

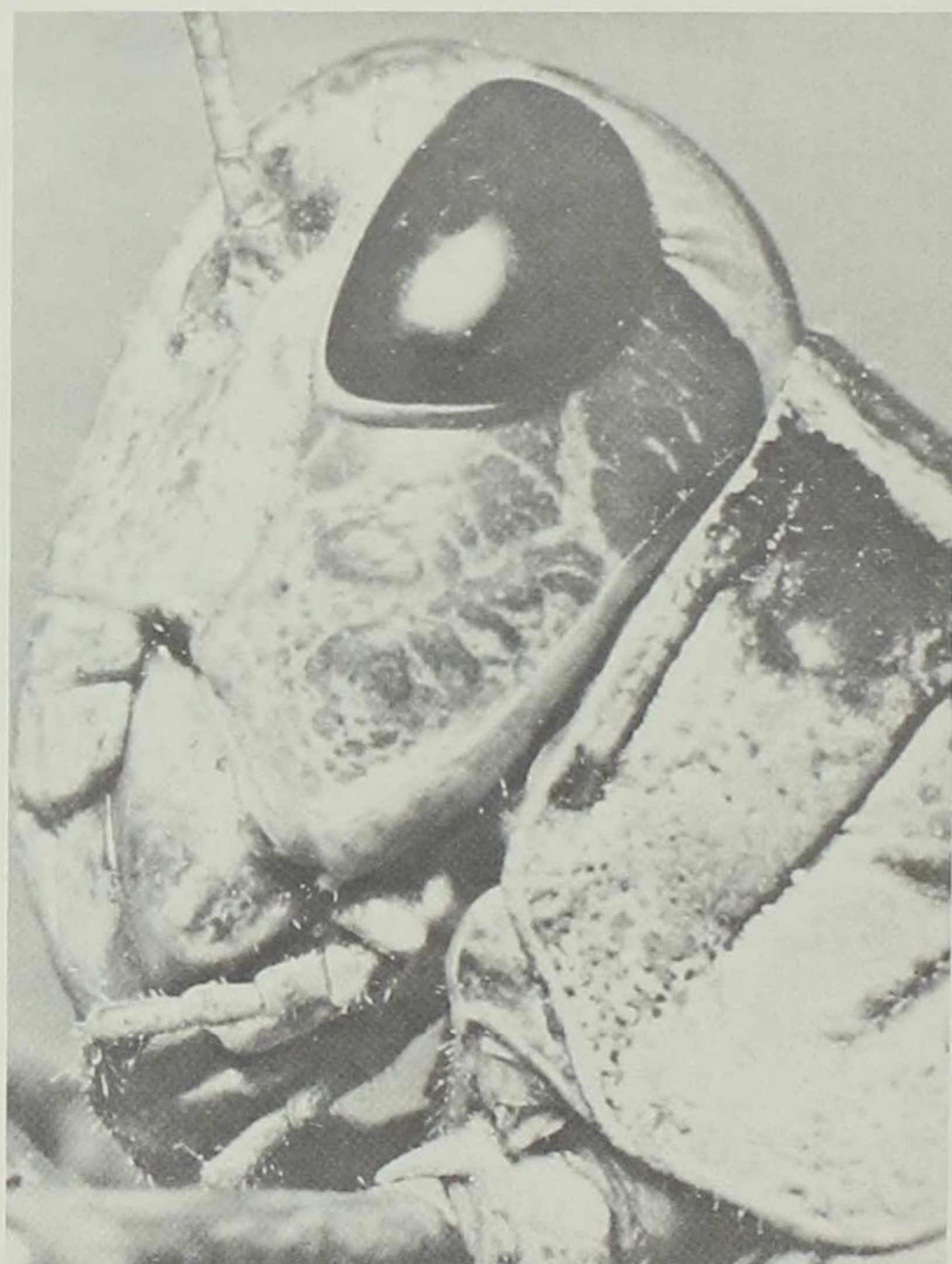
THE GRASSHOPPER WARS

"At first we thought a cyclone was upon us . . . it looked like a heavy storm of black flakes, the dark particles singling out and becoming more defined in shape as they descended. We heard the buzzing; we saw the shining wings, the long bodies, the legs . . ."

by Mary K. Fredericksen

In May 1873, dense swarms of grasshoppers blackened the sky over northwestern Iowa, blotting out the sun like a solar eclipse. When the insects swooped down on the land, pioneer homesteaders in the northwestern counties watched helplessly as dreams of bountiful harvests disappeared before their eyes. So widespread was the destruction that for several years — until the late 1870s — recurring grasshopper invasions curtailed immigration into the area and reduced many of the region's once-hardy pioneers to bewildered beggars. Understandably, perhaps, image-conscious local editors and publicists refused at first to admit the seriousness of the problem, fearing that news of the grasshoppers would ruin prospects for economic development in the northwest. In the end, however, the catastrophe stimulated an important discussion of the extent of government responsibility in such catastrophes and encouraged self-reliant Iowa homesteaders to accept the principle of emergency relief in times of natural disaster.

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In time, too, farmers in Iowa's northwestern counties learned to adapt to the natural balance between animal and plant ecologies in the central grasslands.

