Futures

By 1859, then, Chicago had acquired the three key institutions that defined the future of its grain trade: the elevator warehouse, the grading system, and, linking them, the privately regulated central market governed by the Board of Trade. Together, they constituted a revolution. As Henry Crosby Emery, one of the nineteenth century's leading scholars of commodity markets, wrote in 1896, "the development of the system of grading and of elevator receipts is the most important step in the history of the grain trade."[92] The changes in Chicago's markets suddenly made it possible for people to buy and sell grain not as the physical product of human labor on a particular tract of prairie earth but as an abstract claim on the golden stream flowing through the city's elevators.

Chicagoans began to discover that a grain elevator had much in common with a bank—albeit a bank that paid no interest to its depositors. Farmers or shippers took their wheat or corn to an elevator operator as if they were taking gold or silver to a banker. After depositing the grain in a bin, the original owner accepted a receipt that could be redeemed for grain in much the same way that a check or banknote could be redeemed for precious metal. Again as with a bank, as long as people were confident that the elevator contained plenty of grain, they did not need to cash the receipt to make it useful. Because the flow of grain through the Chicago elevators was enormous, one could almost always count on them to contain enough grain to "back up" one's receipt: the volume of the city's trade in effect made receipts interchangeable. Instead of completing a sale by redeeming the receipt and turning over the physical grain to a purchaser, the original owner could simply turn over the receipt itself. The entire transaction could be completed—and repeated dozens of times—without a single kernel of wheat or corn moving so much as an inch. The elevators effectively created a new form of money, secured not by gold but by grain. Elevator receipts, as traded on the floor of 'Change, accomplished the transmutation of one of humanity's oldest foods, obscuring its physical identity and displacing it into the symbolic world of capital.[93]

The elevator helped turn grain into capital by obscuring and distancing its link with physical nature, while another new technology extended that process by weakening its link with geography. In 1848, the same year that Chicago merchants founded the Board of Trade, the first telegraph lines reached the city. The earliest messages from New York had to be relayed through Detroit and took some eighteen hours to arrive, but that

seemed nearly instantaneous compared with the days or weeks such messages had taken before.[94] As the telegraph system expanded across the nation and became more efficient, hours became seconds. By the Civil War, there were 56,000 miles of telegraph wire throughout the country, annually carrying some five million messages with lightning speed.[95]

Because commodity prices were among the most important bits of information that traveled the wires, the coming of the telegraph meant that eastern and western markets began to move in tandem much more than before.[96] As a result, those with the best access to telegraph news were often in the best position to gauge future movements of prices. The *Chicago Democrat* in September 1848 related the story of a Chicagoan who had raced down to the docks after receiving word from the telegraph office that wheat prices were rising on the East Coast. "Seeking among the holders of Illinois wheat, whom he might make a meal of," he

> soon came across his man, and immediately struck a bargain for a cargo at eighty cents per bushel, the seller chuckling over his trade. In less than fifteen minutes, however, the market rose to eighty-five, and the fortunate possessor of the news by the last flash pocketed the cool five hundred.[97]

Although telegraphic information created speculative opportunities of this sort, it also increased the efficiency of regional markets by giving traders throughout the country speedier access to the same news. To the extent that local price differences reflected uncertainty about conditions in other markets—uncertainty of the sort John Burrows had experienced when he launched his unlucky boatload of potatoes down the Mississippi—the telegraph brought prices in distant places closer together by reducing the chance that people would act on bad information. In the wake of the telegraph, news of western harvests brought instant shifts in New York markets, while news of European wars or grain shortages just as rapidly changed prices in Chicago. Local events—a drought, say, or an early frost—ceased to be so important in setting prices for grain or other crops. If local circumstances forced up prices at one place, the telegraph allowed knowledgeable buyers to go elsewhere, driving local prices back down. As markets became more efficient, their prices discounted local conditions and converged with regional, national, and even international price levels. The wider the telegraph's net became, the more it unified previously isolated economies. The result was a new market geography that had less to do with the soils or climate of a given locality than with the prices and information flows of the economy as a whole.[98]

As part of its new landscape of information, the telegraph helped focus attention on cities that already had large trade volumes. A farmer in

Iowa inevitably wanted to know wheat prices in Chicago, just as a banker in Chicago wanted to know interest rates in New York. Although the telegraph dispersed price information across an ever widening geographical field, it also concentrated the sources of such information in a few key markets. The dense flow of news in cities like Chicago and New York allowed their prices to reflect trade conditions not just for the local economy but for the national and even the global economy. Once such central markets had become established, people in other places looked to New York and Chicago prices before all others, enhancing the significance and geographical reach of those two cities in a kind of self-fulfilling prophecy.

The new communication technology had much to do with making the Chicago Board of Trade one of the key grain markets in the world by the late 1850s. The Board began regularly posting telegraph messages from New York in 1858, and the Chicago newspapers started carrying daily market reports from New York, Buffalo, Oswego, and Montreal shortly thereafter. When Board members moved into their new Exchange Hall in 1860, they made sure that a telegraph office occupied the western end of the trading room.[99] The same new emphasis on telegraphic information occurred in New York as well, where the New York Stock Exchange rose to prominence as the national market for securities during the same period and in much the same way.[100] News of events in these emerging central markets flashed outward along the wires and helped set prices wherever it went. One eastern traveler in 1851 remarked after seeing a telegraph line crossing the Mississippi River,

> It seemed like the nervous system of the nation, conveying, quick as thought, the least sensation from extremity to head, the least volition from head to extremity. . . . Or, like a vast arterial system, it carries the pulsations of the heart to the farthest extremity; and by these wires stretched across the Mississippi, I could hear the sharp, quick beating of the great heart of New York.[101]

But the very speed of that heartbeat's spreading rhythm created a problem: although prices might travel from New York to Chicago and back again in a matter of minutes or seconds, grain could hardly do the same. Bushels of wheat or corn still took days or weeks to complete their eastward journey. Since everything depended on buyers' being able to examine grain before they offered a price for it, at least part of the shipment had to reach its destination before parties to the sale could reach an agreement. The old grain-marketing system had solved this difficulty by sending forward a small express sample of the larger shipment, allowing eastern buyers to make their purchases before the bulk of the grain ar-

rived. But there was no way in which even small samples could move quickly enough to lock in the prices coming over telegraph wires. By the time a sample or shipment reached its eastern destination so that buyers could make an offer after examining it, prices might already have changed drastically. Neither buyers nor sellers were happy about the risks such delayed transactions entailed.

Fortunately for both parties, there was a way around this dilemma. If buyers and sellers could complete their grain transactions by telegraph, they could escape the risk and uncertainty of a fluctuating market. However much prices might change in the future, merchants and millers could know that they would receive their grain at the price they expected. The means to this happy end were already available from the same institution that had resolved the elevators' problem of mixing grain in common bins. When the Board of Trade adopted a standard grading system, it made grain interchangeable not just between elevator bins but between cities and continents as well. Once people inside and outside Chicago began to know and trust the Board's new grades, a New York grain dealer could purchase five thousand bushels of Chicago No. 2 spring wheat solely on the basis of prices quoted over the telegraph lines. No longer was it necessary to see a sample of any particular shipment, for all grain of a given grade was for practical purposes identical. A New Yorker could simply check telegraph quotations from the floor of 'Change and wire back an order when the price seemed right, without having to examine a sample of the grain in advance.

