Containerships still have the same dangers

although not as common as they once were, the dangers are still present. Shore based cranes unlike the ship based cranes are located high above the ships' holds and therefore the operator has a vantage point that is better than the workers in the ship are. They may be higher than the ship and can look down this job still requires skill and constant communication with the stevedore in the ship to assure correct placement of the container.

Cranes located on the decks of ships did make work easier for the longshoremen and these cranes did the job well and with the growth of containerships cranes too had to evolve. The standard A Frame crane was the standard for many years for the containers. This too had to change with containers growing larger and ships growing longer cranes needed to change. Such a change was developed and it was called the STS Crane. This crane used it's "A- Frame" predecessor and it was divided into two groups of cranes. The first is called the Conventional or modified crane. These cranes served these ships, the Panamax, which are defined as those ships that had a beam that was less of that of the Panama Canal, 32.3m. This class of ship was developed from the 1960s to the early 1980s.[61] This type of ship operated with 13 containers across the deck of the ship and. With a maximum amount of containers aboard, numbering around 4700, these containers aboard the ships had to be safely placed on and off the ships. Container ships at one time relied on the Panama canal as their width measurement and currently with the beam (ships' width) being increased the Panama Canal is not possible and many container ship companies by pass it and go around South America. The next generation of containerships does not have the Panama Canal's width.

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These ships are referred to as the Post-Panamax ships. They are wider than the Panama Canal, can hold 20 container across, and can hold a maximum of 7000 containers. [62] These ships were developed in the 1980s. The current trend in container shipping is the Mega-ship or jumbo ship, which was developed in the late 1990s, and they can carry more than 20 containers on deck and can hold more than 7000 containers. The containership revolution is evolving and as long as terminals can load and unload these ships, their size will continue to grow. Cranes too will have to be able to withstand the weighty containers, as they too are likely to increase. Railroads too will be impacted by the growth of containers and container shipping.

Cranes employ pulleys and these pulleys must be able to withstand the weather, the constant wear and tear of being located by the water. Their demand for speed is also important, with the mechanical advantage of having pulleys and speed assures that the crane is an asset to the shipping companies and to the workers. The standard one pulley-one operator is the global universally accepted way of employing shipping cranes. It is however being updated with dual pulleys and dual operators, allowing the ship to be loaded and unloaded with greater speed. After experiments in both Virginia and Rotterdam, these were quickly abandoned, labor costs and up keep made them not worthwhile for both port authorities. Labor costs are increased due to having two longshoremen in two different cabs operating the cranes. Longshoremen have been one of the best-paid union jobs since the advent of containerization. Shipping companies have seen improvements in their cargos' handling since containerization. Ropes (steel cables) are often the one area of crane operation that must carefully maintained and routine inspections. These inspections are meant to protect the workers and the cargo. Cargo as it

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is being lifted from the ship and is in the air in transit to the waiting train or truck is vulnerable.

New York and New Jersey terminals with cranes use the "A Frame Crane" and there are no moves to change the cranes. These cranes are updated with cables frequently but little has changed in their daily operations. Labor is facing changes in mobility of the cranes, with the advent of the RFID, which can be read by a laser scanner, it can allow cranes to operate without human drivers. This would further reduce the amount of longshoremen needed on the waterfront. This new system of coding is slowly making its way to the docks and not without criticism and strikes. Coding is not the only advance in containerships. Elimination of the crane crew and using the old system of cables and pulleys is being carefully examined and studied; it may be in the near future there will be no pulleys on cranes.

Automation, which has been slowly accepted on the docks by both the conservative shipping companies and their unions; Union officials balked at any hint of job loss. Shipping companies wishing for peace with their unions often will not embrace new technologies. Shipping companies and their unions when they have to embrace technology, often wanted to see if this new technology would benefit them both. The conclusions about future of cranes is one of promise and hope for a better working environment for workers and owners. Building cranes to a height of 150 feel will be too costly an endeavor but maybe height can be 125. It is less expensive than the 150 feet that shipping companies would like. The outreach of about 220 feet and with the new super containers they need to be expanded to 230 feet. [63] Speed of the trolleys is often one that

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is discussed about, the need for speed is being experimented with, and the concern is the braking speeds. Cranes will forever serve the needs of shipping companies and these companies will seek designs that fully support their mission of delivering cargo and receiving cargo as quickly as possible with the greatest profit. Unions will also be there to protect the interest of their workers who are working in and on the cranes.

Technology on the docks was slow and often fraught with controversies, with the traditional break carriers that used pallets. These pallets were placed on board using forklifts and human power. The cranes that were on board the ships used cargo nets to hoist the pallets to the ships' holds. Ships' holds often were dark with extreme temperatures between hot and cold. Labor worked regardless of the weather. Carrying cargo but forklift and by brawn was time consuming. Trucking and shipping companies all knew there had to be an improvement on how to conduct business. Many experimented with using trailers and modified naval ships. The most successful was the idea of Malcolm P. McLean who along with his team of engineers came up with using trailers without their chassis. His belief that still holds true is that cargo only need be handled twice, where it originated from and where it was due on arrival. [64]

It was an idea that started in New Jersey where the first container ship the Ideal X sailed into history by being the first containership. What assured his success was not just removing the bottom of the trailer but having a series of interlocking mechanism on the trailer that allowed them to be stacked. Stacking them allowed the trailers to be loaded and unloaded with great ease. Taking the trailers off to the waiting trucks or railway cars was done easily by crane. Standardized sizes were important for the success of the idea

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McLean's shipping containers. Standard length for a container is either 20 or 40 feet. Allowing cargo to be only handled twice it was hoped would assure freight would be less likely to be lost or stolen. The impact on shipping was profound and it was felt globally not just in the North American ports. Ports needed to be rebuilt or in some cases relocated, the Port of New York and New Jersey moved from Manhattan to Newark and Elizabeth in New Jersey. Their location was ideal with access to the highways and railways.

Shipping and their highways, called the shipping lanes, would not be as impacted by containerization. Some areas such as the Panama Canal are not wide enough currently for today's super containerships. This is changing with the investment of the Chinese government; they hope to widen the locks. Now most ships decide to go around South America or dock in Long Beach or Los Angeles and then trains or trucks take the cargo back east. Some ports especially the older ports in the New York region need to be dredged more often and their sediment must be handled carefully. [65]

Costs are often a concern and with OPEC fuel prices fluctuating fuel costs also move and up and down making difficult to predict that part of their business costs. Labor unions while negotiations are going on for their new contracts is fraught with unpredictability. Wages and working conditions are on the table with conditions that must be spelled out in the contracts. Ships can and do come in in a variety of times and not always on time or on schedule. Loading and unloading while time consuming was not as bad as doing it by hand and having to move the containers without the aid of cranes. Shipping cranes developed alongside the containers out of necessity and the container

65 [CITATION Tal00 \l 1033]

terminals in New Jersey quickly adapted them to move the process quickly. New York ports presented the problem of access; access meant that the ships could not load and discharge containers as easily as the ports in New Jersey. Piers in New York City would have to be reconfigured and rebuilt in order for containerships to function. Truck traffic also presented problems for lower Manhattan can get very congested and with trucks, making up most of the traffic it could become impossible for trucks to move freely in the New York City waterfront. Complicating matters was the narrow roads that led to piers in Manhattan and the other piers in the other boroughs of New York City.

Cargo shipping has a long history and the containership is the recent new comer to the maritime trade. Ships before containerization were pretty much designed to carry specific freight. Bulk carriers, oilers, and ore ships were all designed to be constructed for one purpose. These one ships could not take other cargos that were not suited for that purpose. Oil tankers would only carry oil and petrochemicals. Bulk carriers would take freight that could be put in holds of ships and it was costly for the manufacturer, shipping company, and the consumer. All ships constructed for transoceanic traffic needed to be wide enough that they could pass through the Panama Canal. If it was too wide, the ship could not go through and would have to go around the southern tip of Africa or South America.

The containership is classified based on routes, the one that affected New Jersey and New York is the transatlantic liner. The infrequent stops, usually about two, or three characterizes it. Stops must be kept to a minimum to assure profitability. Fifty to sixty percent of the cargo must be unloaded to make it a profitable stop. Shipping is not a nonprofit undertaking and one must be assured that there profits are met and assure the

companies longevity. Feeder ships are used to ferry the larger freighters containers between their deep-water anchorages to the more shallow terminals. This is done for the larger containerships that cannot come into the shallow container terminals. Containerships are growing and their drafts are too growing making it harder for New Jersey ports to keep up with the demand. The channels and ports need to be constantly dredged to keep up with the demands of today's containerships. Ships are changing, they are longer and have deeper drafts, and these are putting New Jersey container ports at a disadvantage. The state has to look at both environmental policy and economics. This often with economics and the environment in conflict it often ends up in the courts where it must be decided on what the correct course of action will be, what is good for the planet or good for business.

Containership safety is very important, the laws regulating the ships are very specific, and they must be to assure safety of both cargo and crew. Maritime law has given much in the way of guidelines for new ship construction. These include the field of vision and windows on the ships, which must give two ship lengths or five hundred meters. Clear vision is important and must be maintained on the bridge of all ships, containers have the added problem of having containers stacked up high, and that could cause trouble for the bridge. Angles of windows on board the ship are also important considerations and regulations are explicit on location and angles. Containers are also regulated and not every container can be loaded onto a ship and the containers must meet specific safety requirements. Safety is paramount in the regulations to assure that the container does not fall off the ship during transit and does not roll over during storms while at sea.

Containers also must have registration and identifying characteristics to assure that their cargo goes where it is intended. Many companies own containers and their owners must provide information on the container that is inspected by port authorities and customs authorities. It also need to include on the container is also its purpose, all-purpose containers, insulated, flat, tank, refrigerated, ventilated, general purpose, open top, platform, and all-purpose. These designations assure that freight is handled safely and efficiently from cargo hold to highway or railway. In addition, what is important to include is the weight of the container, safety concerns, if it is standard height or length or is not.