Their flights sometimes darkened the sky and gave the settler an ominous feeling of disaster. One afternoon I was coming from Primghar in company with some neighbors when the largest and darkest cloud of hoppers we had ever seen passed between us and the sun. The landscape grew hazy and things seemed so unreal we could hardly believe our senses. Daylight vanished, the air lost its warmth, and stars were visible. But after a while the cloud, carrying a tail like a comet, passed on. Sunlight and warmth returned, but it was

several hours before we could shake off the terror that had seized us.

The grasshoppers, technically known as Rocky Mountain Locusts, hailed from the foothills of the western mountains. When forced to migrate, the insects invaded nearby areas in swarms. Climatic conditions — seasonal extremes of heat or dryness that favored multiplication of the insects — triggered migrations of grasshoppers in search of food. Grasshopper migrations took a southeasterly route away from the home area during summer months, the rate of travel varying with the wind. Known to move only fifteen or twenty miles on a windless day, the insects travelled ten times as fast on windy days.

They had voracious appetites. Professor Charles V. Riley, State Entomologist for Missouri and the foremost grasshopper expert of the 1870s, wrote that

The Rocky Mountain Locust may be said to be almost omnivorous. . . . They will feed upon the dry bark of trees or the dry lint of seasoned fence planks; upon dry leaves, paper, cotton and woolen fabrics. They have been seen literally covering the backs of sheep, eating the wool; and wherever one of their kind is weak or disabled, from cause whatsoever, they go for him or her with cannibalistic ferocity. . . . [But] vegetables and cereals are their mainstay.

As horrified homesteaders testified, the insects could strip away vegetation in a matter of hours. The length of their stay in an area depended on the seasons. Early in the summer season the bugs stayed only a few days, but as the first swarm left and new ones moved in, each successive stay proved longer than the last.

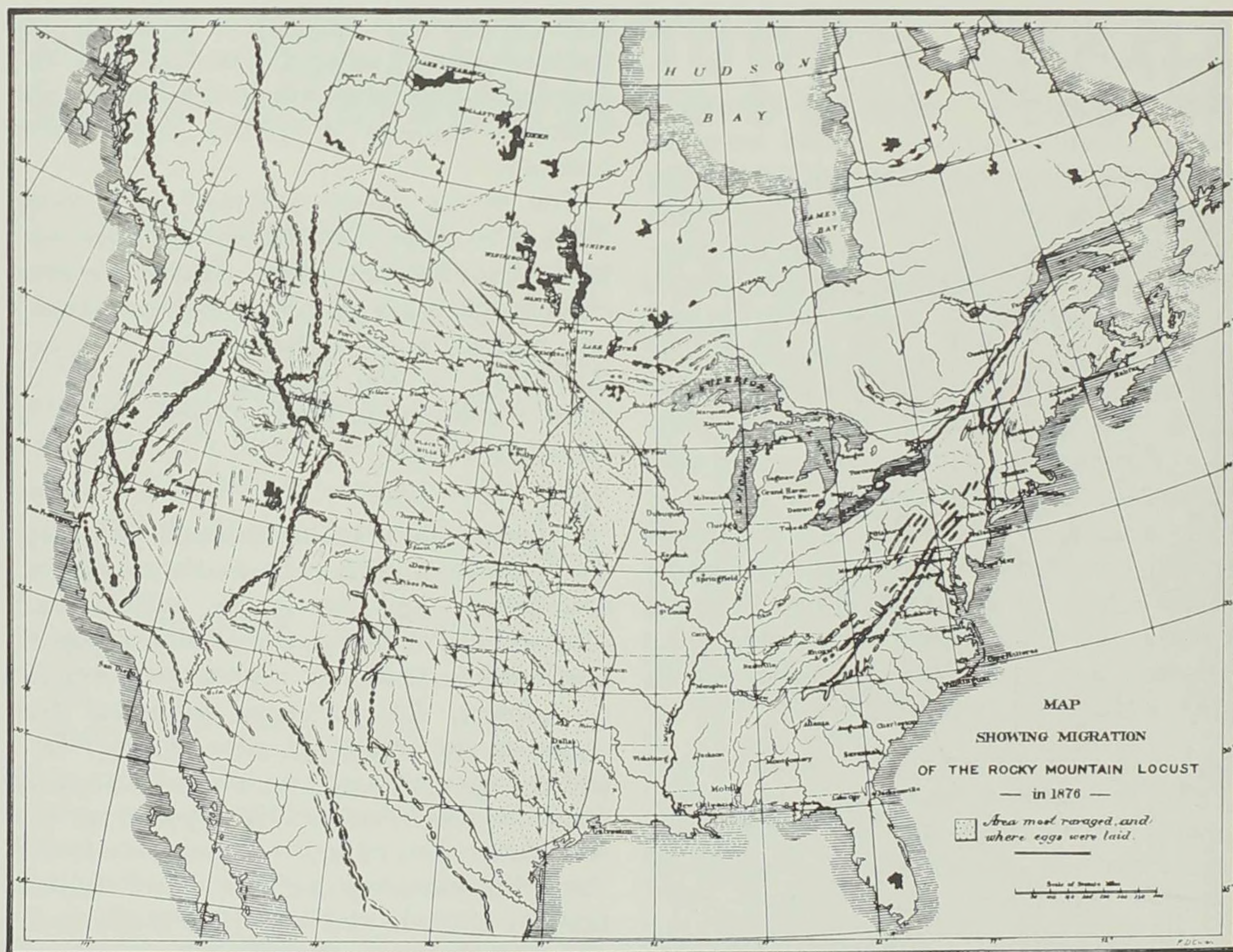
Autumn egg-laying followed the summer-long feast. Egg pods containing twenty-five to fifty eggs were deposited about an inch below

the surface of the soil in such numbers that the black topsoil assumed a mottled gray appearance. The following spring, as the soil warmed, millions of young grasshoppers hatched.