Telegraphic orders of this sort encouraged a sharp rise in what traders called "to arrive" contracts for grain. Under these contracts, a seller promised to deliver grain to its buyer by some specified date in the future. Like the telegraph, "to arrive" contracts significantly diminished the risks of trading grain. With the advent of standard grades, it became possible to sell grain to its final customer before it actually began its journey east. A western seller could sign a contract agreeing to deliver grain to an eastern buyer at a specified price within thirty days or some other period of time. With the sale thus guaranteed, most of the *time*-related risks of grain storage or transportation disappeared: had John Burrows been able to use the telegraph to contract in advance for delivering his boatload of potatoes in New Orleans, his journey would have had a much happier ending.[102] Moreover, banks were willing to offer loans to farmers and shippers on the basis of such contracts, so commission merchants found their credit requirements significantly reduced. Customers no longer needed to borrow from commission merchants, but could get immediate cash by using their "to arrive" contracts and elevator receipts as security for bank loans.[103] Such "to arrive" contracts were an old legal form that

had been in use on a small scale at Buffalo, Chicago, and other grain-trading cities since the 1840s, but the telegraph and the grading system gave them unprecedented popularity.[104]

"To arrive" contracts in combination with standardized elevator receipts made possible Chicago's greatest innovation in the grain trade: the futures market.[105] "To arrive" contracts solved a problem for grain shippers by ending their uncertainty about future price changes; at the same time, they opened up new opportunities for speculators who were willing to absorb the risk of price uncertainty themselves. If one was willing to gamble on the direction of future price movements, one could make a "to arrive" contract for grain one did not yet own, since one could always buy grain from an elevator to meet the contract just before it fell due. This is exactly what speculators did. Contracting to sell grain one didn't yet own—"selling short"—enabled one to gamble that the price of grain when the contract fell due would be lower than the contract's purchaser was legally bound to pay. By promising to deliver ten thousand bushels of wheat at seventy cents a bushel by the end of June, for instance, one could make $500 if the price of wheat was actually only sixty-five cents at that time, since the buyer had contracted to pay seventy cents whatever the market price. When June came to an end, one had only to buy the necessary number of elevator receipts at their current price on the Chicago Board of Trade, and use them to fulfill the terms of the contract. Given the enormous volume of elevator receipts in circulation, there was little reason to fear that grain would not be available when the "to arrive" contract fell due.

It is impossible to fix the earliest date at which a full-fledged futures market existed in Chicago. The city's newspapers commented on the frequency of sales for future delivery as early as the Crimean War (1853–56).[106] Such sales, however, were often "to arrive" contracts which speculators secured by borrowing elevator receipts from actual holders of grain, and so (unlike true futures contracts) were limited in scale by the number of receipts in circulation.[107] During the Civil War, the Union army's demand for oats and pork generated a huge speculative market in those commodities, which finally helped institutionalize futures trading as a standard feature of the Chicago Board of Trade. It was no accident that the Board adopted its first formal rules governing futures contracts in 1865.[108]

At whatever point we choose to locate its origins, a new sort of grain market had emerged at the Chicago Board of Trade by the second half of the 1860s. Alongside the older, more familiar market, in which traders bought and sold elevator receipts for grain actually present in the city, there was a growing market in contracts for the *future* delivery of grain

that perhaps did not even exist yet. These new contracts represented a departure from the older grain market in several key ways. As defined by the Board's bylaws, they referred not to actual physical grain but to fixed quantities of standardized *grades* of grain. They called for delivery not at the moment the contract was struck but at a future date and time that was also standardized by the Board's rules. The contract, in other words, followed a rigidly predefined form, so that, as Henry Emery noted, "only the determination of the total amount and the price is left open to the contracting parties."[109] This meant that futures contracts—like the elevator receipts on which they depended—were essentially interchangeable, and could be bought and sold quite independently of the physical grain that might or might not be moving through the city.

Moreover, the seller of such a contract did not necessarily even have to deliver grain on the day it fell due. As long as the buyer was willing, the two could settle their transaction by simply exchanging the difference between the grain's contracted price and its market price when the contract expired. Imagine, for instance, that Jones sold Smith a futures contract for 10,000 bushels of No. 2 spring wheat at 70 cents a bushel, to be delivered at the end of June. If that grade was in fact selling for 68 cents a bushel on June 30, Jones could either purchase 10,000 bushels at the lower price and deliver the receipts to Smith or—more conveniently still—accept a cash payment of $200 from Smith to make up the difference between the contract price and the market price. Had the wheat cost 72 cents on June 30, on the other hand, Jones would have paid Smith the $200.[110]

In either case, Jones and Smith could complete their transaction without any grain ever changing hands. Although those who sold futures contracts were legally bound to deliver grain if requested to do so, in practice they rarely had to. As the historian Morton Rothstein has aptly put it, the futures market, when viewed in the most cynical terms, was a place where "men who don't own something are selling that something to men who don't really want it."[111] Resolving this apparent paradox reveals the extent to which the Chicago grain market had distanced itself from the agricultural world around it. The futures market was a market not in grain but in the *price* of grain. By entering into futures contracts, one bought and sold not wheat or corn or oats but the *prices* of those goods as they would exist at a future time. Speculators made and lost money by selling each other legally binding forecasts of how much grain prices would rise or fall.

As the futures market emerged in the years following the Civil War, speculative interests dominated more and more of the trading on the floor of 'Change. On either side of any given futures contract stood two

figures, metaphorically known to traders and the public alike as the bull and the bear.[112] Bulls, believing that the trend of grain prices was upward, tended to *buy* futures contracts in the hope that they would be cheaper than the market price of grain by the time they fell due. Bears, on the other hand, believing that the trend of prices was downward, tended to *sell* futures contracts in the hope that they would be more expensive than the market price of grain when they expired. Except under certain special circumstances, neither bulls nor bears cared much about actually owning grain.[113] One was "long" while the other was "short," and each needed the other to make the market in future prices possible. Since both were gambling that the predictions of the other were wrong, the gains of one always matched the losses of the other. From the point of view of the traders, it mattered little whether the actual price of grain rose or fell, whether farm crops were good or bad, except insofar as these things corroborated price predictions and thereby determined which speculative animal won or lost.

Grain elevators and grading systems had helped transmute wheat and corn into monetary abstractions, but the futures contract extended the abstraction by liberating the grain trade itself from the very process which had once defined it: the exchange of physical grain. In theory, one could buy, sell, and settle up price differences without ever worrying about whether anything really existed to back up contracts which purported to be promises for future delivery of grain. One proof of this was the speed with which futures trading surpassed cash trading—the buying and selling of actual grain—at the Chicago Board of Trade. Although no one kept accurate statistics comparing the two markets, the *Chicago Tribune* estimated in 1875 that the city's cash grain business amounted to about $200 million; the trade in futures, on the other hand, was ten times greater, with a volume of $2 *billion.*[114] A decade later, the Chicago futures market had grown to the point that its volume was probably fifteen to twenty times greater than the city's trade in physical grain.[115] That the trade in not-yet-existing future grain far surpassed the number of bushels actually passing through the city's elevators was strong evidence that Chicago speculators were buying and selling not wheat or corn but pieces of paper whose symbolic relationship to wheat or corn was tenuous at best.