Environmental laws have also changed the way containers use chemicals, with the ban on CFCs (Chloral Flouro Carbons) containers that are refrigerated now must use alternative cooling gasses. Gasses are also transported on board ships, these gasses too must be carefully handled on board the ship, and when it is discharged, care too must be taken to assure its safe transit.

Safety while one of the most important factors is not the only area of concern with containerization and the transportation of the containers from port to port, there is also technical change. Change in transportation from a single stack system and as it is done currently there is double decker and sometimes triple decker railway cars. Trains that carry two or three containers on flatbed cars, this allows more cargo to be transported overland to the seaports. This also means containerships are getting bigger and canals such as the Panama Canal and Suez Canal need to have the infrastructure to accommodate these larger ships. Larger ships are making it harder for the Panama Canal to compete and with Panamanian control of the canal it is expensive for a small country

like Panama to expand the canal, it is looking for richer countries to help pay for this and the one right now who is talking about helping is China. New York and New Jersey's ports are now suffering due to the lack of depth in their channels and this is important because the new container ships have a deeper draft and need deeper channels. The Asian ships are stopping in California and moving their goods by train to the American East Coast. This eliminates the need for Port Elizabeth and Port Newark. Although not entirely Newark and Elizabeth, ports still do a majority of the work for North American European containership traffic.

New Jersey and New York while the United States two larger container terminals are not only competing globally for trade they are also competing against the largest container port in the North American continent, Port Long Beach, in California. The American President Lines, APL, also came up with the idea of doubling the railways capacity. They came up with the idea of double stacking flat cars and it allowed containers to be used more often both as shipboard containers and as transcontinental railway cars. This has found its way to the ports in New Jersey and New York and it is now standard worldwide and cuts costs for all companies.

Port designs have changed more in the last sixty years than throughout most of history and they have changed because of containerization. New Jersey ports were once considered not as important as New York City ports; with the invention of containerships, New Jersey became more important. New Jersey had the open space in Newark and Elizabeth that did not exist in New York City. The infrastructure needed for development of a containership terminal was already here in New Jersey. There was access to the ocean, railways, and highways, this is important because the speed in which is needed to

move freight is critical. Companies see inventory sitting on docks or decks of ships as money lost so for it to move quickly will improve their bottom line.

Workers under the system of containerization saw an improvement in working conditions and pay improved; there are still labor issues with the owners. These issues include modernization of the work and the possible elimination of some positions. There have been similar issues with the beginning of containerization, the changing work environment. The early days of containerization saw a cut in workers and modernization of the tools used in moving freight on the docks. The unions representing the longshoremen did not greet this enthusiastically. Longshoremen often went on strike and the stoppage of loading and unloading of freight was a constant fear of shipping companies. Cargo in the holds or in warehouses did not make them money and they did everything to keep labor from striking. Conditions could not always be changed, the weather was something neither side had any control over and it was hoped that other human related issues could be resolved, including unsafe practices and the manner in which labor was hired are examples of which labor and management disagreed and fought over. Longshoremen unions had undue influence from organized crime and often the union bosses were patsies for the organized crime families in their area.

Labor and management have had historical differences between them and the ILA, International Longshoremen Association, are not different from other unions. The nature of their work is what makes them different and because of that, difference longshoremen need to be treated differently. Their work was not regular as far as any ship arriving and leaving could be regular and the cargo to be taken off and or loaded was not routine. One worker could work unloading a ship of bananas one week and the next week

this worker could be loading or unloading lumber. Longshoremen are not unskilled workers. The majority of the work they did was not skilled in the same was as other industrial workers. Their skills laid in their ability to place with skill cargo on and take cargo off ships. Under careful supervision of stevedores to assure, cargo was placed carefully aboard and taken safely to the waiting trucks or railroad cars.

This became the accepted practice during the era of break bulk and with the advent of container ships and containerization the old model had to be revised and in some cases discarded. Labor who often fought long and hard for improvements and work security did not see the pros of the new technology and as one union official said of the Ideal X, the first containership, he did not care what happened, as long it was not a success. Labor is not unique in balking when it comes to technological development. In the maritime trades, there was also dissatisfaction with the movement from sail to steam. We as collective humanity are very resistant to change, and it is not unique to labor. Containers and containerships radically changed the landscape of New York, New Jersey, and the whole world. This new technology was not just about the new ships but also about how freight would be transported, by both land and sea. It would not just be about moving goods, there was also the issue of goods being moved from shore to ship and how this work would be done. The first containership had the trailers lashed on the deck of the ship.

The Ideal X a former navy oil tanker was an unlikely revolutionary ship. It was redesigned to transport trailers on its deck. It would be later that other technologies were used to perfect shipping containers and containerships. Ships would later need to be

redesigned to carry these new trailers. Shipping and union officials watched the voyage with curiosity and skepticism as the Ideal X left its berth and when it arrived in Texas McLean who understood what he wanted to accomplish felt it could be done globally. In New Jersey and New York, the ILA was threatening the ports with strikes and labor unrest. This would be one of the many challenges faced by McLean and his idea.

McLean who was known for his trucking company in the American South East, McLean Trucking, bought a small oil tanker company and renamed it SEALAND. [66] His Ideal X began its route in 1956 and it was hoped it could travel to coveted transatlantic sea-lanes from the United States to Europe. This would be delayed in many ways by labor, structural soundness of the ships, and infrastructure in other port locations. The world was not ready for containerships in 1956 and it would take about ten years for the ports of the world to be made ready for this innovation. Unions and management alike looked at containerships and both agreed wanted it to be a passing fad that would quickly fall out of favor. There was also the complaint of how difficult it would be to change the existing ports into container ports. Some ports like San Francisco were abandoned and relocated to across the bay to Oakland. New York ports moved away from New York City and moved across the river to Newark and Elizabeth New Jersey, which was the largest, at one time, container port. In some projections that containerships would be too wide for the Panama Canal, which McLean and his company did not see as an issue, but it has happened currently.

Containerships leaving the ports in the New York City region that are bound for Asian ports go through the Panama Canal and are wide enough, the newer containerships

66 [CITATION Tal00 \l 1033]

are too wide for this means of transit. To alleviate the idea of moving from an Asian port to a North Eastern port in the United States, the Pacific Coast port of Oakland takes those ships. From Oakland, the containers go on trains or trucks to their markets in the North East United States. Northeastern longshoremen are not comfortable with this arrangement, which limits their work hours even more.

Containerization also had to bring about standardization of containers. The Pennsylvania Railroad, which originated the idea of Piggy backing, the idea of placing trailers on flat railway cars, insisted on a standard length, height, and weight of a trailer. This standard would the one that was used by containerships. In the minds of the containerships, trucking, and railroad companies it made the most sense to stick to accepted standards. Longshoremen and their allied unions also accepted the possible reallocation of resources. However, New Jersey has worked hard to make its ports more accessible to the wider and heavier containerships.

In the early days of containers, no one believed that larger, of today, containerships would be needed and the carefully constructed so they could go through the Panama Canal. The Panama Canal was the standard of how wide, the draft of the ship could be, and this was important to assure that the ships did not get themselves grounded or stuck in the locks. The locks standard width of today seems almost comical, as it was measured by the width of the battleship USS New York. The modern ships are longer, have deeper drafts, and are wider. This causes them to bypass the canal and go around South America and Africa by passing the canal due to their size. With the cost of fuel continuing to raise this too is a consideration in containerization.

Shipping companies in the early days of containers did not embrace the idea of the trucking executive, Malcolm P. McClean, who founded one of the largest trucking companies in the American southeast. He did not have the maritime expertise to run a shipping company he only understood trucking. Maritime companies balked at his ideas and so did the unions. It would take time to win over his critics and the criticism was global. American merchant marine companies did well after the Second World War due to the lack of competition, German, French, English, and Japanese were rebuilding their war torn cities. The rebuilding of these countries made it easy for the Americans to gain control over the seas. This would be a short-term reign over the seas, with smaller countries with less strict labor laws taking over the maritime trades, with so-called Flags of Convenience.

Flags of convenience meant that shipping companies would say the homeport was located in a country that would not be as strict with them. This level of strictness meant the use of sailors and officers. It also meant tax laws that were not as high and their labor costs were dramatically cut down to a number that assured their profits would grow. This also meant the crews may not be as well trained and were not treated by the officers as well as British or American crews were treated. Crews on containerships were not numerous and sometimes they were escaping one oppressive regime for another, which they could not run away from, because ships at sea make it harder to escape.

Ships not registered in the United States are not legally obligated to follow American Maritime or Admiralty law; the laws of their “flag” are the laws that regulate the ship. These regulations are more beneficial to the company then to the workers aboard the ship and it is the reason many fled the United States, to escape the federal regulations

and taxation that they believed were oppressive and prevented them from being profitable.

Shipping containerization the idea of "Flags of Convenience" was not the only concern of the maritime executives. It was a familiar story amongst maritime executives, the unholy trinity as it was called by the Matson executive R. F. McDonald "Loss, Damage, and Pilferage" [67] American and other maritime countries understood this problem but also found that their hands were tied and it was just a part of the cost of doing business. It was during the Second World War that the idea of using sealed trailers came into being and different attempts were produced to make trailers more of a viable option for moving cargo. Longshoremen and ship workers conspired to steal cargos from ships to take home or give to their bosses. The Matson Company thought of using locked aluminum containers would be the best way to prevent theft of goods from the holds of ships.[68] Shipping companies and railroads have been working for years to develop a system of moving freight cars by ship to other ports. Many of the issues of doing this globally was the use of standard gauge, which was not standard domestically nor was it standard globally, eventually the railroads did settle on a standard gauge.

Matson's system while a pioneer in the containerization revolution could not compete with McLean's vision. Matson quickly accepted his standard of how container shipping would be done and carried out by truck, train, and ship. Standardized length and height is required for the shipping containers to work effectively. Trucks and trains also had to have the trailers not too high, so they could go into tunnels and travel bridges. These standards would not just be American but global standards. The trailers had to be

67 [CITATION Bol08 \l 1033]
68 [CITATION Bol08 \l 1033]

able to be loaded onto trucks, trains, and ships with little adaptation so the goods in the trailers would make it to market with minimal fuss. Standardized parts and processes made containerization the global phenomena it would become.