The young insects inflicted even more damage to crops than did mature grasshoppers. Upon hatching, their destruction proceeded systematically. The young matured and molted, gaining their wings. They ate everything in one vicinity, staying six or eight weeks; then they moved on in a destructive mass.

During the years immediately following the Civil War, enthusiastic promoters, speculators, and newspaper editors had worked hard to change the popular image of northwest Iowa as part of some great American desert. Entrepreneurs promoted the region as the future "Garden of the West" and encouraged people to take advantage of the Homestead Act and the expanding railroad network to settle in northwestern Iowa. Early homesteaders had weathered Indian hostility and adapted bravely to prairie conditions, but scarcity of fuel and building supplies, a lack of transportation facilities, and other circumstances slowed the region's growth.

In 1870 northwest Iowa was still only sparsely settled. To stimulate development, legislators in Des Moines created a Board of Immigration. Such organized promotions had earlier attracted settlers to Nebraska, Minnesota, and Kansas, and supporters of the Board hoped to divert to the northwestern counties at least a portion of the flow passing westward through Iowa. The Board designed a promotional pamphlet to publicize the agricultural resources of Iowa, and it distributed twenty thousand copies throughout the Middle Atlantic and New England states, and in Europe as well. Board representatives toured the East, lecturing on Iowa



and extolling its virtues. Their publicity elicited tangible results almost immediately, as reported by the *Cherokee Times* in 1871: "There are ten counties in the northwestern corner of Iowa whose gain from immigration alone this season will average not less than 500 inhabitants each, making an aggregate of 5,000 inhabitants." And, as the Iowa State Agricultural Society reported, "Only a few thousand acres remain free of a claim of some sort; and it is predicted that before the close of 1872 the free lands of Iowa will be a thing of the past."

The people who settled northwestern Iowa typically arrived with little more than a few personal possessions, work animals, and enough seed to get them through one

season. Such homesteaders needed good results from their initial planting if they were to survive on the prairie frontier. At first, nature obliged. The autumn harvest of 1872 got first-year families through the winter and offered encouraging prospects for the following year. Looking forward to bountiful harvests, expanded railroad service, and new markets in the future, these homesteaders invested heavily in agricultural implements. True, they overextended their financial resources, but most assumed that their 1873 crops would pay for all the implements and more. Merchants readily extended them credit, for they too expected bumper crops in the years ahead.

Falling upon a promising field (their instinct seemed to direct them unerringly toward the cultivated places) it was but the work of a few hours to reduce it to a barren area of leafless stalks. Insignificant individually but mighty collectively, it is said these contemptible insects could "sweep clean a field quicker than would a whole herd of hungry steers."

Catastrophe struck in 1873. Drought conditions, reversing a five-year period of good growing weather in Dakota, probably triggered the grasshopper migration. Locust raids had been recorded in Iowa as early as 1833 and as recently as 1872, but serious damage had been rare, as in 1864 and 1865, when crops in the Sioux City area suffered extensive damage. Generally, previous insect invasions had come too late in the season to harm crops. In the spring, the young had hatched and migrated immediately, and because so little land had been settled or cultivated in these early years, the insects did not create a major problem.

But in 1873 grasshoppers arrived in northwestern Iowa in the first week of June. They hit hardest in the counties settled most recently — Lyon, Osceola, O'Brien, and Sioux. Other counties suffering some crop damage included Dickinson, Emmet, Kosuth, Palo Alto, Clay, Plymouth, Cherokee, Buena Vista, Pocahontas, Humboldt, Webster, Sac, Calhoun, Ida, and Woodbury. From early June through the summer the grasshoppers ravaged the corn and wheat fields along their migration route.

Newspapers played down news of crop destruction, denying the damage or blaming it on other circumstances, such as the weather. Settlers were reluctant to report their predicament or to appeal for help beyond local boundaries, for they had always taken care of themselves and each other. Yet here they had a problem too big to handle themselves and no one knew quite what to do. Initially,

at least, the grasshopper invasion frightened most people into confusion and silence.

This silence was reinforced by the land promoters' (and newspaper editors') fear that much-needed immigration would be halted if the damage were made known to people outside the area. In mid-June the *Sioux City Daily Journal* reported:

The prospects in the Northwest at present are favorable for an abundant wheat crop. From all directions we hear that small grain, and wheat is generally particularized, never looked better at this season of the year than it does at the present time. The fact that farmers generally anticipate a large crop is shown by their disposition to dispose of the remaining portion of their old crop.