And yet however tenuous that relationship might have become, it could never finally disappear, for one simple reason. No futures contract ever overtly stated that it could be canceled by settling the difference between its price and the market price for grain on a given day.[116] Although the practice of "settling differences" became exceedingly common, written contracts—which after all were enforceable in a court of law—stated that grain would be delivered on the day they expired. Since

futures contracts rapidly came to have standardized expiration dates—usually the last day of certain months—the market in future prices and the market in real grain had to intersect each other at regular intervals. On the day a futures contract expired, prices in the cash grain market determined its value. Because they did so, the activities of speculators working the floor of 'Change sooner or later circled back to those of farmers working the black prairie soil of the western countryside. Remote as the two groups often seemed from each other, they were linked by the forces of a single market.

Never was this clearer than when a group of speculators, working in unison, succeeded in "cornering" one of Chicago's grain markets, an event that became increasingly common in the decades following the Civil War. To accomplish this feat, a group of grain traders (invariably bulls) began quietly buying up futures contracts for a particular date, usually just prior to a new harvest, when supplies were at their lowest.[117] At the same time, they bought up physical ("spot" or "cash") grain as well, in the hope that they could control most of the city's supply by the time futures contracts fell due. Since their ultimate plan was to manipulate the market to trap unwary bear speculators who had sold grain for future delivery, their purchases had to be as invisible as possible, lest other traders refuse to sell. For this reason, corners often seemed mysterious events, emerging suddenly and taking traders by surprise without anyone's being quite certain who had set the trap.

The logic of a corner lay in forcing speculators to deliver real physical grain instead of following their usual practice of settling price differences. If a bear speculator could not make delivery as a contract promised, because the operators of the corner owned all available grain, the seller had no choice but to fulfill the contract by purchasing grain from the cornerers themselves, usually at exorbitant prices. The operators of a corner could name virtually any price, for the futures contract had the full penalties of civil law supporting it. Those who failed to deliver on their legal promise placed their businesses and reputations in jeopardy, and could even face bankruptcy or jail. The sums of money that might change hands under such circumstances were enormous, running into thousands and finally millions of dollars. A cornered market was a painful and expensive reminder that elevator receipts and paper contracts were ultimately backed by real grain.

The futures market came to fruition in the years immediately following the Civil War, and so did the corner.[118] Alfred Andreas, Chicago's leading nineteenth-century historian, remembered 1868 as "the year of corners." "Scarcely a month" went by, he wrote, "without a corner on 'Change. Three on wheat, two on corn, one on oats, and one attempted

on rye. . . ."[119] Among the most successful was one which can serve as an example of the whole phenomenon: the corner on No. 2 spring wheat run during the month of June.[120] In late May and early June, a syndicate led by the grain traders John Lyon of Chicago and Angus Smith of Milwaukee gradually bought futures contracts for nearly a million bushels, to be delivered on June 30.[121] By June 24, as traders began to realize they were being squeezed in a corner, the *Tribune* market report declared, "The feeling has been growing for some time past that ruling prices are unnatural. . . . Wheat being held off the market by parties able to control it, the price goes up or down as they turn the screws on more tightly or relax them a little. . . ."[122] On June 30, when the cornered contracts finally fell due, No. 2 spring wheat sold for $2.20 per bushel in Chicago, twenty cents more than the same grain selling in New York. Since it cost at least forty cents a bushel to move wheat between the two cities, this meant that the corner had driven Chicago prices at least sixty cents above their normal level.[123]

As the *Tribune* reported, proof that the Lyon-Smith syndicate had successfully cornered the market came the instant June futures contracts expired:

> Five minutes before 3 o'clock yesterday afternoon wheat sold readily in Chicago at $2.20 per bushel. Five minutes after 3 o'clock it was freely offered at $1.85, but no one wanted it, and no one bought a grain. The difference of 35 cents per bushel . . . [was] a natural sequel to the "corner."[124]

For individual speculators, most of whom had sold their futures contracts at $1.80 to $1.90 per bushel, the consequences of the corner were painful indeed. They could fulfill a standard contract for 5,000 bushels at the end of the month only by purchasing grain from the corner's operators, at a loss of perhaps $1,250 per contract. In the June 1868 corner, the operators' average gain was about twenty-five cents per bushel on 875,000 bushels, producing a gross income of nearly $220,000.[125] The *Tribune*'s market report suggested that some small traders had "probably lost their all—the accumulations of long years of toil—and have received a valuable lesson almost too late to profit by it."[126] Alfred Andreas explained the lesson more explicitly: however remote the futures market might seem from the movement of real grain, "there was an actual basis of property underneath every trade; and . . . to sell what one did not possess was fraught with as much danger as to buy what one could not pay for."[127]

Who suffered from a successful corner? First and foremost, the bear speculators who had been forced to redeem futures contracts at inflated

prices; in this sense, the corner was just a transfer of wealth from one group of grain traders to another. Although large speculators were by no means immune to being trapped in a corner, many of those who lost most heavily were probably smaller traders who were less in touch with day-to-day activities in the Chicago market: country grain dealers placing orders through Chicago traders, for instance, or speculators "of small means" who, "tempted by the golden offers of commission men, order them to buy or sell short, and pay a small percentage for the trouble."[128] Those who did not speculate were much less directly affected. The few farmers who still had spring wheat to sell benefited temporarily from higher prices in Chicago markets; and because the grain purchased during the corner never commanded such high prices when it finally reached New York, eastern consumers probably experienced little increase in the price of bread as a result.[129]

But the effects of the corner were not limited to the speculators who had participated in it. Its most obvious consequence was to distort the Chicago wheat market for an extended period of time both during and after the corner. By the last week in June, No. 2 spring wheat was actually selling at a higher price than the better-quality No. 1 spring wheat (which was not cornered); sales of the latter virtually halted after desperate bears bought the better wheat and had it graded down to try to meet their contracts.[130] Fewer and fewer wheat sales of any kind occurred as the end of the month approached, until June 30 itself, when nearly a quarter of a million bushels changed hands as trapped speculators closed out their contracts.

The next day, the *Tribune* reported that the wheat market had collapsed: "there were no transactions, or so few that the market was the dullest within the memory of the oldest inhabitant."[131] This too was a predictable consequence of the earlier market manipulations. The classic problem of running a corner was bringing it to a successful close. Even if one had made enormous profits when cornered futures contracts expired, one still faced the difficult task of selling off the vast stockpile of grain one had acquired to make the corner possible in the first place. Keeping the grain in store cost money, but putting it up for sale inevitably caused prices to decline, sometimes precipitously. If the bulls who had cornered the market did not have time to sell off their grain before prices fell below the level at which they had originally purchased it, they ran the serious risk of losing all their profits from the earlier transactions. The bears might get their revenge after all. In the parlance of the day, the cornered wheat was "an elephant which it is equally difficult to keep as to get rid of safely."[132] Later in the century, speculators told of how hard it was to "bury the corpse" when the corner was done.