Containerization is not the only term used to describe shipping containers; it is more commonly referred to as Intermodalism. Intermodalism while not the standardized term in research circles it is the most exact term to describe how transportation occurs. Scholars do not agree on the terms used to describe the process and this lack of standard nomenclature has only created more confusion. The lack of uniform language also meant that definitions were lacking this uniformity causing misunderstandings and miscommunication. While standards terms have been slow in coming what is agreed upon does allow the public to understand the term containers, we can accept that as the term used to describe those shipping boxes.

The ships that carried those containers were nick named "Box Boats" and later the accepted name was containership. Containers are having multiple purposes, some carry gas, petrochemicals, dry goods, and some even have refrigeration units. These units have so many functions that the shipping companies have devised ways to assure that what needs to stay cold does stay cold and what is not sensitive to heat or cold is treated accordingly. Gasses are also handled on the ships with caution. These cargoes have led to careful legislation in regards to the treatment of specific freights carried aboard the ships to assure safe transit. Companies have also created systems of locks and seals to make it harder to break into the container, while nothing is perfect and crooks will find a way of breaking into the containers, companies are making it to break into the containers. Safety at sea and loss prevention is important considerations for the shipping companies and the

men who work the ships. Many companies knowing the amount of theft tried to come up with measures to discourage pilferage at sea and on the docks. Concerns about safety are always important on ships, the design of containerships keep safety focused, and one of the big concerns is vision. Containerships that stack containers high could obstruct the view from the bridge and this is one of the concerns of naval architects.

Safety and concerns about cargo capability are also concerns with labor, unions do not want to endanger the lives of their workers, nor do the companies that employ them, and safety is stressed. Safety is not the only concern of shipping companies and theft prevention. Ports have the added problem of having to be properly maintained.

Historically ports in the United States have required teams of civil engineers to take care of the infrastructure of ports. Many of the plans never came to fruition and the obstacles to reform the ports in both New Jersey and New York had many detractors. Cost was one obstacle faced by both the shipping companies and the cities along the Hudson River waterfront. Designs were proposed and often rejected by shipping companies, citizens, and city governments. Before containerization and after the Port of New York and New Jersey included Manhattan, Brooklyn, Bronx, and New Jersey. These ports included short lines and major railroads that transported goods from the ships to the markets later, trucking would be included in this massive transportation center.

New York and New Jersey served as the major transportation hub of the United States and all major forms of freight transportation have terminals in this region. Containerships are the latest example of this global form of trade. Before the use of shipping containers, the railroads used trailers on flatbed cars and transported them on ferries between the ports. Railroads had their own fleets of tugs, barges, and ferries,

which transported both freight and passengers along the docks in New York Harbor. This system grew the cities in New York and New Jersey. Growth of these ports is very important to the future of the New York City region and its growth would mean a strong infrastructure, access to the ocean, major rail access, access to the interstate highways, and access to major airports. These would all be the reasons why the New York City region flourished before, during, and will continue to be an economic vibrant location.

Shipping in New York and its surrounding needed the piers that would and did accommodate ships that were in the early days loaded and unloaded manually. Shipping has always been a backbreaking endeavor and this meant the tools that could operate in narrow spaces and in confined spaces. Workers had to be willing to go inside deep holds of ships and these places were often under extreme situations, with temperature fluctuations in the holds from extreme heat and cold. There were also issues with how freight would be placed onboard the ship with safety for both the longshoremen and the ship. Shipping containers did remove the problem of cargo placement; it however did have to be assured that the ships would be loaded carefully and effectively.

Trucking due to containerization has moved the center of trucking companies from the inner city to the suburbs. Much in the same way, railroads and shipping companies have their headquarters in suburban campuses trucking companies have moved to the suburbs. It is hoped that it would alleviate congestion in the cities and along the waterfront. The concerns of seeing the process are less now before there was containerization. [69] The process of decentralization in trucking is directly related to the increase of companies using shipping containers, on rail, roads, and on board ships.

69 [CITATION Cid10 \l 1033]

Shipping companies along with railroads and the trucking industry have all made it easier to run their operations from the suburbs. Before containerization, it was difficult to monitor the doings of employees and the process of watching freight being transported was more done manually. Now it is far easier to monitor and make it more difficult to steal from the ships, trucks, and trains. Companies now monitor their containers, remotely, by camera and Internet connection. Security is better equipped to monitor activities in the ports, terminals, and rail yards. This also reduces costs to consumers who looking for goods at cheaper prices.

Infrastructure for the newest and larger containerships means that ports need to have many things in place in order for it to be a viable container port. A deep channel, the drafts of some of these ships is sometimes difficult to maintain and require constant dredging. There also needs to have room, sea lanes are much like highways in that there needs to be room for multiple ships coming and going from their terminals (ports). Ports must be competitive and remain that way in order for their customers to use their services. This competition can cause some port cities to lose out if they cannot provide the necessary infrastructure to support their ships. [70] The struggle for shipping companies was and is currently the same, how to get goods to markets and assure the shipping company is making a profit. Shipping companies working with port authorities have helped alleviate some of the taxpayers' burden in paying for the up keep of the ports and making their pathways safer and assure that waterways can transit these water highways with safety to both cargo and ships.

70 [CITATION Cul \l 1033]

Global trade has made the world much smaller, with many companies taking on countries in much the same way as governments. Transnational companies are no longer bound by national flags, but bound by flag of convenience, which makes for a diverse crew. Some crew who are working on the ships, are hired just for the one voyage, are paid, and wait for the next ship to take them home, merchant sailors who never did receive proper treatment before are still mistreated by the governments that are more relaxed in labor laws then the United States. This makes it harder for US Merchant sailors and officers to find work on modern ships due to the costs of labor in the United States. It is also the reason many ships are not US flagged ships and this only complicates matters when there is labor unrest. Longshoremen and their allies are often at odds with non-American ship labor.

Levinson and other economic historians who have studied containerization and its economic impact understand the importance of location. Ports that have grown in influence and prominence have an infrastructure that sustains the larger and heavier ships; they also have access points to railroads and trucking terminals. New Jersey and New York are a very good example of the old and the new way of shipping. New York City's ports were at one time some of the busiest ports, with New Jersey and the piers along the Hudson, Harlem, and rivers provided back up for the ships that could not be berthed in Manhattan. Today New Jersey ports in Elizabeth and Newark are two of the leading ports for containerships on the East Coast of the United States.

In April of 1956, the Ideal X, the first container ship, left its port in New Jersey, bound for Texas. It sailed into history as the first container ship and proved it could be done. It still needed more convincing from the Longshoremen and other workers who

worked on the docks. Dock work was going to change and the Longshoremen who were facing dramatic cuts in their workforce had to adapt or face starvation. Work on the dock had to change and shipping companies facing the danger of longshoremen striking were not quick to accept this new technology. Labor on the ships also would face changes that they were not prepared for and this unprepared state of both labors on the ships and on the docks gave the owners a slight advantage. This slight advantage meant that the owners could then give them the choicest employees. It also meant a reduction, not elimination, of corruption and theft of cargos from ships and warehouses. Labor is not the only group that felt the rippling effects of containerization. Its effects have been global and far reaching, and even today, we are still affected by it. Goods being transported are being manufactured cheaper overseas and transported cheaply to its intended market even cheaper. Labor rightfully has a problem with cheap costs; it means wages are kept very low.

New York and New Jersey both had a strained relationship; both had port cities and were reliant on the railroads, shipping companies, trucking companies, and later airports to improve their global presence and trade. Container shipping only made the balance that much more difficult to keep New York having the upper hand. It tipped the trade scales into New Jersey's favor with the container ports in Newark and Elizabeth. Both cities did not have the illusion that their ports were competitive with the ports in New York City and the ports along the Hudson in New York and New Jersey. What these cities were willing to do was invest in improving what they had and make it better where New York did not have the means or the will to pursue this endeavor. [71]

71 [CITATION Lev06 \l 1033]

New York and New Jersey both had many legal battles and trade battles that often ended in court and in some ways the courts had to force the two states to compromise. This give and take process often pitted labor against owners and vice versa. New York saw the activities along the New Jersey waterfront and rightly was alarmed at the growing New Jersey waterfronts in Newark and Elizabeth. While growth is a natural part of expansion, what was unexpected was the speed in which shipping containerization increased. This increase in trade and ship traffic was not expected nor understood. Owners and union leaders that container ships would be one of many passing fads that it would also have little impact on the New York waterfront felt it. Politicians on both sides of the Hudson were certain of reform but they also were not expecting it to come from the direction of new technologies and new means of transportation of goods in trucks, ships, trains, and aircraft. This only complicated the labor owner relationship. These groups both were left bewildered by trucker McLean and his containers and designs for ships.

Robert Wagner, the one-time Manhattan borough president, he understood the docks and the political world in which he participated in, the fragile relationships between shipping companies and the longshoremen. This relationship was further complicated by crusading politicians who all promised to clean up the docks. Wagner was able to build coalitions with the diverse populations in Manhattan. Ethnically speaking he failed to court the support of the Italians, who were during his tenure were the majority of longshoremen and their allied unions. This included stevedores, longshoremen, warehouse workers, and others who worked on the docks. One of the major reasons in a

politically calculated move Wagner allocated $13.2 million to New York City's marine and aviation commission.[72]

New York City had control over its docks and the New York and New Jersey Port Authority wanted control of the ports located in New York City. New York City did not want to lose control over those docks and later compromises were reached, the World Trade Center was the result. With the World Trade Center constructed, it would be agreed New Jersey would get to improve its port infrastructure. It was hoped this compromise would benefit both states with a minimal amount of bad feelings between the two states. Port revitalization was something that was pushed for before containerization but it would an issue that would be given a lower priority to other city issues that was considered more critical.[73] New York City did want to spend more money into their docks and infrastructural projects but it was not an easy proposition, bureaucracies are notorious slow and change does not happen quickly. Among the changes proposed were separate piers for passenger ships and freight ships. There were also piers to handle the railroads' needs to move its rolling stock on ferries from and to New Jersey with its own piers that could accommodate their needs.