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At the same time, Buena Vista County's *Storm Lake Pilot* stated that the wheat crop there looked more promising than average. A few weeks later, the *Daily Journal* denied rumors of serious crop damage by insects and remained optimistic about farm production in the northwestern counties. But by the end of July the newspaper finally began to acknowledge the grasshopper ravages in the corn, oat and potato crops. Even so, several months passed before settlers appealed for relief and before the full extent of the damage was made public. The counties hardest hit were still so newly settled that they desperately needed more immigration, local officials felt, and this provided the most influential argument against appealing for aid outside of the local area. News of widespread destitution in the northwestern counties, they argued, would surely doom immigration. Furthermore, for the settlers, the idea that they could not take care of their own seemed alien to their concept of pioneer living.

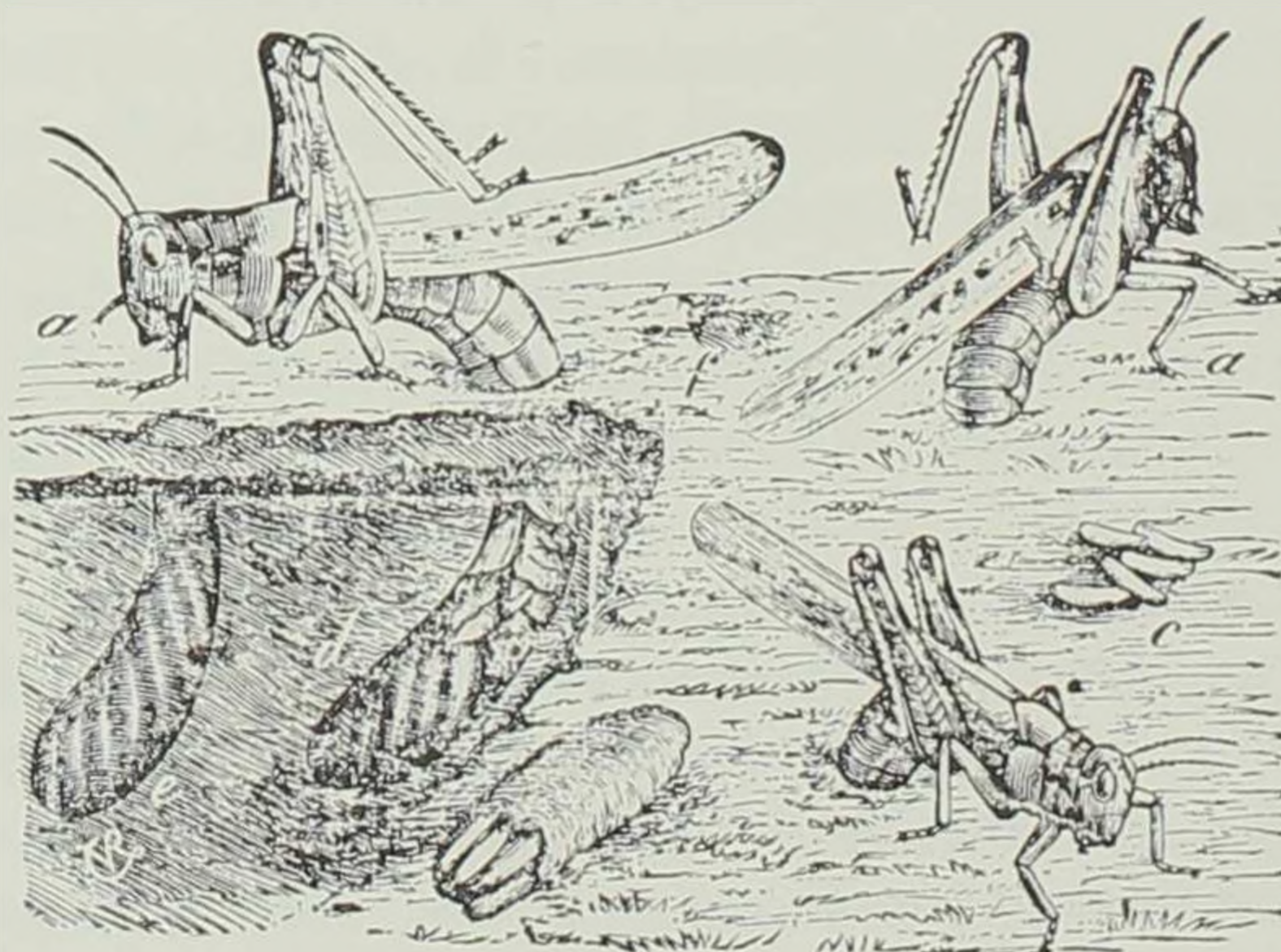
In late October 1873, the Sioux Association of Congregational Churches sent an appeal to the Iowa General Assembly urging the legislature to vote aid to the destitute settlers. The Association's admission of almost total crop failure in northwestern Iowa drove an important wedge into the farmers' stoic facade, and it may have forced the *Daily Journal's* editor to comment on the ambivalence felt by afflicted residents:

It has been reported to us from time to time since harvest that there was likely to be suffering this winter in some of our northwestern counties . . . local newspapers of these counties for some reason have not referred to the unfortunate condition of things said to exist. It is, perhaps, a sensitive matter with them and the citizens and therefore it may be they refrain from 'making talk' for fear the real state of the case will be

misunderstood and the future prospects of the county injured.