In 1868, other traders knew that the speculators who had run the corner would have to dispose of their grain, and also feared that the Lyon-Smith syndicate might be in a position to repeat its performance in July.[133] Because uncertainty about the future direction of local wheat prices was so great, traders were "skeery," and refused either to buy or to sell until the direction of the market became clearer. "It is well known," wrote the *Tribune*'s reporter, that the corner's operators "have a large amount on hand, which may be thrown on the market at any time and swamp it. This destroys the desire to buy, while sellers are equally scarce. . . ."[134] As the stagnant market dragged on into the middle of the month, speculators who had earlier contracted to deliver wheat at the end of July started to fear that they might be caught in a corner again, and they therefore purchased grain from other cities to be able to make delivery on time. The bizarre result was that wheat began to be shipped south to Chicago from Racine, Wisconsin, "at a cost nearly equal to that required to carry it from Chicago to Buffalo," even though Chicago continued to have large quantities of wheat in store.[135] Wheat prices remained higher in Chicago than in nearby markets—Milwaukee's No. 1 spring wheat was cheaper than Chicago's No. 2—so millers and other large consumers of grain simply stopped buying from the city.[136]

This state of affairs persisted until the end of July, with only a few thousand bushels of wheat changing hands each day in a market accustomed to handling ten times that quantity. Traders lamented that "the rushing torrent of last month had become a peaceful gully, without a stream."[137] Farmers and merchants whose railroad connections to Chicago made them dependent on the Board of Trade had trouble getting any price at all for their grain. In Chicago itself, grain traders grew angry about the disruption of their ordinary business. By the end of the month, the *Tribune,* which had initially held itself aloof from commenting on the shenanigans at the Board, issued a stern indictment of the whole business:

> If anything more sick than the wheat market of the present time can be invented, we do not want to see it, and if the members of the late combination can take pleasure in viewing the demoralization they have wrought, they are exceptions to the ordinary run of human nature. The Corner was as disastrous in its influence on the wheat trade, as a long continued strike is to the business of a city. It has completely upset the order of things, kept the cereal from the city, driven operators away, and forced millers to buy elsewhere. The chances are that the exhaustion will not be recovered from in many months, though . . . the arrival of New Wheat will surely produce some current, though a small one, in this hitherto important channel of trade.[138]

Corners, in short, seemed to call into question the legitimacy of the entire futures market.

The market finally did become more active in August after traders realized that the syndicate had apparently failed (or perhaps had not even tried) to corner July wheat.[139] Just when everyone had begun to feel more comfortable, however, an equally severe corner in September corn squeezed many bear speculators so badly that some of the most prominent trading houses in the city found themselves hard pressed to honor their commitments. Even E. V. Robbins, president of the Board of Trade, became so financially embarrassed in the September corner that he felt obliged to tender his resignation to the Board's directors. They refused to accept it, on the grounds that he was an honorable man who had been caught out through no fault of his own. Instead, they castigated the corner operators themselves. On October 13, Board members passed a resolution that

> the practice of "corners," of making contracts for the purchase of a commodity, and then taking measures to render it impossible for the seller to fill his contract, for the purpose of extorting money from him, has been too long tolerated by this and other commercial bodies in the country to the injury and discredit of legitimate commerce, [and] that these transactions are essentially improper and fraudulent. . . .[140]

To put teeth in this resolution, members amended the Board's bylaws so that traders could appeal to a disinterested panel if they felt they had been cornered. The panel had the formal power to recognize the existence of a corner, and then to break it by allowing cornered bears to use nonstandard grades of grain in paying off their futures contracts. In addition, the Board could suspend the membership of anyone who tried to run a corner.[141]

If the purpose of the new rule was to put an end to corners, it failed. The Board's directors proved reluctant to enforce the anticorner regulations, and corners continued unabated to the end of the century and beyond. They became if anything more spectacular with time, the most famous being the Leiter corner of 1896, which Frank Norris immortalized in his novel *The Pit.*[142] Although members sometimes invoked Board rules to try to close out corners once they had been run, few grain traders expected corners to disappear altogether.[143] Indeed, their emotions about corners were an odd mixture of fear and admiration. A corner operator was a gambler's gambler. Whether one saw such people as heroes or as villains, one still had to admire their daring: tales of great corners and their operators became the stuff of Board legend.[144]

More important, few traders were willing to attack a phenomenon that seemed to flow from the heart of the market itself. Chicago's great innovation in the grain trade had been to simplify the natural diversity of wheat, corn, and other crops so that people could buy and sell them as homogeneous abstractions. To accomplish that task, the Board of Trade had drawn artificial boundaries to separate one abstract category of grain from another: spring wheat from winter wheat, No. 1 wheat from No. 2 wheat, and so on. Without those boundaries, neither futures nor corners would have been possible on any large scale. The futures contract depended on buyers and sellers not having to worry about evaluating the quality of the grain they were trading, especially since that grain often did not yet exist at the moment they bought and sold it. Standard grades eliminated such worries, but they also segmented the market so that grain of one grade could not legally be used to fulfill contracts for grain of another. With the market divided up in this way, speculators found it possible to buy up all rights to future grain of a particular grade. By institutionalizing the contractual boundaries which prevented traders from exchanging grains of different grades, the Board created the essential condition that made corners possible.[145] Because that condition was no less essential to the "legitimate" grain-trading apparatus of Chicago, the Board could hardly afford to attack the corner problem at its root. Corners were an almost inevitable result not just of the futures contract but of grain grading and elevators as well; all three derived from the same artificial partitioning of the economic landscape, the same second nature.

Boundary Disputes

Outsiders were much less prepared than traders to accept this newly partitioned market as natural or inevitable, and even Board members were uncomfortable with some of the changes going on around them. The late 1860s saw widespread agitation throughout Illinois for legislation to regulate what many farmers and merchants regarded as a long list of abuses in the Chicago marketplace. In that list, corners were only the most dramatic sign that railroads, elevators, standard grades, and futures contracts had imposed a new order on Chicago's grain markets. Although the complaints took many forms, most came down to the same fundamental problem: how to draw appropriate boundaries around the products of rural nature, and who should benefit from those boundaries. Despite the deep suspicion that many rural residents felt toward the Board of Trade and its mysterious market, farmers and Board members often found themselves on the same side of arguments about how to reform Chicago's

grain trade. Moreover, they had a common enemy: the grain elevator operators.

The Board's new grading system, of course, touched farmers as much as traders. Each time a farmer delivered grain to an elevator and had it graded by one of the Board's inspectors, its market value depended on the particular grade it received. In 1860, the Board defined No. 1 spring wheat as weighing more than 59 pounds per bushel, while No. 2 spring wheat weighed from 56 to 59 pounds. Any spring wheat weighing less than 56 pounds was labeled Rejected; it still had a market, but brought a much lower price. Although the weight of real physical wheat varied continuously along this scale from No. 1 to No. 2 to rejected, the inspection system's boundaries defined how much farmers or merchants actually received when they finally sold their grain. Whether wheat weighed an ounce more or less than 56 pounds might make a difference of ten cents or more per bushel in its price. If a family raised 500 bushels of wheat, its income could rise or fall by more than 10 percent—$50 if the price was $1.00 per bushel—depending on which side of the grade boundary its grain happened to be placed.[146]

Because grade boundaries might mean the difference between profit or loss for a family's annual crop, arguments about inspection and grading were almost unavoidable. This was especially true when grade prices differed markedly. In the words of one country dealer, "the wider the difference between the different grades *in price,* the more particular will be the grading. . . ."[147] As graders drew sharper boundaries between grain shipments that seemed nearly identical, disputes about grading grew more frequent. Sometimes complaints reflected a farmer's or merchant's unwillingness to accept the true value of a shipment; sometimes they reflected an inspector's unfair grading; but always they reflected a dispute over how to impose artificial boundaries on the world of "natural" grain.