Control over the waterfront was not a concession Wagner was not willing to give control over. This would be especially true if it were an interstate agency that he had no control over. Wagner wanted the final say and insisted on this that further complicated the relationship between the port authority and the city government. The ethnic makeup of New York City in the nineteen fifties made difficult for any city politician especially the mayor of New York to be all things to all people. Ethnic neighborhoods and control over

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certain unions and by that measure certain industries. Longshoremen, who in the early days of the ports in both New Jersey and New York were Irish later, became Italian. With the influx of organized crime from Italian immigration, the Mafia took a more active interest and role in the docks.

In nineteen fifty-six, the fighting was not just coming from political circles, the railroads that at this time had a huge amount of political capital and influence demanded the Interstate Commerce Commission study this idea of McLean's. The federal government did not see the idea of containerization as one that could be put into practice. Government agencies checked on the feasibility of using this new idea. Many agencies of the federal government were involved with inspecting and verifying the idea of containers. An example of government oversight was the Coast Guard, who wanted assurances that the ships could handle the weight of shipping containers. Government oversight is not the issue; it is the issue of several government agencies looking for something wrong. There were also industries that faced economic ruin if containerization did go forward. Industries appealed to the government mostly out of self-preservation and many agencies got involved inspecting the containership and containers industries. Shipping, railroads, and trucking companies if they failed to embrace they would and did face economic disaster if they did not modify the means of transportation and movement of goods by ship, train, and truck.

April 1956 saw the first use of the containership and it was not a voyage that was greeted enthusiastically by owners, operators, and unions. The International Longshoremen Association opined that he would be happy to see it, the SS Ideal X, end up on the bottom of the ocean. April 26, 1956 saw the Ideal X with its naval cranes

loading the last of the trailers, later to be renamed containers, and off it went to its port in Texas. Before containerization, the only cranes that were capable of lifting the trailers were at naval bases and McLean's company purchased four for use, two were in New Jersey and two were in Texas. Loading the ship with the cargo took less than 8 hours.

The speed in which the container ships could do work cut the need of having small armies working the docks. Longshoremen rightly saw their jobs going away and resolved to fight the containerization of the ports. Longshoremen around the world protested the container and container shipping. It took owners and operators to see this as the future and a bright future for their stockholders. It would also be good for expenses would be reduced and that would mean that costs for the consumer would also go down. This further would lead manufactures to move their jobs, it costs less to make the widget in country X and then export via container ship, and then it would be to make it in the home country.

This was not the very objections all unions associated with containerization envisioned, nor would it take other agreements to see a total collapse of American Industrial jobs. Trade would benefit the consumer but it would undercut the unions. Those that remained in the ILA would become some of the best-paid union jobs but it would not be in the numbers it was before containerization. Reductions in workers along the waterfront were not unique to the New Jersey and New York waterfronts, containerization like globalization reduced the amount of workers.

Unions and technology have always have had a love hate relationship with each other and the container and container ships were no different from the invention of the steam engine. The meeting of the Propeller Club in 1958 devoted an hour to the

conversation about containers and the new technique of using them. Shipping was facing a new threat and it had to adapt or face extinction. [74] The Port Authority of New York and New Jersey were at odds with the New York City department of Marine and Aviation. Wanting to hold on to the tried and true methods of shipping, he was on the wrong side of history. These commissioners believed that the ports in New York City could and would be reshaped; it was hoped that New York would see economic growth, believing containerization would be just a passing fad. Believing New York could be all things to all ships he believed that New York Harbor could handle all the major and minor types of ships that did business in the harbor.

The Port Authority had Elizabeth and Newark specifically designed to handle the new container ships. This new technology needed specialized tools and New York City did not have the needed infrastructure to change the docks from bulk break cargo to containers. Port Elizabeth (New Jersey) opened in 1962 and its 36 acres of land, which could handle the trailers, chassis, and infrastructure needed to support containerization, was one of the major reasons New York City failed as a port city in the early days of containerization. New York City and the other ports located around the island of Manhattan were unfit for the new containerships. New Jersey currently is facing the need to have its channels dug deeper, as the modern ships have a deep draft and need deeper channels to serve the container terminals in New Jersey. Shipping in New York City failed to serve the needs of the shipping companies, after most adopted the containership model.

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Economically the ports in Elizabeth and Newark, New Jersey flourished in the early days of containerization. Tonnage doubled in the years from 1956-1960.[75] The American company Sea-Land was one of the major players of the early days of containerization and greatly grew the ports in New Jersey. Shipping seeing the change from New York to New Jersey had to change business models to assure their successes. Elizabeth, New Jersey needed an infrastructure that was not in place but once it was decided, it moved forward. Some of the projects included the deepening of the channel, widening of the channel, wharf expansion, and road construction. This all had to be done in order to assure the success of the port in Elizabeth. Railroads and the needed infrastructure of handing railroads also had to be improved with several railroads owning the right of way in that area of Elizabeth. New York looked at the specifically designed ports in New Jersey and advertised itself as being a multipurpose port, able to hand passenger, freight, and the unnamed container shipping.

The Port Authority of New York and New Jersey looked to New Jersey as the future in transoceanic freight delivery, containerships were the future, and the break freighters were seen as archaic. Elizabeth's port could not even be conceived of by the designers of the ports in New York City. These ports were constructed for a different time that would serve ships that could and were loaded and unloaded using brawn, cranes, and could be done using the existing technology of their day. There was never any forethought of preparing for a day that would see shipping containers and using them to replace the bulk carriers. Containers also needed access to roads and the railroads to assure that they could deliver their trailers to their destination without removing the

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goods inside the trailer multiple times. This was the revolutionary nature of shipping containers and it is still very effective.

Movement of freight has always been a difficult job, while it started with beasts and slave labor it moved to mechanical power and it still had to use brawn. This muscle power saw cargo move from ship holds to the shore and back to the ship often done by the most unskilled of labor. Longshoremen who did all of the work loading and unloading ships. Once the invention of cranes, that used muscle, later motors, it helped alleviate some of the tough parts of working on the docks. Mechanical cranes did help move cargo off the ships and onto the ships but there was still the need for people to work in the holds of ships to place the cargo safely on board and to remove it safely off the ship.

In 1958 after securing the contract the Atlantic coasts, contracts the ILA (International Longshoremen's Association) fixed its sights on automation. It was not done out of preserving the status quo on the docks but to keep membership rolls high and compliant. High membership meant more power for the union and this was what the union bosses desired. Union officials wanted a dramatic increase in members and feared (rightfully) that containerization would dramatic reduce the numbers of longshoremen and their allied union workers. Issues between labor and its allies were bound to get worse before getting better, agreements were reached, and compromises were made about containers and container shipping. By the summer of 1959, the start of negotiations, an agreement was reached that containers had to be stripped and reloaded by members of the ILA. Labor was not going to budge with containerization, owners of the containers and the ships that employed them had to pay for each container that was not handled by the ILA members. The Atlantic side of shipping was far more critical at automation and

technology. Their Pacific counterparts did not have such contrarian views of technology. Employment in Manhattan declined sharply while Brooklyn remained unchanged until 1967. New Jersey saw a sharp increase in the rolls of the ILA New Jersey chapters.

Manhattan ports in New York City saw a sharp increase in union unrest with several strikes occurring Late 1964 saw wildcat strikes on the docks, which were a direct result of the loss of work in the Manhattan docks. This two-month work stoppage only aggravated a difficult position with the locals, New Jersey locals were growing and increasing in numbers and job opportunities, while New York was falling further behind. Technology was not the only concern, from a management point of view it was the old problem of union corruption. Managers of shipping companies also complained of the disorganization on the docks. [76]

Agreements were made between the unions and the shipping companies that gave the workers a guarantee pay for working 1600 hours. This pay would be guaranteed until the worker reached retirement age and it would rise over 2000 hours. The 1968 agreement also meant that the ILA could not open the container that was filled by a single shipper. This was the coup de grace for the union hoping to keep containers off the docks in New York City. It also meant that the unions would lose members decreasing their numbers. This directly led the path for more container ships, but they seldom docked in New York City and most of the docking occurred in Elizabeth and Newark, New Jersey. This further brought down the prestige of labor on the docks, as less and less longshoremen were needed to load and unload the ships.[77] New York Harbor became less and less important with merchant shipping. Passenger ship traffic was also reduced due to

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jet travel and fewer and fewer people wanted to take days crossing the Atlantic to get to Europe. American shipping was reaching the end of its influence and Europe, Japan, and other countries began to get more and more business for their shipping companies. With tax breaks given to these companies in their newfound homes, the American merchant marine was suffering.

In 1967, shipping costs were dropping considerably and unions saw their wages being threatened with cuts, what was not going down was profits. These profits were increasing due to the use of containers and container ships. Bulk break cargo was becoming less and less common and used by fewer companies. Shipping companies saw the savings in using containers and container shipping.

Shipping companies soon accepted the new paradigm in shipping and it would containers and container ships. It reached the point of no return due to the dramatic increase in companies using containers. These containers and their companies all agreed on standards that allowed for global use of shipping containers. This standard included the actual container and the interlocking mechanism. This interlocking mechanism allows for stacking of shipping containers and because they could be stacked and all the companies agreed with the standard there was little discrepancy between containers and shipping companies. Standardization also led to success with trucking and railroads, which both feared the idea of using containers. Standardization also meant that trailers and shipping containers could be used by all without costly conversions.

Nineteen sixty-seven saw a sharp increase as well in ship construction. These shipyards were not all in the United States, as labor was increasing in costs; shipping companies saw other shipyard opportunities that lowered the costs of building ships. With

the burden of the American law, regulating any ship made in the United States must have American crews circumvented; containership crews would have multinational crews who worked aboard. This could cause trouble and often did cause troubles with crews, who would be responsible for the crew's welfare. With companies, taking their business to avoid the strict American laws many shipping companies flew a flag of convenience. This made it more difficult for those working on the ships to receive fair and just treatment in American ports, causing legal issues.