The *Daily Journal* exalted the industriousness of the northwestern Iowans. They had proved themselves to be hard workers, the editor declared, and they should not suffer for the necessities of life in order to serve the false pride of a county. He reminded readers that the suffering resulted from circumstances entirely beyond the control of the settlers, and he urged prompt and immediate action by county groups so that the extent of suffering might be known. Finally, the editor observed that if a similar disaster had befallen older counties in Iowa there would be no cause for concern, as the residents' reserve resources would be sufficient to carry them through the disaster. In northwest Iowa, however, settlers had no reserves; they had invested all their resources in their 1873 crops. Outside help might be necessary.

Still, some local newspapers expressed only begrudging acknowledgment of the problem. The *Storm Lake Pilot*, for example, advised farmers to "take care of your own" and demanded to know just who were the few suffering families in their area. The *Clay County News* of Spencer said that any aid should come solely from individual counties, not from the State.



Grasshoppers laying eggs (SHSI)

In November, General Nathaniel B. Baker, Adjutant General for the State of Iowa, offered to deliver to the afflicted homesteaders all contributions of money, clothing, blankets, fuel, staple goods, or anything else provided by private or public donors. He made arrangements with two shipping companies for free shipment of relief supplies to the needy and secured agreements from the railroads to carry coal and other supplies free of charge to the sufferers — for a short time, at least. Baker's individual efforts represented the main relief effort in the state until the meeting of the State Legislature in 1874. Meanwhile, settlers who could afford to leave for the winter did so, looking for work in towns to see them through the effects of the crop failure.

Publically, Governor Cyrus Clay Carpenter continued to ignore the destitution in the northwestern counties. His silence confused possible contributors in eastern Iowa and beyond Iowa's borders, who did not know how to gauge the veracity of the horror stories they were hearing. A letter to Governor Carpenter from R. M. A. Hawk, the clerk of the county court at Mt. Carroll, Illinois, described their hesitancy:

There is a person in this county . . . soliciting aid for northwestern sufferers and exhibiting a letter from your Excellency — we would be very glad to assist any of our suffering fellows but are fearful that this may be a put up job by one or more parties who have become very philanthropic for a purpose — We have seen no proclamation from your Excellency; and knowing the jealous care [with] which you watch over and care for the people of Iowa we do not feel sure that all is right.

Eastern Iowa had been plagued by locusts in mid-1871, but losses there had not been extensive. Without an official statement on the situation in the northwestern part of the



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state, residents wondered how seriously they should take stories of destitution in the winter of 1873-1874.

The governor finally addressed the problem in his biennial message of January 1874. After receiving General Baker's account of his December visit to northwestern Iowa, Carpenter appointed a five-person committee to investigate conditions further and to devise, if necessary, some method of providing state aid. In its report, the committee attested to the character of the people requesting aid, describing them as "men not likely to depend upon charity . . . when by any means they could work out their own deliverance." Asserting that "the facts . . . demonstrate with the utmost clarity the total inability of the local authorities to meet the demands of the existing situation," the committee recom-

mended an appropriation of \$100,000 for loans to farmers to purchase seed for spring crops in 1874 and an additional \$5,000 appropriation to defray the expenses involved in transporting and distributing the seed. Further, the committee called for a \$15,000 appropriation to purchase grain for the homesteaders' teams. The committee took pains to distinguish such aid from charity:

The recommendations are made not simply as a matter of humanity, not simply as a matter of duty to a suffering people; but as a matter of justice to all men who are engaged in the work of rescuing one of the fairest portions of Iowa from the wilderness — as a matter of profit to the State at large.

Although the legislature pared down the size of the appropriations request by slightly more than fifty percent, a \$50,000 donation to the destitute settlers furnished seed grain and vegetables to more than 1,700 families in the northwestern counties. Added to this were the contributions gathered by General Baker and by the Grange, including four hundred tons of coal, fourteen thousand pounds of pork, and one hundred twenty-five tons of grain.

The United States Congress also acted in 1874 to ease the predicament for homesteaders confronted by agricultural disaster. In July, Congress provided that settlers who were still affected by the 1873 losses and who were again faced with grasshopper raids in 1874 could leave their land for up to one year's time without losing it by default.

As if by instinct, their first movements were toward the fields where tender shoots of grain were making their modest appearance. Sometimes the first intimation a farmer would have of what was going on would be from noticing along one side of his grain field a narrow strip where the grain was missing. At first, perhaps he would attribute it to a balk in sowing, but each day it grew wider



A swarm of hungry grasshoppers devours a field (courtesy Iowa State University Press)

and a closer examination would reveal the presence of young grasshoppers.

In May 1874, the grasshopper eggs laid in the previous fall began to hatch. The same counties that had been ravaged the year before were struck again. The young reached flying age in mid-June and left, but new swarms arrived from the north in July and again in August. Dickinson, Emmet, Kossuth, and Palo Alto counties suffered extensive damage as the maturing insects stripped the countryside of vegetation.