Disputes about grade boundaries manifested themselves as complaints about elevator fraud, which became a major political grievance of Illinois farmers and grain traders during the 1860s and 1870s. Many such complaints were well justified. Grain inspectors were sometimes dishonest, classifying a farmer's or trader's shipment into a lower grade than it actually deserved and giving someone else—usually the elevator operator—the resulting difference in value. Elevators on occasion set their scales to underweigh an entire shipment and thereby lower its grade.[148] One reason the Board hired its own team of inspectors in 1860 was to reduce the likelihood of such fraud, for Board members had as strong an interest as farmers in properly graded grain. Stories nonetheless circulated of farmers who had sent two carloads of identical grain to Chi-

cago, one of which was then graded No. 1 and the other Rejected, with a resulting ten- to fifteen-cent difference in price per bushel.[149] The Board did not deny that such things could happen, but argued that they were much more the exception than the rule: "while general charges of a very indefinate [*sic*] character have frequently been made against [the inspectors'] decisions, by parties in interest," one Board report declared, "nothing has ever been established that would indicate they were wanting in either honesty or ability."[150] Reassuring declarations of this sort proved unpersuasive to farmers, for it did not take much anecdotal evidence to confirm rural suspicions that the entire Chicago market was corrupt. Farmers "knew" that railroads, elevators, inspectors, and "grain gamblers" were all in league to swindle the defenseless producer.[151]

But not all conflicts over grade boundaries signified obvious fraud. The grading system itself could structurally favor one group of traders over another simply by the number of grades it contained. The fewer standard grades there were, the more possible it was for buyers to benefit at the expense of sellers from variations in the true value of physical grain *within* any particular grade.[152] To take advantage of such variation, a buyer or an elevator operator had only to mix grain from different grades. If one farmer sold 1,000 bushels of No. 2 wheat weighing 59 pounds, and another sold 1,000 bushels of Rejected wheat weighing 55 pounds, an elevator could combine the two lots and instantly produce 2,000 bushels of No. 2 wheat weighing 57 pounds. If the price differential between the grades was ten cents, the simple act of mixing yielded a profit to the elevator of $100.[153]

Farmers naturally believed that this $100 had been stolen from them, but the nature of the theft was difficult to define.[154] No elevator could operate without mixing at least the grain *within* a given grade, and the opportunity for making a profit by mixing *across* grades was intrinsic to the grading system itself. "Out of this right to mix," declared the *Tribune*, "grows the whole possibility of fraud."[155] The incentive to mix across grades, like the ability to run a corner, flowed directly from the partitioning of Chicago's grain market. The Board's grading system relied on the conventional fiction that grain was uniform within grades, but physical grain remained as variable as ever. Even the Board admitted that grading could not do "*even* and *exact* justice . . . to every car load of grain," for "that would require that there should be no variation whatever in different lots of grain graded into the same class." In fact, there *had* to be such variation, for the whole point of the grading system was to simplify the minute differences among real grain shipments so that they could be more easily combined and traded. "Between a very good car of, say No. 1 or No. 2 spring wheat, and a very poor car of the same grade," observed the Board, "there may be several cents difference of actual value. . . ."[156]

Those who combined grades used the Board's necessary fiction of within-grade homogeneity to profit from the very real heterogeneity of physical grain: mixing happened on the boundary between first and second nature, and was possibly only because of the tension between them.

Whatever the logic behind it, mixing disturbed farmers and Board members alike, for it seemed to call into question the honesty and integrity of the whole grading system. What made mixing particularly objectionable was the uniquely powerful position of elevator operators, who could earn large sums of money by manipulating the physical partitions between grain bins so as to profit from the conceptual partitions between grain grades. By mixing grain to bring it as close as possible to the lower boundary of a grade, elevators could capture the hidden value of intra-grade variation for themselves, an act that seemed both dishonest and unfair.[157]

But this was by no means the only complaint that farmers and Board members had against the elevators. Equally objectionable were the legal agreements elevator operators made with the railroads to segment Chicago's grain-handling market geographically. By 1870, Chicago had seventeen elevators with a total capacity of 11.6 million bushels of grain. Each received grain from only a single railroad, and each had a contract which gave it exclusive rights to the grain delivered by that road.[158] The railroads rarely operated elevators themselves, but received a percentage of the elevators' profits as part of the agreement between them. Five private partnerships managed all the large elevators in the city. Moreover, the ten to fifteen individuals who made up these partnerships were financially so closely linked to each other, and had so successfully restricted the possibilities of competition among themselves, that they effectively acted as a single bloc. When farmers and traders complained about an "elevator monopoly" in Chicago, they knew what they were talking about.[159]

Farmers and shippers sending grain to Chicago had virtually no choice about which elevator their grain entered; this enabled elevators to set uniform rates without fear of losing business. A typical elevator charge in the 1860s was two cents per bushel, which included receiving, twenty days storage, and shipping; this amounted to about 5 percent of the total transport cost of moving grain from its point of origin to New York.[160] On that basis, the *Prairie Farmer* in 1864 calculated Chicago's total elevator income to be roughly $1 million, with about $80,000 going to an average elevator and more than double that to a large one.[161] The lack of cost data makes it difficult to estimate profit rates from these figures, but elevator operators did declare personal incomes ranging from $30,000 to $100,000 per year during the 1860s.[162]

People debated among themselves whether such incomes were legiti-

mate. The *Prairie Farmer,* speaking to a rural audience, concluded that "no business men in Chicago are more rapidly becoming independently rich than the warehousemen. Their fortunes are being made entirely from off the farmers of the country."[163] Probably because Board members understood better than farmers the practical necessity of grain elevators in the Chicago market—some undoubtedly remembered the much higher handling costs of water-based transport before elevators existed—they were prepared to be more generous in the face of such charges. While concluding at the end of an official investigation in 1866 that the rates for storage of grain in Chicago were "quite high enough," a Board committee noted that they were no higher than rates charged by elevators in Buffalo, at the other end of the Great Lakes transportation corridor.[164] Elevators performed an important service in moving grain to market, said the Board, and those who benefited from that market—farmers and traders both—should expect to pay a reasonable charge for the service.

Board members had different fears about the elevators which farmers were less likely to share, for grain traders worried about the elevators' power to threaten the integrity of the Board's own market.[165] Whether the price of grain rose or fell on the floor of 'Change depended, at least from the supply side, on how much grain the bulls and bears thought the city's elevators contained. The elevator operators, unlike everyone else, actually *knew* such numbers to the nearest bushel, and so had an enormous advantage when speculating—usually secretly—in the market.[166] "The warehousemen," one observer reported, "had the inside track, because they knew exactly the amount of grain on hand."[167] Elevator operators could predict ordinary price movements better than most traders. They knew when a grain could probably be cornered, and when a corner could probably be broken. As one Cook County politician remarked, the elevators were not only "the largest gamblers in grain in Chicago . . . , but gamblers who play with marked cards. . . ."[168]

Gambling with marked cards involved more than just knowing how much grain Chicago's elevators contained. Both the grading system and the futures market depended on elevator receipts for their very existence, and the elevator operators controlled those receipts in a way no one else could. By issuing receipts, the elevator operators effectively printed money. The money was good as long as there was grain corresponding to each receipt. But if elevator operators illegally issued counterfeit receipts for grain that did not exist, they could mint themselves a fortune without anyone's ever knowing. Corners presented special opportunities in this respect. At the height of a corner, an elevator operator might gradually sell 10,000 bushels worth of counterfeit receipts to speculators who were desperately trying to meet the obligations of their futures contracts.