In Elizabeth, New Jersey needed to expand its terminals and with Port Authority permission, expansion did occur, making it the largest one, at that time, in the world. This increase to twenty terminals made the port of Elizabeth more efficient. By 1966, the amount of freight going through Elizabeth rose to thirty-three percent in the whole United States.[78] New York and its port officers begged the Port Authority to expand container ports to Manhattan and Brooklyn. This was done before the agreed upon World Trade Center, that would it was hoped help lower Manhattan, where the docks once stood , regenerate itself into a profitable center for trade. Containers and container ships were growing in large numbers making the Port of New York America's Container capital, even though all of it was done out of New Jersey. This gave the Port Authority of New York and New Jersey its new motto. New Yorker Dockers pleaded with the politicians in both New York City and in Albany, begging to be included in the gold mine that was containerization.

Breakbulk carriers which still used Brooklyn docks it was promised would be continued to be used, although this form of transportation was quickly being phased out.

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While breakbulk carriers were losing more ground after containerization it was hoped it would still be a passing fad, and Brooklyn would survive this and continue to flourish. Leaders in the Port Authority in New York did not see this and wrote in a report that they felt there would be new reason to build conventional piers in either the near or distant future. Leaders in New York City, looked at the piers and hoped to repurpose them, and the piers would get a new lease on life as something other than shipping terminals. New terminals in Manhattan would not be a good investment in New York's infrastructure and thus the idea of building more container ports in New York was effectively squashed.

Labor leaders from the ILA hired Vincent O'Connor who was a former commissioner in New York City's Maritime and Aviation commission. With O'Connor helping the ILA, it was hoped he would help the docks and the longshoremen. One of the plans that he advocated was to build rail, truck, ship terminals, and an airport on the roof, thus it was hoped would take business away from the ports in New Jersey. He, O'Connor, came up with plans that he hoped would revitalize the ports in New York City. There was also a proposal to revitalize the ports to encourage the cruise ship industry, which was killed by jet traffic.

Technology and the changing tools needed to work the shipping terminals only made it harder for New York to catch up to New Jersey. New Jersey was building cranes and the necessary infrastructure to assure the economic success of New Jersey. This further strained the relationship in the Port Authority between the governments of New Jersey and New York. New Jersey container ports had their high costs and one of the things that quickly disappeared after shipping containers became more common was the amount of small merchant shipping companies. Having breakbulk carriers was cheaper

than container ships and these cheaper ships were from previous generations and often surplus from the government. These ships were also in a state of disrepair and needed to be maintained, which became increasingly more expensive that further made it difficult for smaller shipping companies to survive. These shipping that collapsed were bought out by the larger shipping companies and their routes were taken over without replacing the bulk break containers. Merging these companies into existing companies made the amount of shipping companies from small individual companies to very large multinational companies. Mergers also made it cheaper for shipping companies and this made goods that were delivered from overseas cheaper to the consumers. Once goods made overseas were seen to be cheaper than making in the United States, many companies moved operations overseas.

The United States and in the port cities of New York were not the only ones who suffered under containerization, Britain and other European countries who were just beginning to get out of fiscal woes due to the second world war now had to fight the Americans in containerization. England and its commercial adversaries had to come up with new ways of combating the American shipping companies and that meant mergers. These mergers sought to undermine the American supremacy of the containership war. Due to the declining costs of using containers and container ships, the whole world needed to retool its way of doing business. New Jersey was the center of this change. [79] By 1970, New Jersey led the nation with 63% of all imported goods and economists made projections believing this could growth would continue. [80] Bulk break carries could not compete with the efficient containerships, very few goods would be using bulk break

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carriers, mostly goods like grain, and ore still were carried in bulk break ships, and still are used to this day.

Labor was suffering from the shipping companies using containers; they saw their membership rolls dwindle from large numbers to very small numbers. As one labor leader, Thomas Gleason said, "The Container is digging our graves and we cannot live off containers." [81] Longshoremen declined more than 90% by 1975-76. Manhattan's decline reflected what would occur in Brooklyn. Conversely, New Jersey saw sharp increases in the same years as New York saw their decreases. Ports in New York declined in use and often were refitted for a variety of other purposes and those purpose, an example is the United States Lines piers, were all made into recreation spaces. New York City and its unwillingness to accept that fact their days as a shipping mecca were over.

Containerization was not the only reason for the decline of the New York Longshoremen; the Waterfront Commission tirelessly fought for and received the elimination of occasional workers. This elimination further eliminated workers from the docks making the numbers go even further down in numbers. Cargo handling jobs were being cut regionally; New York and New Jersey led the way, only after the Viet Nam War did numbers go down across the nation. This was in a huge part due to the use of containers and containerships both nationally and internationally.

Some of the reasons for the decline in numbers for Longshoremen also lay in the people who worked the docks, first the poor illiterate Irish, next the poor and mostly Italians who rose from their poor origins and rose into the middle class. With an increase in education and income, many who rose from those poor families would not return to the

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docks to find work. This was a minor reason, although an important one to consider why the work in the docks was dwindling. While containerization was an important piece, it was not the only one. Neighbors and neighborhoods that once actively recruited workers from these ethnic neighborhoods were decreasing as numbers of families moved out of the poor neighborhoods and moved into the middle class. Workers who wanted better lives often moved away from the congested poor areas of the city and moved into the better suburbs. Longshoremen, who were rising in money and prestige, were able to move into suburbia. This cut much of the political influence of the families and organized crime on the docks. Salaries increased in no small way due to the loss of jobs and the less people needed to perform those tasks the higher wages could go and those wages did increase for those longshoremen who remained. Workers felt more and more secure that their livelihood could be preserved if they would concede certain things that McLean and others promised those workers and unions. Pay went up and labor unrest went down.

Before containerization, the amount of truck traffic entering New York City was one of the leading jobs and industries in New York. With the decrease of trucks that were needed to pick up bulk cargoes New York City lost an important part of their economy. Sealed containers could be stored at the docks waiting for trucks to pick up those goods. It was also convenient for containers to wait on the dock for their ship to come in to take it to any port of call. Wholesaling had to change in order to survive and it reluctantly did accept the new reality of containers. Thus another loss of an industry, manufacturing, in the New York City area, occurred. Although containerization did not kill the manufacturing sector in New York, it did little to help it expand or escape the economic upheaval that containerization caused.

Transportation costs fell and this was due to the use of containers and while railroads have used a system called “Piggy Backing” since the 1920s containerization made it easier for the railroads to succeed. Trucking companies also found the ease of access with containers and their profits rose. Railroads took to using trailers and as trucks grew in size and roadways grew, there was moments the railroads suffered but they also grew. This growth was seen in the flexibility of the railroads, trucking, and shipping companies. Flexibility was not easy and the amount of railroads competing before containerization was high but with consolidation and mergers of the railroads, costs too decreased making containerization easier to accept. Trucking companies working with the railroads formed alliances and commercial alliances brought about consumer spending, prices go down and the consumer is willing to spend more money. This is consumer reaction is what is expected and was anticipated. It was the growth of what later is called mass consumerism. The exodus out of the cities to the suburbs was also an important part of the container revolution. Along with corporate America, leaving the cities to go to corporate parks in the suburbs their consumers too left the city for the suburbs.

Shipping costs were also being cut in no small way not just because of the labor costs, but the speed of delivery. Goods exported cost less to manufacture in other countries and when they are shipped to the United States, they cost less than if it were manufactured in the United States. The dramatic reduction in time spent moving goods across the ocean has made pricing cheaper and goods are move more freely due to the container revolution. Some of the savings to be found was not just in labor costs, but also in getting goods to markets quickly and therefore saving even more money.

Containerization while it enormously affected the New York City region it was not the only reason for the decline of industrial New York. Decline was led by the container revolution, additionally to the low cost of shipping on container ships, the new factories in the Far East, were producing goods very cheaply thereby cutting labor in the industrial sector of New York and New Jersey cities. These low cost clothing manufactures who were importing their goods by way of containership and were able to produce more for less, New York City and its surrounding areas could not keep up and suffered huge losses.[82] In the beginning it was clothing, later it was electronics. Electronics were loaded in the Far East, transported by containership to the United States Pacific coast, and taken by rail to all points east. Asia offered the global consumer cheap goods and their labor market could offer this because of the low wage paid to their workers. This is what labor complained bitterly about and often the major complaints regarded the treatment and wages of Asian workers. Profits in those countries rose as American factory jobs were being lost to other countries and regions with labor costs that were dramatically less than the American counterparts were. Unions rightfully tried to stop this and would demand and often it be ignored, tariffs it was feared would provoke trade wars. This was something the government avoided.

New York not only lost jobs on the waterfront, Longshoremen, and their allied workers, industrial jobs, and wholesaling. Once a very stable market, New York City, was considered America's fashion center and clothing center, with many clothing factories in New York City it rightly was considered the capital of American clothing. With the move of the ships to New Jersey and the docks, being away from the manufacturing centers companies too moved out of New York City. Clothing was not the only industry to suffer

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from losses and economic ruin from the containership revolution. There were breweries and other smaller industries that were dependent on the bigger industries as the major players fell so did the smaller ones. Although not related to the revolution of containerization in 1966 the Brooklyn Navy Yard closed, which was another serious blow to the manufacturing sector in New York City and its boroughs.

In Manhattan the industries once rampant in this borough also disappeared, this was due to the ease of which goods could be shipped to the United States. This included chemical and food processing plants. The 1970s in the United States containers and containerization was growing so fast that the original planners were amazed of the speed in which it all grew. Shipping had changed almost overnight and those laborers who worked the docks who had to evolve or face extinction did so but it came at a cost that changed the world. Changing the world and the physical landscape was an important one and those industries that once supported the bulk break process of shipping had to retool their whole business model and learn to make containerization the new reality.

Shipping companies due to the changes in the regulations also saw their industry change. Companies merged and this consolidation only made costs go even further down, Longshoremen and the consistency of their work meant shipping could be as accurate and efficient as jet traffic. This meant that profits would continue to grow and shipping companies would be limited.