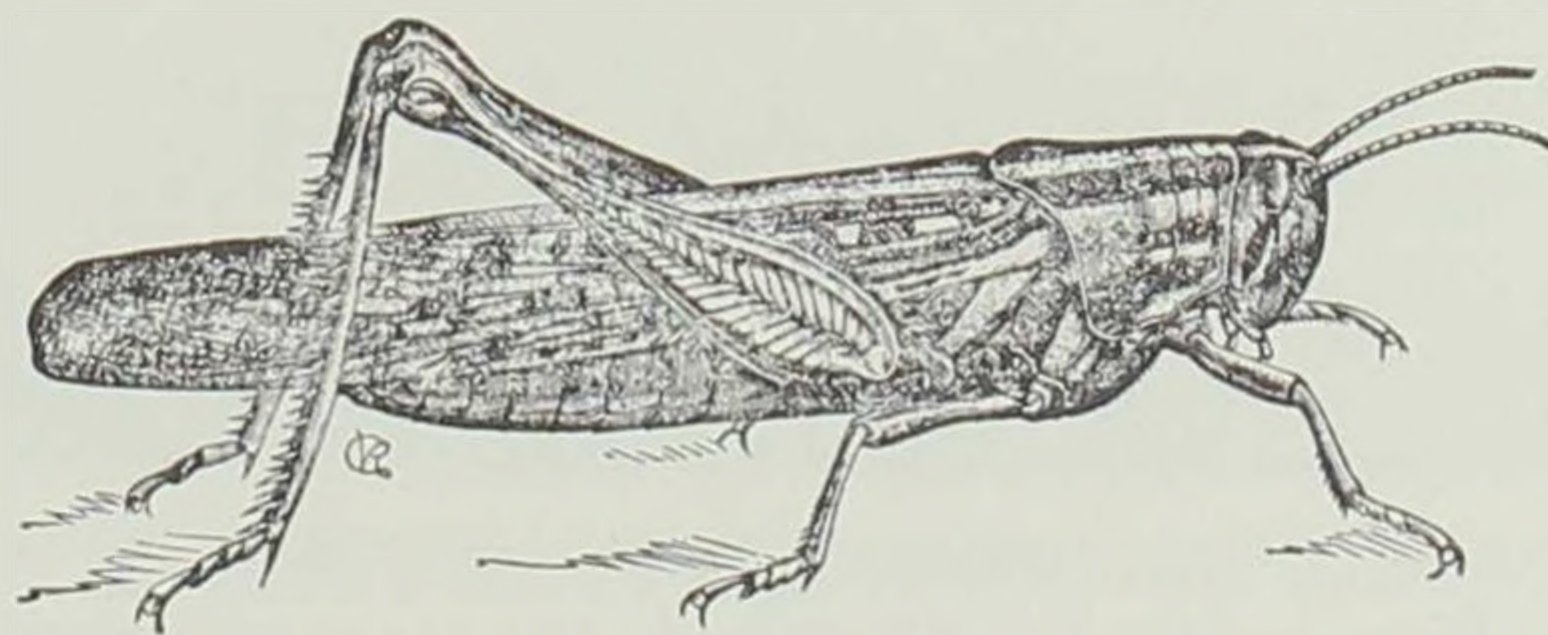
In August 1874, Governor Carpenter sent General Baker and Thomas Sargent on a fact-finding trip to the northwest. Local relief committees were scrambling to keep up with requests for relief, but the demand was too great for their limited resources; outside help was the only answer. Baker and Sargent reorganized the county relief efforts, relying on old associates within the local or-

ganizations. Baker urged distribution of food, clothing, fuel, and seed grain, rather than cash grants; he feared that direct distribution of cash left too much discretion in the hands of individual homesteaders, who might spend the money to move out of the area. Eventually — later in 1874 and in 1875 — solicitors would travel to other parts of Iowa and beyond the state's borders to bolster relief efforts. General Baker recommended to the governor reliable individuals to do this work, and this helped ease homesteaders' fears that the solicitors would be people out for profit alone. Of course, the Iowa governor's endorsement of the soliciting agents did not guarantee them a welcome reception. As Dr. Henry C. McCoy, representing Kossuth County, discovered on a visit to Milwaukee in the spring of 1875, people took a rather dim view of solicitors from Iowa. "They are full of the idea," he reported, "that Iowa should take care of these few counties." Moreover, competition was stiff among the various Iowa county solicitors, and even stiffer with solicitors from other afflicted states who were working in eastern Iowa at the same time. Their territories often overlapped, and the destitute Iowa counties suffered because of Iowa's reputation as a fairly wealthy state.

Settlers in northwestern Iowa also received direct aid from the federal government in 1874. Congress appropriated \$30,000 to provide seed grain to the grasshopper-ravaged areas of the country, although most of this aid went to Nebraska, Kansas, Dakota, and Minnesota. In addition, Congress appropriated \$150,000 to pay the expenses of a general distribution of clothing by the Army "to any and all destitute persons living on the western frontier, who have been rendered so destitute and helpless by ravages of grasshoppers during the summer just past."

By May 1875, Iowans had contributed over one million dollars to the relief of the grasshopper sufferers. In his biennial message of January 1876, Governor Carpenter stated his belief that five thousand persons had been influenced to remain in northwestern Iowa by relief contributions. Nevertheless, the reputation of the region had suffered badly, and a massive publicity campaign was mounted to rehabilitate the image of northwestern Iowa. The editor of the *Spirit Lake Beacon* chafed at an Ohio newspaper's characterization of the countryside as "a vast, treeless prairie unfit for man to inhabit and subject every year to devastation by grasshopper." Between 1872 and 1875 the population of the nineteen northwestern counties had remained static. In a few counties, depopulation had occurred. Land values, which had soared between 1871 and 1873, declined markedly between 1873 and 1875. Northwestern Iowans distracted attention away from these figures by publicizing the economic potential of the area and by challenging doubters and disbelievers to come and see for themselves.