Later, after the corner was over and the price of grain had fallen, say, forty cents, the operator could buy back those 10,000 receipts and pocket $4,000 from the transaction, with no one the wiser. Elevator operators could also collude with speculators who were running a corner by refusing to admit how much grain they had in store, or by falsely declaring that the grain they did have was "heating"—spoiling—and could no longer be traded. All of these maneuvers were illegal, but they appear to have occurred with some frequency during the late 1860s. In the absence of effective means for regulating and policing the elevators, little could be done to prevent such abuses.[169]

In the years following the Civil War, then, critics of Chicago's grain market had a long list of indictments against the city's elevators: fraudulent grading, dishonest weighing, mixing grades, restricting competition, hiding storage information, and issuing false receipts.[170] Each charge began with a question about appropriate market boundaries—between one grade and another, between public and private information, between legitimate and illegitimate business practices—and ended with a question about who should have the power to set those boundaries. If people were to trade grain not as a physical good but as a categorical abstraction, then sellers and buyers were bound to fight about how to categorize it. Once grain grades existed, *someone* would benefit from intra-grade variations in real value. Farmers, elevator operators, grain traders, and millers could hardly avoid having different views about who that beneficiary should be.

Other boundaries were equally in dispute. Some believed that elevator charges were too high, and would come down only if railroads and elevators were forced to abandon their monopolies of the city's transportation markets: shippers should be able to send grain to any elevator they chose, not just the one associated with a particular railroad. Grain traders required accurate knowledge of the grain supply to set prices, and so Board members and elevator operators fought with each other over the boundaries between public and private information: elevators, critics said, should be forced to release accurate statistics about the grain they held in store. And although no one actually defended counterfeit receipts, they too marked a contested boundary, for if corrupt elevator operators insisted on issuing them, all elevator receipts—and with them the grain market as a whole—would be cast in doubt. Each of these conflicts raised serious questions about how to maintain the necessary boundaries of a partitioned market and still protect that market's integrity as perceived by all who participated in it. For just this reason, the Chicago Board of Trade and several of the city's leading newspapers—not the farmers—actually led the attack against the elevators.[171]

Efforts to reform Chicago's grain-trading institutions—to legally de-

fine their boundaries and make them more answerable to the public—came to a head in the decade following 1865 as part of a much broader agrarian movement, identified with the Grange, whose main targets were the railroads.[172] In 1866, the Illinois legislature considered a bill, sponsored by Senator F. A. Eastman of Chicago's Cook County, to regulate warehouses. The bill called for public elevator inspection, limits on mixing, mandatory publication of warehouse statistics, and open competition among elevators. These were all reforms that individual members of the Board of Trade had been proposing as ways to limit elevator abuses, although the Board itself had not yet taken a stand in their support. When members learned that the Board's directors favored a watered-down version of Eastman's bill, they called a mass meeting to repudiate the directors' action. At the meeting, members passed a resolution declaring that they believed "that there are serious abuses exerting a very depressing influence upon the grain trade" and therefore "that any action which may be taken by the State Legislature towards placing the grain warehouses of this city under wholesome legal restrictions will meet with the unqualified approbation and cordial sympathy and support of the Board."[173] Board members promptly raised funds to send a committee of one hundred to Springfield to lobby in support of the Eastman bill. In the meantime, newspapers like the *Tribune* published exposés that heightened agrarian anger about corrupt elevator practices.

To defend themselves, elevator operators apparently bribed members of the legislature to eliminate the most threatening provisions of the bill and to limit its enforcement mechanisms. They also tried to get back at the Board by having a friendly legislator add an amendment outlawing futures as "void and gambling contracts," thereby making much of the Board's market illegal. Irritating as this may have been to members of the Board, no one ever seriously tried to enforce the clause, and the legislature repealed it in 1869. To the disappointment of farmers and Board members alike, the same thing happened to the elevator regulations: because their enforcement depended on someone's bringing civil suit, and because no one in the grain business was willing to take that risk against such formidable adversaries, the Warehouse Act of 1867 proved ineffective from the beginning.[174]

Political agitation against both railroads and elevators continued to grow, culminating as far as the Chicago elevators were concerned in the Illinois constitution of 1870 and the Warehouse Act of 1871. Arguing that the new constitution should empower the state to regulate transportation and trade within its boundaries, agrarian protesters gathered in April 1870 in Bloomington. They were greeted upon their arrival by a letter from Governor John Palmer promising that "freights and all that

relates to the transportation, storage, and sale of the products . . . of the country shall be relieved from the arbitrary rule of monopolies, and subjected to such regulations as may harmonize with reason and justice." There was also a letter from the president of the Chicago Board of Trade. The Board's members, he said, "feel the deepest interest in the deliberations of your body, and trust they may result in substantial good to the producing interests of the Northwest." Those in attendance "heartily applauded" both letters, pleased that such powerful allies had decided to join them: Illinois farmers and Chicago grain traders would make common cause.

The farmers' meeting at Bloomington proceeded to pass a series of resolutions urging the constitutional convention to reduce "unreasonable and oppressive" rates and to define unambiguously their "legal rights to transportation and market."[175] But they did not try to define those "legal rights" themselves. Indeed, they seemed to have a curiously abstract sense of the system that moved and marketed their crops, no doubt because the institutions of that system were so remote, impersonal, and hidden from public view. Although the farmers sought the forward-looking goal of having the government regulate railroad rates and elevator charges, several of their suggestions looked backward to older technologies and economic practices. To solve the problem of railroad "monopoly," they proposed developing new canals that might provide alternative competitive routes, not fully understanding either the fixed-cost problems of railroads or the difficulty that many waterways would soon have holding their own competitively. They and the governor speculated about making the railroads true "common carriers" like highways and canals, allowing anyone to run trains over a given set of tracks, not understanding why this made less sense for railroads than for most other forms of transportation. And they objected to "the practice of the railway companies of delivering grain to warehouses . . . without the consent and against the protest of the grain owners and shippers," apparently not fully grasping how essential elevators and their common bins had become to moving grain by rail.[176] The farmers did not address the subtleties of grading, elevator storage, or grain trading, preferring to express a generalized hostility toward the oppressive power of "monopolies." That the problems of grain marketing might be more structural, built into the very system that enabled farmers to sell their crops in the first place, does not seem to have occurred to them.

At the Illinois Constitutional Convention itself, much of the leadership that proposed concrete solutions to the elevator problem came not from hinterland farmers like those who met at Bloomington but from people in Chicago who knew the city's grain trade at first hand. Chicago-

based publications such as the *Prairie Farmer*, the *Western Rural*, and especially the *Chicago Tribune* led the way in arguing for government intervention against corrupt elevator practices. The *Tribune*, for instance, reported that among farmers in the city's hinterland, "the name of a Chicago warehouseman has become a synonym with that of a pirate. . . . It may be safely affirmed that no man voluntarily sends his grain to Chicago who can send it elsewhere."[177] Negative perceptions of this sort could only hurt the city in general, so booster editors who wished to protect Chicago took it upon themselves to ferret out corruption and hold it up for public condemnation. Because such newspapers were widely read throughout the state, they helped shape public thinking about the issue. Much of the most damaging information that farmers knew about Chicago's markets came to them via the Chicago newspapers, which had in turn learned insider stories from grain traders at the Chicago Board of Trade. If, as many farmers believed, Chicago was the font of corruption in the grain trade, the city also pointed the way to its own redemption.