Labor once at odds with containerization and the shipping companies that adapted it soon became allies with the new technology. This is done by a long process of negotiation and compromise. Shipping companies had to give in and so did labor with both sides not getting everything they wanted but both sides saw that containerization

could be the future. Both wanted to be a part of the future and not seen as backward thinking. Its costs included movement of labor from New York City ports to New Jersey ports. This movement also meant industries too would be moving out of the city and into the suburbs. Corporations too had the outlook that they too could and did set up headquarters in the suburbs. This too dramatically changed the landscape of New York.

With the docks gone in New York City, government officials in New York rightfully believed New Jersey was getting all the benefits and New York was getting nothing. This thorn in the side that was being constantly being rubbed was finally resolved with the newly constructed (at that time) World Trade Center. This complex it was felt would attract companies to set up offices in New York. New York attracted many of the world's financial companies. Earning New York the nickname, Financial Capital of the World, thus many global corporations are located in New York. Containerization encouraged growth of the suburbs and by default encouraged the mass exodus out of the cities. It was no longer necessary to live in the city and get to work by subway or bus. The worker could commute and go home and never be bothered with the urban centers. With the growth of suburbs and decline of the cities, the way of getting consumers was the construction of malls. These malls were developed as a direct result of having shipping containers. Containers made it easier to transport goods, this made them cheap to sell, and stores could afford to build large complexes to assure consumers could find everything they wanted in once place.

Containerization not only made radical changes in the way business was done but it changed ideas of how fast business could be conducted. Speed became an important part of how business was done, what once took months, later days, and now hours. Speed

with freight while in the beginning was not a factor, it soon became one, with jet traffic moving goods faster than ships, and sometimes more cost efficient, saw shipping companies wanting to be more competitive. Ships and the shipping industry adjusted reluctantly to the new technology and to their credit, it is understandable. They are in the business to make profits for their shareholders. Striking would mean for them that their profits would decrease. Owners of shipping companies avoided strikes at all costs, a ship tied up at a dock meant no income coming in to the company. Longshoremen who often went on "Wild Cat Strikes" in their mind needed to be placated and they avoided offending their belligerent labor.

Railroads and the trucking companies while at odds with each other became allied due to the realization both could survive with the other and in some ways, they became dependent on each other. The railroads and trucking companies both realized that containerization meant there was plenty of room that they could all thrive with this new system of moving freight. While corporate American wrestled with the new technology in the beginning of the Age of Containerization, other concerns were bubbling to the surface.

There was not only the unrest in labor but also there was fear in the cities of an exodus of the middle class from the cities. This mass of humanity leaving the cities in both northern New Jersey and New York City only divided people on other economic lines. Tax bases cities felt would be eroded and it would leave the cities in such decay that there would be little to repair the damage done by such an exodus. Cities also felt that the loss of work would also trigger another economic depression that would only make it worse for the cities. New York and New Jersey both fought to receive the benefits

of containerization. New Jersey won the battle and it now has to keep winning, by improving its infrastructure constantly.

Socially containers changed the way we shopped, bought, and our consumer behaviors were affected. This change would be the understanding that goods could be gotten from Asia so quickly that you could theoretically order a new computer and could be in your hands in a couple of days. In no small way, computer for example, are shipped in components to the United States and when people ask for a computer to be constructed based on their needs it can be done very quickly and this is because of containerization. The computer manufacturer can make this computer based on your specifications and can be delivered in a very short time. This is also true of many other electronic goods and clothing. We are not prepared to deal with the speed in which we receive these goods we do not understand the human cost.

The human cost in New York City and New Jersey is the amount of longshoremen. Longshoremen were numerous in numbers, mostly due to amount of men needed to unload the amount of ships that came into New York Harbor. That number has dwindled and the amount of longshoremen who work the cranes has dropped off and will continue to drop off, as there is a new part of containerization coming soon. Longshoremen number in the low thousands and their work is more about working a crane than being inside the hulls of ships. There is less labor unrest and corruption on the docks. With theft down and pilferage down, organized crime has found other ways of stealing from the docks. Containers have become more complicated to break into and organized crime has adapted, stealing the trucks and containers, as an example, therefore trying to steal from the companies, and those companies have come up with creative

ways of countering theft. Containerization also changed perception of life on the docks. The movie On the Waterfront could not be made today. Longshoremen have joined the middle class. Having been members of this new class and receiving a decent salary does not give them an incentive to steal. How longshoremen are hired has also reduced corruption in the unions.

Chapter 5

The United States in the post-World War 2 saw it as the economic superpower. In no small way, this was done due to the lack of bombing that was done to the United States. American factories and other infrastructure just had to retool from producing war tools, into factories that could produce consumer goods. Our soldiers coming home had jobs that were being done by women and some women gave them up and went back to working in the homes. America also had surplus ships, locomotives, and other heavy machinery, which could and was exported to Japan and Europe. We helped them rebuild their countries and it helped grow. All this growth also meant industries kept expanding and experimenting with new ideas. Labor was also facing a new fresh look, as more Americans saw unions as a part of the working world. They fought hard for the rights of workers and these rights were secured unions set to keep their membership satisfied. There were strikes, unrest, and sometimes it got violent but it became less confrontational.

New York and New Jersey Longshoremen at this time, as seen in the movie "On the Waterfront" still were the underpaid and over worked members of the poor working class, unskilled and easily taken advantage of, they worked as the fathers, grandfathers,

and generations of longshoremen. There was not a lot technical change, some motorization existed, but it was for the most part physically demanding and corrupt. Labor resisted change, as it could mean the dock work would need less of them and therefor it was feared the loss of union control of the workers. Union officials also had corruption in their ranks, which meant they fed off the workers and this bottom feeding done by those corrupt officials meant that laborers were in a constant state of fear and were kept docile by union bosses. America did not want to know about the longshoremen or dockworkers, even with the movie On the Waterfront, the American consciousness was not about to take a good hard look at itself and demand reforms on the docks.

Unions in the 1950s fearing the congressional hearings from Senator McCarthy removed most of the American Communist party influences. Unions were becoming less radical and more politically well informed, getting their membership to rally behind the Democratic Party. The Longshoremen found this same process, in the northeastern United States. Shipping companies in the United States had to deal with the legislation that restricted what American flagged vessels could and could not engage in, with regard to shipping, construction, and other related activities. Shipping executives knew the law that required, at that time, American flagged ships must employ American merchant mariners. American crews also had to be on American ships, the ships had to be made in the United States. This protecting the American Merchant Marine and mercantile interests, although the competitors America faced in the early Post World War II world was not capable of giving any kind of threat to the United States.

In the beginning containerization influenced New York and New Jersey the most and it built the New Jersey ports up while the New York City ports dwindled in use. The

geographical implication of containers and shipping things using containers is enormous and this growth was felt globally, regionally, and locally in the New York tri state region. Due to the geographical and more specifically the global consequences of containerization, some ports fell in importance and others rose in importance. New York City ports while important during a majority of the United States history, declined in importance due to the use of shipping containers and container ships. American culture was also changing during this time. Culturally speaking Americans who wanted goods that needed to be imported expected a difficult time with the import process. Shipping was fraught with difficulties. These difficulties include theft, pilferage, in some cases piracy and acts of war. Shipping companies factored all those possibilities into the cost of importing and taxes, in the form of tariffs were levied for the imported items.

Imported items before containerization required the ship to have a system of pallets that helped load goods onto and off ships. This process took longer and became another cost that was added by shipping companies. It also gave more opportunity for dishonest longshoremen to “lose cargo” and it often went into the coffers of corrupt union official. An indebt Longshoremen could with the right pressure from organized crime enforcers force that Longshoreman to steal and give him those goods to forgive debts. Cargoes being loaded was laborious and time consuming, all to assure the safe passage of the goods going overseas and in reverse coming from overseas.

Containerization by passed the need for pallets and the labor-intensive process of using them, loading from factories, boxcars, onto trucks, cargo nets, and finally cargo holds of ships. Cargo by this process had many hands involved in the process. This process also made it easier to have things go missing from the start of the process to the

final part, the loading on board the ship. Longshoremen and stevedores, while not all were corrupt; enough of them were that cargo did not always reach the intended location. With shipping containers, less than three sets of hands were involved in the process. Containers were also locked, while not 100% fool proof, it did cut down theft. [83]It also meant that shipping containers only had to worry about it the goods going on board only twice, when it left the factory and when it arrived at its destination. Cutting the rates of pilferage dramatically meant that the shipping companies also increased profits. New Jersey, in April of 1956, with its barely noticeable container port launched a new means of shipping that changed the New York waterfront forever and changed the popular idea of what could be afforded by importing from overseas.

This new port location and its willingness to expand only served to make it even more important in the future. Before 1956 it was not an important port, handling lumber and barges, it was not worthy of the attention of New York shipping companies.

The consideration that Malcolm McLean was looking for was there was a viable alternative to the way shipping companies did business. It also meant that the change in the way it was done would benefit the consumers. He hoped and was right that it would dramatically cut costs of importing and exporting goods. What it also did was make it easier to import goods from overseas and made them cheaper to produce than to be made in the United States. It was not intended to hurt American factories but it eventually would be a major reason for the decline of the American industrial complex. American industrial leaders towards the middle of containerization realized that constructing factories overseas meant they could then import those goods to the American markets and

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they would be cheaper than if it were made in the United States, this did not sit well with the American factory workers and their unions.

With the removal of the act that forbade American shipping companies from employing only American merchant sailors, costs of goods went very low. Shipping companies did not have to have ship made in the United States, manned by American crews. Todays' container ships are a mixture of crews and American maritime law does not bind officers who work for the company and those companies.

Americans understood that goods were getting to be less expensive and the quality of those goods were increasing. In the 1950s Japanese radios, for example, were not well regarded and were considered an inferior quality. Currently Japanese radios are some of the finest in the world.

American manufacturing has exported most of the jobs overseas.

Importing became cheaper and the quality was even better than what was made in the United States. Container shipping that went to Rotterdam from Newark had to wait for the container ports to be constructed in Europe and other global container terminals.