The 1875 crop season provided reassurance. The grasshoppers struck the Midwest again, but they clustered in Kansas and Missouri. Insects invading Iowa affected only the southwestern part of the state, an area of older settlements better able to weather their ravages than the counties of the northwest had been in recent years. By this time, too, scientists had begun to suggest ways to fight the grasshoppers and to offer ideas for pro-



ductive use of the insect as fertilizer and food. Missouri State Entomologist Charles V. Riley, in particular, gave farmers new weapons to use against the insects; his writings provided settlers with information needed to respond effectively to future invasions. Riley's efforts prompted an increased willingness on the part of the independent settlers of the prairie to turn to science to help rid the region of the grasshopper scourge.

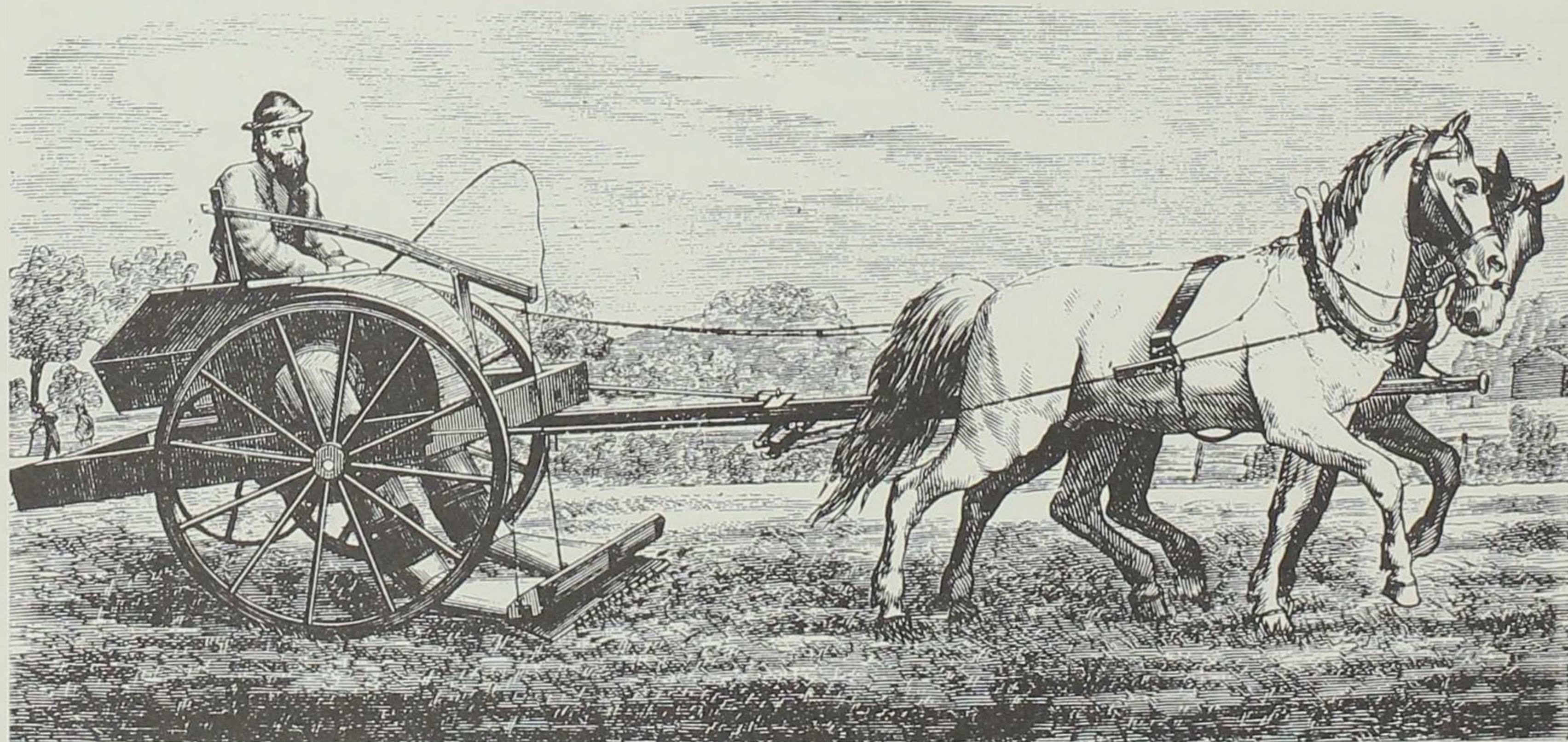
Armed with this new knowledge, when another onslaught of insects blanketed the western half of Iowa in August 1876, settlers demanded more than emergency, short-term relief. They wanted state officials to assure an end to the grasshopper problem. Under considerable public pressure, the new governor, Samuel Kirkwood, joined a conference of midwestern governors and scientists called to explore the problem. Held in Omaha in October 1876, the conference drew governors from Minnesota, Iowa, Illinois, Missouri, Kansas, Nebraska, Dakota, Colorado, Wyoming, and Idaho. The governors and scientists hoped to design a comprehensive

plan for fighting the grasshopper and appealed to the federal government to give its immediate attention to the problem:

Considering the sudden and fitful movements of the locusts, the limitless field of their operations and the mysterious and predatory nature of their inroads, they constitute a formidable enemy with which no State or community can expect to cope successfully. . . .