The constitution's proposed article for regulating grain warehouses had in fact been drafted by none other than a committee of the Board of Trade. This led at least one rural delegate to oppose elevator regulation as "a grain gamblers' article, and not a farmers' article."[178] Another rural delegate thereupon leapt to the measure's defense by declaring that although "this report came from the city of Chicago" and "had its manliness and all its garments laid on there," he was still "willing to receive anything good, that may come out of evil."[179] The *Tribune*'s reform editor, Joseph Medill, was himself a delegate and delivered what was probably the convention's most grandiloquent indictment of the elevators:

> The fifty million bushels of grain that pass into and out of the city of Chicago per annum, are controlled absolutely by a few warehouse men and the officers of railways. They form the grand ring, that wrings the sweat and blood out of the producers of Illinois. There is no provision in the fundamental law standing between the unrestricted avarice of monopoly and the common rights of the people; but the great, laborious, patient ox, the farmer, is bitten and bled, harassed and tortured, by these rapacious, blood sucking insects.[180]

With the republican body politic so infested with vermin, Medill argued, only the law could "step between these voracious monopolies and the producers." The new constitution should attack the elevator plague, save the farmer, and redeem Chicago at the same time.

Article 13 as it finally appeared in the 1870 constitution remained largely as Board members had written it. It designated all warehouses in Illinois to be "public," thereby asserting the state's power to regulate

their activities and confirming a grain owner's right to inspect the goods stored in such places.[181] Despite the statewide definition of public warehouses, convention delegates understood their real target and did not wish to subject rural warehouse owners to needless costs and regulations. The most important requirements of the article therefore applied only to elevators in cities with over 100,000 inhabitants—and there was only one such city in Illinois. Elevators in Chicago were to post weekly notices of how much grain of each grade they had in store. To prevent them from issuing fraudulent receipts, they were to keep a public registry of all outstanding receipts they had issued. And they were forbidden to mix different grades without permission. Furthermore, all railroads in the state were required to deliver grain to any elevator a shipper desired—and, if necessary, permit new track construction to accomplish this.[182]

The Illinois legislature supplemented Article 13 in 1871 with a series of laws assigning the task of grain inspection to a new Railroad and Warehouse Commission that would henceforth regulate all grain movement and storage in the state. Much to the chagrin of Board of Trade members, the Warehouse Act of 1871 separated the grading system from the organization that had invented it.[183] But the Board itself had abandoned internal inspection of elevators in April 1870 after a dispute with elevator operators that may also have been an effort to lobby the constitutional convention for greater inspection powers. If it was a lobbying effort, the action backfired when the Board's inspectors fell under a cloud that confirmed public perceptions that they might be nearly as corrupt as the elevators themselves. In January 1871, the Board suddenly suspended its chief grain inspector, R. McChesney, after learning that he had graded as no. 2 oats a shipment of no. 3 oats mixed with Rejected barley, apparently at the behest of one of the Board's own directors.

The *Tribune* used the occasion to attack the integrity of the entire inspection system, fanning political hostility toward the Board just as the legislature was considering the new warehouse law. As a result, the Illinois government took over all grain inspection in the state. But the Board's original system otherwise changed little. The new state control of grain inspection undoubtedly helped diminish public suspicions about Chicago grading in general. By 1874, faith in Chicago inspection had been so restored that the city's grades were accepted without dispute in New York, Philadelphia, Baltimore, Boston, Montreal, and other eastern ports. Disputes about the grading of individual shipments continued, but farmers too appear to have become more content once the state took over grain inspections.[184]

In short, Article 13 and the 1871 Warehouse Act addressed each of the boundary problems that had so concerned farmers, grain traders, and

other elevator critics during the 1860s: grading, inspection, mixing, counterfeit receipts, public grain supply statistics, and the monopoly linkage between railroads and elevators. Although complaints about grain elevators persisted long into the future, the new legislation laid the essential legal foundation for regulating any abuses that might occur.[185] Elevator operators initially contested the legality of the new laws by refusing to take out licenses for themselves, thereby denying that Illinois had a right to regulate their activities. When the state prosecuted them, public outcry about the case was so strong that voters changed the composition of the Illinois supreme court to make sure that the Warehouse Act and other new "Granger laws" would be declared constitutional.

Finally, in 1877, the U.S. Supreme Court issued its famous ruling in *Munn* v. *Illinois,* establishing forever the principle that grain elevators and other such facilities were "clothed with a public interest" and could not escape state regulation.[186] The name of Ira Munn, Chicago's leading elevator operator, would henceforth be associated with the legal ruling which enabled state governments to regulate the boundary between private interest and public good in economic matters. In making their decision, the justices were clearly impressed by what they saw as the harmful public consequences of monopoly power at Chicago's grain elevators, but the case had much wider ramifications. As one early student of the subject remarked in 1928, *Munn* v. *Illinois* "was epoch making in its consequences," and "through it the Granger Movement has remained an active force in American history to the present day."[187]

Necessary Fictions

Chicago's relationship to the new "public interest" as articulated in *Munn* can only be called ambivalent. On the one hand, the city's grain elevators had significantly benefited "the public" by joining with the railroads to liberate western farmers from the constraints of water and winter, vastly increasing the amount of grain that could move to market. That farmers and merchants no longer needed to float rafts down prairie streams or haul wagons over muddy roads to sell their grain was due to the very railroads and elevators which now linked them so powerfully and troublingly to Chicago's marketplace. The *Prairie Farmer* explained, "In connection with our immense grain warehouses, but little cessation of the grain trade occurs during the close of navigation, and a market is afforded the farmer at all times."[188]

On the other hand, elevator operators had also taken advantage of "the public" by seeking to profit from virtually every ambiguous bound-

ary in the city's partitioned markets. One delegate to the constitutional convention remarked, "I am satisfied that there is no institution in the State of Illinois that can pile up money like the elevators in Chicago."[189] The critics probably went too far in claiming that the elevators had systematically "stolen" vast sums of money from the public, but the case against them was easy enough to make. Many of Chicago's leading citizens and institutions—newspapers, politicians, grain traders, the Board of Trade itself—had made just that case, organizing downstate efforts to regulate elevator power. The willingness of these Chicagoans to criticize their own city suggests their genuine ambivalence about its markets. They attacked abuses in the interests of reform, but also to defend their own self-interest and to maintain the city's dominance. In the process, they often found themselves tarred with the same anti-Chicago brush as the elevators they attacked.

No institution reflected this ambivalence more than the Board of Trade, which led the campaign against the elevators even as it became the object of similar campaigns itself. One rural delegate used almost the same metaphors to attack the Board and its "grain gamblers" as Joseph Medill had used against the elevators: "They are leeches upon commerce and the community, that suck the life blood out of the farmers and dealers in grain, without contributing anything towards the general wealth or productions of the country. They swarm like lice upon the body politic and feed and fatten upon its substance."[190] From this perspective, those who stalked the floor of 'Change to amass fortunes by buying and selling futures, cornering markets, and trading grain without adding any value to it shared the corruption of the elevator operators. They too stole rather than earned their livelihoods. They too were parasites on the honest labor of farmers. One rural orator declared in 1866, "The Board of Trade of Chicago is one of the considerable obstructions that stand between the farmer and the ultimate market to which his grain must go. The different devices by which they shave him right and left, going through Chicago, is [*sic*] one of the greatest oppressions to which he must submit."[191]