While the United States container ports were being built as well as the ports around the world, New Jersey and New York resumed their economic rivalry and often it ended in compromises and promises that New York would not be left out of the benefits of the container revolution. Economically New York was crumbling as New Jersey was increasing. American shipping companies too were becoming very powerful, European and Asian shipping companies needed to realign themselves and reorganize their companies to compete against the American companies. Shipping companies merged

with each other and the expansion of containerization meant the reduction of shipping companies. Containerization was expensive in the beginning stages, but in due time the costs reduced and it became an important source of revenue for the shipping companies.

Sea-Land, the company that started the container revolution, was the leader in sales and use of shipping containers. European and other countries' merchant marine companies fought to keep up with the Americans. It would not take long for other countries to catch up to the United States and eventually by pass American companies. The post-World War Two years it was easier for the United States to surpass Europe and Asia, having to just retool factories and convert naval shipping to merchant shipping was no problem. American naval officers and merchant officers were also abled to be gainfully employed in the merchant marine. New York and New Jersey union halls for the merchant marine increased their rolls and in New Jersey, one of the unintended consequences of containerization was a second office of the Seamen's Institute, Nonsectarian a religious group whose ministry is to the merchant sailor. Shipping companies were moving away from the ports and went into suburban campus settings. New Jersey's ports along the Hudson continued to flourish and New York was attempting to be competitive with those New Jersey ports. It would not be one that saw New York rise as New Jersey did; it is glorious past over.

Bulk break carriers took one week to load and unload cargo, this was far from ideal but it was considered the best, without any kind of labor dispute, and it was accepted as the norm in the shipping world. Containers could be loaded in six hours and did not require them to be opened again until they arrived at their destination. This alone

saved so much time for the shipping companies and also meant less theft. [84] High valued1 cargos could now travel with a minimal threat of being stolen and this also meant the insurance, replacement costs, and other related costs could too be reduced. Reduction in costs was not the only consideration with containerization. One of the important changes was in naval architecture.

Containerships needed to be structured differently, the SS Ideal X, a T2 tanker, was converted from its days as a navy oiler to a containership. Containerships in the beginning were designed to hold a certain amount of trailers. This would limit their capacity but in modern times, this capacity is in the thousands, in the beginning it was a maximum of 100. Planners did understand, as did naval architects that containerships could and would increase in size and capacity, and civil engineers needed to design ports or means of discharging the containers from the larger ships. This was no easy task and many ideas were tossed around to solve the theoretical problem of the larger ships. Length was not the only problem with containerships, the width of the ships also presented problems that early designers did not anticipate the ability to transverse the Panama Canal. The width of the Panama Canal was the standard in which all merchant ships had to meet, otherwise these ships had to go around South America or South Africa, and that would be costly in terms of time and fuel consumed. These considerations also affected the administration of the Ports of New York and New Jersey. New Jersey ports had a certain depth that could be handled without dredging up more and exposing hazardous wastes.

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Port design in New Jersey, once the leader in how container ports (terminals) should look found itself was having been the leader for so long, becoming the follower. Ships became bigger and wider and could hold more containers. New Jersey did not keep up with the changes in ship design and execution of those designs. Believing that the ports New Jersey had far superior than anyone else, planners were surprised when newer ports were taking business away from them. A pacific port, Oakland California, in particular, was able to handle the larger ships and discharge and load cargoes faster than New Jersey. This port could do more than New Jersey; it was bigger and had equipment that is more modern and it had deeper channels which New Jersey did not. New Jersey channels needed to be dredged regularly compared to other container terminals.

Culturally speaking containers have given the American consumer access to many of the goods that once were cost prohibitive and when you did get them, it was very expensive. Those goods could still be expensive but they can be brought to the American markets in greater numbers. Another facet of container terminals is how they are structured and this structure is as important as the ships. How and where cargo is taken off makes a difference and it can affect how the companies handle business. With the pro-business policies after the beginnings of the container revolution, legislation in the nineteen eighties made it easier for intermodal transportation. Intermodal transportation is the process of ships, trucks, and railroads all working together in handling freight. It allowed rates to be uniform and not so cutthroat it hurt others. All would benefit from this legislation; it was the US Shipping Act of 1984. With all three major sets of transportation industries on the same page, and each charging standard fares, all benefitted from containerization. This is how New Jersey and New York profited the

most from this, access to the railways, highways, and shipping lanes all made this market profitable for all concerned. Shipping companies although through mergers achieved much success.

Ships before containerization had cranes and a system of pulleys and support structures both on the docks and on the ships to assist with the loading and unloading of cargo. Ports used the system of finger piers that were not very wide and currently could not be used. Cranes in use today take off the containers and place them on trucks or trains to go to other locations. Longshoremen just need to work inside the crane, where they are not exposed to the elements. This is another important difference in how the shipping world adapted to containerization. Workers had better working conditions.

New Jersey and New York in order for their ports to remain competitive must dredge their channels and this is something that must be factored in the cost of container shipping. Shipping companies, state governments, and the port authority must work together to assure containerships have a safe system of channels that will take them to the ocean. It is not something that is an inexpensive cost and it must be done regularly. It is not only costly due to the demands of the tools needed to dredge; it is also expensive to dispose of the tainted silt that is brought up when dredging is done.

While much attention has been given to the importance of the Longshoremen, and they are very important for the focus of this paper, careful attention must be paid to the role of the railroads and their unions. Railroads were among the first to employ the idea of using ferries and flatbed railway cars working them into their business models. Transmodal transportation would not have existed without the railroads and their willing unions. Piggyback systems were long in place before the idea of putting trailers on ships

and sending them across the oceans. Trucks and the railroads while not commercial allies, did rely on each other, sometimes the railroads owned their own fleets of trucks and trailers. The railroads that served the New Jersey and New York areas all had trucking fleets that complimented the needs of the railroads.

Railroads also relied on good working relationships with the docks and shipping companies. Workers who unloaded and loaded boxcars to and from ships were often times working alongside Longshoremen. While there was a division of labor, there was also a blurred line and both sides worked alongside each other. Unions in the railroads were among the oldest in industrial America. They first earned a hard won recognition with the Knights of Labor and built up union rights by the willingness to fight for what was not well received by the railroad owners.

Technology and innovation does cause some backlash from both labor and management and in the early days of trucking, this was true. Trucking it was feared would take away the business of the American railroads, and if often did, trucks could go where the railroads could not go but there were examples of the railroads having subsidiaries of trucking companies. On the docks the trucking and railroads both worked with the shipping companies, it was far more convenient for them to work together then to oppose each other.

American government policies were at various times looking at for the railroads interest and when their favor was severely lost and the trucking industry picked up clout regulations soon were lessened and reduced so that it would benefit the railroads, trucking, and shipping industries. Deregulation was important for the survival of American companies; it allowed them to compete against other countries were

government oversight was practically nonexistent. The lack of government regulation in some countries gave the unions in the United States much angst and concerns, rightfully bring up the points. These concerns often were about competing against those countries that had little safety regulations, environmental regulations, and other what they saw as intrusions in their business, making it more expensive to conduct business here in the United States than overseas.

Ports and those worked on those docks were and still are union and they like the railroad unions are strong unions. Their strength at one time was found in the numbers of people who were in the unions, which is still an important base of strength, it is also in the political influence that union officials have in government. While not as strong as it once was, it still has much to say to legislators and the executive branches of both state and the federal governments. Both industries, railroads and the maritime, are reliant on favorable trading conditions, when it is favorable for the United States both industries profit from this favor. When things are not going so well for American trade, things do not tend to be so good for them. [85]

Revenue for the railroads since the nineteen twenties to nineteen eight-four has sharply increased as high as six hundred and fifty percent. [86] This dramatic increase was in no small part done by way of technological improvements on the railways and later container revolution. Technology and its advances allowed the railroads to run more smoothly and safely, which coincides with the merchant marine, which also was on the road to improving itself. It would take bumps in the road to become an excellent merchant marine and it did occur with the establishment of a federally funded service

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academy, the United States Merchant Marine Academy. The railroad not needing a federal agency to educate its railway workers does have a federal agency that regulates the railroads, the Federal Railway Agency, which regulates operations of the nation's railroads. Federal legislation with trucking falls under the department of transportation and the maritime industry is under transportation. Safety enforcement for the merchant marine falls under the Coast Guard, which now is under the supervision of the Homeland Security, before that it was Transportation, and before that Treasury. Government oversight of these industries was not uniform and often led to confusion.

Technology has made the life of workers easier, but it also meant that fewer workers were needed to perform the tasks. These tasks as it related to Longshoremen, while physically demanding became less in demand due to the use of cranes and automation. This automation directly influenced the ILA and its membership suffered loss in numbers, when you do not need as many Longshoremen, they lost job. Job loss was done through retirements and buyouts. Roles were forced to be cut as the new technology demanded new sets of skills that were not found with the older Longshoremen. Technology displaced workers in New York and New Jersey gained workers, although Longshoremen who could not or would not learn the new ways due to containerization lost jobs or retired.

Space in addition to new tools are important factors in how containerization impacted the New York City port region, which includes New Jersey, the ports that were in New York City could not support the infrastructure that was required to use containerships. Containerships need open spaces bulk break carriers did not need the wide-open spaces. Ships that used containers needed space for the cranes to take off the

containers and place them onto trucks or trains. This made the finger like ports difficult to use the new method of loading and discharging of cargo.

Containerization did give rise to the new age of globalism and mass consumerism. American culture, which at one time was nationalist and took pride in its exports, began to see its exports losing its prestige and demand, before the Second World War the United States was successfully exporting goods. After the Second World War, the United States saw little competition from other countries. This lack of competition gave the United States an edge but it was not a sustainable edge. European and Asian countries after recovering from the bombings of their cities would overtake the United States but it would take time and the United States could lead the world in trade if only for a short time, Asia and Europe would recover from the war.

Containerization during the early days in New Jersey and New York saw growth on the New Jersey docks and a decrease in New York City. The early years saw it grow very slowly and companies who engaged in containerization a saw a decrease in profits and it did take patience and time for this process to take root and flourish. New ports needed to be constructed, as the old ports just could not handle the new way moving freight. Cranes and space needed to be made to assure the success of the container ships. Not every country had wide-open spaces to allow for the new shipping containers and many had to be made out of nothing. This process took time and there had to be new ship designs. The old bulk break freighter was not able to sustain shipping containers.