If it be within the legitimate province of the federal government to improve our rivers and harbors in order to facilitate the movement of crops, surely the rescue of those crops from destruction is no less an object of its rightful care.

In a memorial to Congress and a letter to President Ulysses S. Grant, the governors asked that an entomological commission be appointed to examine the life cycle and habits of the grasshoppers and investigate ways to protect against damage by them. The delegates also had ten thousand copies of the proceedings of the conference printed, and they distributed them as widely as possible to the



One of dozens of 'hopper catchers' designed during the invasions of the 1870s. Few such inventions reached the production stage. (SHSI)



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farmers of the affected states and territories.

Scientific experts, including Charles V. Riley, devised plans to destroy the grasshoppers in all stages of their annual development. They recommended protection for animals, especially birds, that acted as natural agents against the grasshoppers. They also suggested several ways to destroy the eggs, including plowing the ground in autumn to bury the eggs deeply, irrigating the ground in order to rot the eggs, and even collecting the eggs for a bounty payment. Unfledged locusts were to be burned, trapped, or crushed into the earth. The scientists urged legislation at the state level to force all able-bodied men to spend time in the fall destroying the eggs or time in the spring collecting them. They also recommended education through the state Grange organizations and systematic application of suggested methods of extermination throughout the multi-state region. Finally, Riley and others stressed the importance of crop diversification so that the destruction of any single crop would not ruin the farmer.

Persons who are not conversant with this invasion can hardly realize with what anxiety the people scanned the heavens, for several years after, at each return of the season when they had put in an appearance on the occa-

sion of their previous visit. The great body of the invaders were generally preceded a day or two by scattering grasshoppers. On a clear day, by looking far away towards the sun, you would see every now and then a white-winged forerunner of the swarm which was to follow. Years after they had gone there was a lurking fear that they would return. And if there were any indications of their appearance, especially when during two or three days the prevailing winds had been from the southwest, people would be seen on a clear day standing with their hands above their eyes to protect them from the vertical rays of the sun, peering into the heavens, almost trembling lest they should discover the forerunners of the white-winged messengers of destruction.

Ironically, perhaps, the major grasshopper invasions had already passed by the time the governors' conference met in Omaha in 1876. Although the insects returned the following year, they did not cause widespread destruction. A cold, wet season in late 1877 and early 1878 caused a large percentage of the grasshoppers' eggs to rot, and many of the insects that survived the weather ultimately succumbed to parasitic diseases that spread through the swarms in the late 1870s. Such natural causes eliminated much of the nuisance before scientists and public officials had time to develop preventive techniques.

Nevertheless, as a consequence of the grasshopper invasions, science gained a foothold among farmers concerned that their crops might be consumed again by the ravenous swarms. This new respect for science boosted public support for numerous studies of grasshoppers and other pests, studies that produced a body of useful information for farmers faced with such problems in the future. On the national level, the uproar surrounding the insect invasions led to the creation of the

Entomological Commission of the United States Department of the Interior. In addition, the crisis led to important changes in agricultural practices in northwestern Iowa, where stockraising and dairy farming replaced the grain-growing cycle in many parts of the region. Farmers also began to rely more heavily on corn than on other grains, for they could vary its planting time according to the presence or absence of the grasshopper eggs.

Finally, the grasshopper invasions taught the settlers of northwestern Iowa an important lesson about the limits of self-help on the prairie frontier. The stigma attached to appeals for relief made their struggle through the winters of 1873 and after more difficult than it might have been. Eventually, boosterism and local pride gave way to realism as settlers saw that individual and community action might not be enough to deal with a calamity whose effects were statewide or regional. If nothing

else, the grasshopper experience of the 1870s proved to many pioneer farmers that in some cases government assistance offered the only hope for economic survival. □

Note on Sources

Sources consulted for this article include: Charles V. Riley, *The Locust Plague in the United States* (Chicago, 1877); U.S. Department of the Interior, United States Geological Survey, *First Annual Report of the United States Entomological Commission* (Washington, 1878); John E. Briggs, "The Grasshopper Plagues in Iowa," *Iowa Journal of History and Politics*, 13 (July 1915): 349-391; Cyrus Clay Carpenter, "The Grasshopper Invasion," *Annals of Iowa*, 3rd series, 4 (July 1900): 437-447; Iowa State College Staff, *A Century of Farming In Iowa* (Ames, 1946); Josephine Barry Donovan, "Grasshopper Times," *The Palimpsest*, 4 (June 1923): 193-202; John T. Schlebecker, "Grasshoppers in American Agricultural History," *Agricultural History*, 27 (July 1957): 85-93.

A fully annotated version of this article is on file at the State Historical Society in Iowa City. The editor wishes to thank William Maddix for his help with preliminary research on the grasshopper invasions and Maria Schlatter for attending to pre-publication details.

Italicized accounts of the grasshopper invasions appearing throughout the text of this article are taken from first-hand reports by contemporary observers.

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Secretary of the Iowa State Board of Education. In 1942, he moved to Michigan to become assistant comptroller of Michigan State University. He retired in 1969 as assistant treasurer and assistant vice-president for business and finance. Mr. Pierson is currently assisting Michigan State's Department of Student Financial Aids on a part-time basis.

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