And yet these same traders who speculated and gambled in the golden products of the fields were also the people farmers depended upon to buy and sell their crops. Despite all the cries of fraud, corruption, and monopoly directed against it, Chicago's immense grain market, with all of its speculative frenzy, served as a clearinghouse for the capital and credit that moved western crops to their final customers. It had improved the efficiency of trade and transport alike, so that many more farmers were able to sell much larger quantities of grain than ever before. The Board's grading system had created an opportunity for elevators to skim off the profits hidden within individual grades, but it also created an economic

incentive for farmers to clean their grain and increase its value, while making possible the elevators' much reduced cost of grain handling generally. The daily trading on the floor of 'Change, combined with the constant supply of grain in the city's elevators, created a year-round market that had never before existed, so farmers could still sell grain in the dead of winter. Even futures trading offered real benefits by enabling buyers and sellers to contract in advance for grain deliveries, thereby shifting the risk of future price changes to speculators who were more willing or able to absorb that risk.[192] Much more than the residents of Chicago's hinterland usually acknowledged, farmers depended on the Board of Trade for their very livelihoods. Far from standing as an "obstruction" between grain and its ultimate market, the floor of 'Change was where grain *found* its final markets. As another delegate to the constitutional convention argued, "If there is nobody at Chicago or other great markets to buy grain, then the farmer does not get a reward for his labor."[193]

The ambivalence of the Board's position was structural. Although it controlled the circumstances of Chicago's trade, establishing the rules by which anyone—farmers, millers, speculators, corner runners—could buy and sell grain, it did not control the trade itself. It provided the stage on which other actors played. In serving as home to bulls and bears alike, it played host to as many losers as winners. Its members—who numbered well over twelve hundred by the 1870s—included many more small traders than elevator operators, railroad corporations, or large speculators.[194] Most members were committed to keeping their playing field level, resisting any presence that threatened either to become a monopoly or to subvert the contractual rules of the trading game. Their stance toward the grain trade was classically liberal: they defended an open market within the boundaries they had defined for that market, and did not make distinctions among those who stayed within the boundaries. Their liberal stance led them to fight elevator fraud, but also to accept corners and other peculiarities of the futures trade. This very neutrality was part of what made the Board suspect in the eyes of its critics. The Board could go so far as to write the article of the Illinois constitution governing warehouse regulation—and yet still seem a villain to delegates who, even as they voted for that article, declared their wish to "have nothing to do with the board of trade," that "monstrosity in the commercial world."[195]

Hostility toward the Board, and toward Chicago's grain trade in general, flowed from rural suspicions that there was something not quite real—something false, something dishonest—about its markets. The city was remarkable in handling the floodtide of grain that moved through its railroads, elevators, and ships, all of which seemed real enough. But it

was equally remarkable for having redefined the *meaning* of grain within an intricate web of market fictions, abstracting and simplifying it to facilitate its movement not as a physical object but as a commodity. The trading of grain as a commodity was what made Chicago's market seem unreal to those who stood outside it.

Wheat and corn came to Chicago from farms that were themselves radical simplifications of the grassland ecosystem. Farm families had destroyed the habitats of dozens of native species to make room for the much smaller bundle of plants that filled the Euroamerican breadbasket. As a result, the vast productive powers of the prairie soil came to concentrate upon a handful of exotic grasses, and the resulting deluge of wheat, corn, and other grains flowed via the railroads into Chicago. And there another simplification occurred. In their raw physical forms, wheat and corn were difficult substances: bulky to store, hard to handle, difficult to value properly. Their minute and endless diversity embodied the equal diversity of the prairie landscape and of the families who toiled to turn that landscape into farms. An older grain-marketing system had preserved the fine distinctions among these natural and human diversities by maintaining the legal connection between physical grain and its owner. But as the production of western grain exploded, and as the ability to move it came to depend on capital investments in railroads and elevators, the linkage between a farm's products and its property rights came to seem worse than useless to the grain traders of Chicago. Moving and trading grain in individual lots was slow, labor-intensive, and costly. By severing physical grain from its ownership rights, one could make it abstract, homogeneous, *liquid.* If the chief symbol of the earlier marketing system was the sack whose enclosure drew boundaries around crop and property alike, then the symbol of Chicago's abandonment of those boundaries was the golden torrent of the elevator chute.

The original decision to remove grain from its sacks was undoubtedly a pragmatic one, driven by the technological possibilities of the grain elevator. Probably no one foresaw that so simple an act would have such complex consequences, imposing a new symbolic order on Chicago's marketplace and distancing it from the physical universe of fields and crops and rural nature. The shift from sack to elevator enabled grain traders to come indoors, to a market called 'Change where sheets of paper would stand as surrogates for grain bought and sold in millions upon millions of invisible bushels. The shift to standard grades meant that those sheets of paper represented not real physical grain but abstract conventions whose homogeneity was the condition that made them interchangeable. Interchangeability in turn made it possible to sell grain not only over great distances of space but over extended periods of time as

well, for the futures market depended for its existence on the standardized fictions that enabled traders to buy and sell grain they had never seen, because it did not yet exist.[196] Those who dealt in futures extended the abstraction of Chicago's market by dealing not in grain, not even in elevator receipts, but in the prices that *future* elevator receipts would bring when they finally came into being several weeks or months later.

Chicago grain traders dealt in the physical products of an agricultural landscape by transforming them into commodities defined by the market itself. Insofar as farmers were already raising corn and wheat with the intention of selling them, these grains had been commodities long before the founding of the Chicago Board of Trade. But 'Change altered their meaning, distancing them from the rural farm and tying them ever more closely to the urban market in which they were exchanged. The very language of the market reshaped the objects traded within it. To understand wheat or corn in the vocabulary of bulls, bears, corners, grades, and futures meant seeing grain as a commodity, not as a living organism planted and harvested by farmers as a crop for people to mill into flour, bake into bread, and eat. As one bewildered delegate to the Illinois Constitutional Convention remarked after trying to read a Chicago market report, "this 'buying short' and 'buying long' and the 'last bulge' is perfect Greek to the grain producer of the State."[197]

By imposing their own order and vocabulary on the world of first nature, the city's traders invented a world of second nature in which they could buy and sell grain as commodity almost independently from grain as crop. "In the business centre of Chicago," wrote a bemused visitor in 1880, "you see not even one 'original package' of the great cereals."[198] In Chicago, the market turned inward upon itself to trade within its own categories and boundaries. Although the futures market marked the most significant step in this direction, an equally symbolic change occurred in 1875. In that year, the Board of Trade decided that its own memberships—roughly two thousand in number—should be offered for sale in the open market, to be bought and sold as commodities in their own right. This "policy of making these memberships merchandise" would henceforth be the way people acquired the right to trade on the floor of 'Change, offering their services to anyone on the outside who wished to buy or sell grain there.[199] By this decision, the Board began to conduct a market in the market itself: boxes within boxes within boxes, all mediating between the commodified world inside and the physical world outside.

Physical grain did not, of course, disappear from the Chicago market, obscured though it might be behind the various fictions of grain as commodity. The success or failure of crops and the dietary needs of people

around the world—however abstract these might have seemed from the floor of 'Change—remained the ultimate conditions of supply and demand underlying even the most commodified of grain markets.[200] The Board of Trade's greatest problems always occurred on the boundaries where its market fictions intersected with the real world. When speculators cornered the futures market, they succeeded because trapped traders really did have to meet expiring contracts with physical grain. Farmers believed Chicago was robbing them because standard grades really did obscure legitimate differences in the value of grain shipments, thereby creating innovative opportunities for "theft." People struggled about grading, mixing, and trading grain because Chicago's market abstractions did finally connect with the real world. Grain as crop and grain as commodity maintained an uneasy truce on the floor of 'Change, a truce that remade the agricultural landscape of the Great West.