In order for this succeed in New Jersey there had to be concentrated effort to court investors, companies, and most of all the Longshoremen union. This was no easy task; many of the Longshoremen would face unemployment and an industry that would forever

change the way they did their work. The first container ships were reformatted and repurposed World War 2 freighters and it was clear if this idea was to grow there needed to be a new way of constructing the ships that handled the containers. This was done and by all accounts, it was both an economic as well as engineering success. [87]

Technology was an important consideration, for all the pieces of this kind of work needed to be available at the same time in order for it to be carried out effectively and efficiently. Efficiency meant that Longshoremen would have to work better and smarter, the physical nature of the job would change, it did need however to be concise. Crane operations are carefully orchestrated and must be otherwise injury and loss could occur. This was the new way of handling freight and it would require a different set of skills.

Locomotives before the early 1900s used wood and later coal for the steam needed to run locomotives. The Diesel engine did make running locomotives cleaner and more efficient than the previous generations of steam engines. With the growing use of trucks, the railroads had to find a way of maintaining a profit and the first use of intermodalism was done. Though not called that at the time, it was referred as Piggy Backing. This allowed flatbed railway cars to transport trailers to markets that trucks could not get to; it also gave the railroads another revenue stream.

Diesel engines also took away the role of fireman; the International Brotherhood of Railroad Engineers would not negotiate that job out of contracts. This example of featherbedding also drove the price up in the railroads and trucking companies took advantage of this and often touted the lack of feather bedding in trucking companies.

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Without the history of having firemen on trucks, it became cheaper to operate trucks than trains.

Shipping companies too changed propulsion systems in the 1920's. From coal power to fuel, oil. This change in propulsion freed up space that coal occupied. Coal took up a lot of space in the holds of ships and it was dangerous. Coal dust is very volatile and presented problems for steamship companies and once it was determined, that fuel oil that was used in diesel engines could be used on ships a new revolution in maritime engineering and naval architecture began. It would be after World War 2 that another fuel source was used, but with the fear of nuclear power, few Western countries use nuclear power for their merchant fleets. Modern day containerships use fuel oil and there are no plans to harness the power of the atom.

Diesel is an important part of containerization, coal for ships would not make for an easy transit of goods over the ocean. The space that trailers (containers) takes up would be in conflict with the coalbunkers. Also with the coal dust being airborne, it would also be a danger to the containers. In dust form, coal could harm the cargoes in the containers. This could cause other issues that would give the shipping companies pause. Coal being very volatile was a major concern, fires and explosion due to coal dust was not common, but it was a realistic fear. Shipping companies also made the conversion due to the coal miners going on frequent strikes and these striking workers delayed ships in the harbors and this cost them money.

Technology always has a love hate relationship with unions, while it make the work easier, it also takes away job, this is very true with the railroads and shipping companies. The invention of the air break is another example of the displacement of

workers. Brakemen were no longer needed to work on the trains to work the brakes. Shipping companies when they converted from sail to steam engines needed to find mechanical minded men to work the engine rooms. Those workers who worked on sails, ropes, and carpentry needed to be replaced with those who had a machine background.

Ships and their design changed remarkably in the beginning of the twentieth century, with oil, grain, and coal carriers. These ships needed to change in their design, as the needs of storage needed to be changed. Dry bulk carriers, those goods that were not grain, coal, or oil, changed little and the loading and unloading too changed little. Ships had their armies of Longshoremen loading and unloading ships, trucks and boxcars were loaded and unloaded. Its lack of change gave the impression shipping would never change. Loading a ship began with the item being completed at a factory then it was brought to the pier, and depending on what it was, it would be carried onto the hold of a ship. Some ships had cranes and if the item could be loaded on a cargo net, it was and then placed in the ships' holds. This took an army of Longshoremen and stevedores. It was a precise operation to assure that one of the side of the ship was not overloaded. The danger with one side being over loaded was that it could capsize. Capsized ships meant a huge loss of profit for the shipping company.

Ships needed to be carefully loaded and not just bulk break carriers, grain and fuel carriers also need to be handled carefully. Coal ships with the volatility of coal dust can also explode and cause loss of life and cargo. The shipping companies are mindful of the dangers posed by coal began a search for a fuel that did not have the volatility of coal dust. The solution was found in maritime fuel oil, Diesel oil, which also gave the ships longer times between fillings. Once the ship issue with coal was resolved, the technical

aspects of shipping the owners of shipping companies believed that their work was complete and there would be no new technological changes. Shipping companies changed to fuel oil for the same reason as the railroads and about the same time. This is also when trucking was beginning with the US highway system. While these roads were not as advanced as todays Interstate highways, they were the start of the roads connecting the United States.

Roads have existed in the pre Columbine America and were dirt paths that the indigenous peoples used to travel between nations, the colonists and Americans moving west later used these roads. Cement and asphalt roads made traveling the dirt paths easier and this ease of transit also encouraged the development of bigger trucks that dirt roads could not handle. These roads would go to locations that the railroads could not reach. Trucks were in direct competition with the railroads and many railroad companies invested in trucking to keep their monopolies. With increased competition railroads, feeling the pressure often had to consolidate and merge to fend off the pressures from the trucking companies. Early in the railroads' history standards needed to be made to assure ease of transit. This ease was needed so the railroads did not have to switch trains; this is how standard track widths were instituted.

Trucks did not need standards in the same way as the railroads; containerization did change that mindset of trucking companies. Trucking companies had to have standardized lengths and widths in order to be transmodal, meaning that the trailers could be put on trains and ships. Trailers also had to have an interlocking mechanism in place to allow the trailer to be stacked both on the ships and on trains. This practice of stacking the trailers is another aspect of containerization that changed the way in which freight

was delivered by all aspects of container shipping. Trucking and railroads working with their shipping company peers to assure that the goods arrive safely and with minimal amount of delay. Trucks also received a boost from the formation of the interstate highway system, which connected by road the United States. Goods could travel by truck on one coast and be on the other by weeks end. This too helped encourage the use of container shipping and helped the New York region grow; it also helped the ports in New Jersey grow in importance. Shipping companies facing the highways and railways worked to assure that they were a part of any solution for transporting goods by way of the oceans.

Before the nineteen fifties port work was physically demanding and did not have all the machinery that present day ports use, there were cranes and forklifts, but it for the most part was manually done. This process of removing cargo by hand and cargo nets being used by the cranes to remove more quantity Shipping containers and having the ability to stack them by having interlocking mechanisms in place assured the success of the container revolution.

What was also needed was a special infrastructure in place to load and unload those containers. The old way of loading and unloading would not be an effective nor efficient way of handling containers. Wide-open space was needed; containers need to be loaded and unloaded not just on ships but also on trucks and trains. This process was done for loading ships, trains, and trucks too. Containers are lifted by way of cranes and placed on the mode of transportation. Trains have stopped using the chassis on the flatbed train cars, now they can be stacked and are secured in a container flat car. Containers have made it far easier to load cargo from truck, to train, and to ship. Shipping has also

seen a reduction in crime from theft, it has not completely been erased from the process, but it has been reduced.

In the nineteen fifties, the United States House of Representatives investigated the low productivity of the Pacific Coast Longshoremen, and it was the threat of a government intervention that moved the longshoremen.[88] The union representing these workers the ILWU, International Longshore and Warehouse Union, signed the 1960 Mechanization and Modernization Agreement. This agreement in the Pacific was not needed in the Atlantic; containerization while not at first openly accepted was not as militantly opposed. Modernization on the docks was encouraged by way of higher wages, better working conditions, and removing some of the abuses that longshoremen suffered from.

Labor has often fought in its history for better conditions, this includes better hours, better pay, and benefits that would help their families. New Jersey and New York longshoremen and their unions were given promises by stevedore companies and shipping companies that alleviated many of the concerns they raised.

The major obstacle that was overcome was stacking the containers, it was determined that the trailers needed to be stacked and engineers designed the interlocking mechanism that allowed for the stacking of the containers. Standardized lengths of the containers were also important for the shipping companies. Standardized trailers made it easier for the trailers to be used by all concerned with containerization. Global trade had a new system of moving cargo and it changed the geography of many world ports. New Jersey and its ports in Elizabeth and Newark radically changed the landscape. New Jersey

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with its many railroads and ease of access to both the roads and sea-lanes has made it the ideal location for the birth of containerization. New Jersey and New York have longed vied for prime positioning in the shipping industry.

Although not as cheap as break bulk carrying, containers and their infrastructure is expensive to get started, once it gets underway it becomes very economical. The concerns of the unions became less important once it was realized that those who worked would be paid well. Longshoremen in New Jersey and New York who have fought long and hard had achieved a certain détente with the owners: job security, pay, and the elimination of the unfair practices committed by corrupt union officials. These issues were corrected by the growth of containerization while not eliminated they were lessoned. While the chief concerns were reduced, they never will be truly eradicated from the docks. Things that are fool proof prove they will build an improved fool. Shipping companies have developed better ways of making it harder to break open the containers but it is not something that can be 100 % in preventing theft.

Technology and improving working conditions, this was done by giving the workers better technology was not accepted and often gave the longshoremen reasons to go on strike. Bulk carriers, especially those that carried grains, oil, chemicals, and coal benefitted from technology. Cargoes that were bulkier changed little from the earliest days of shipping. Forklifts and cranes were used in addition to using pallets but much of the work before containers changed little. It was physically demanding and the unions protecting its members. Protection could also be found in organized crime, where the shipping companies whose efforts to keep the peace often meant pay offs to union officials who were indebted to organized crime bosses.

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Rail are Interdep

VITA

David Laurence McMillan

Red Bank, New Jersey February 27, 1970

Thomas C. McMillan

Barbara A. McMillan

Cedar Ridge High School Matawan, NJ High School Diploma June 1989

William Paterson University Wayne, NJ Bachelor of Arts (History) January 1997

Pratt Institute Brooklyn, NY Masters of Science (Library Science) May 2000

Drew University, Madison, NJ Masters of Letters (Historical Studies) December 2014

Drew University, Madison, NJ Doctor of Letters (Historical Studies) December 2017