

## CHAPTER 8

# A Trade Decays

'O, how I long to travel back,  
And tread again that ancient track!  
When no one had an ice machine,  
And modern stores were not foreseen'.<sup>357</sup>

In 1908, the editor of the *Cold Storage and Ice Trades Review* remarked that the palmy days of the Norwegian ice trade to Britain had gone, never to return.<sup>358</sup> He was referring above all to the ice farmers and ice shippers in Norway's lakes and fjords and at the various loading ports. They had been party to an almost uninterrupted expansion of the trade from its diminutive beginnings in the early 1860s to the record exports of over half a million tons by the turn of the century. From 1901 until 1911, export levels in most years settled in the range 340–380,000 tons. Then, from 1912 to 1914, the figure slipped from 262,000 to 200,000 tons. And with the outbreak of war in August 1914, the trade by and large collapsed.

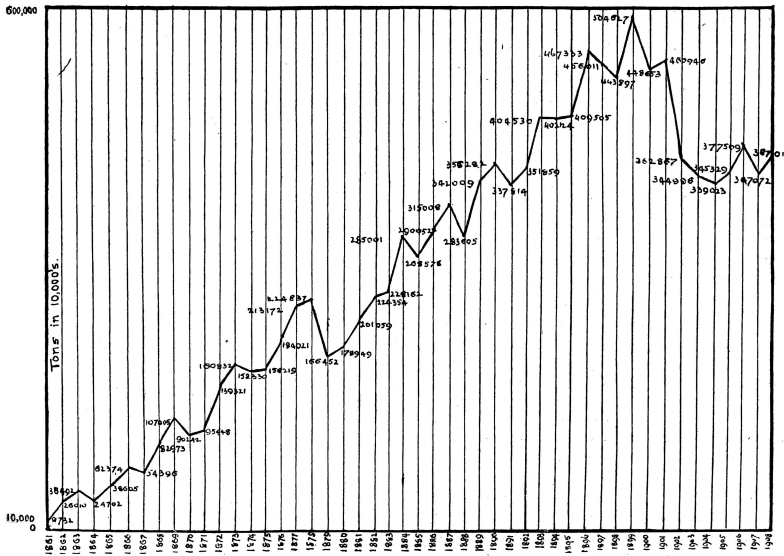
Although artificial or factory ice was a factor in the rapid decline of the natural ice trade, the seeds of its destruction lay in the highly volatile form of the business right from its inception. This related not just to weather conditions in a Norwegian winter or a British summer but, equally, to the speculative character of the trade as part of modern capitalist enterprise. At times, price-cutting among British ice importers attained insane proportions. In Liverpool in the early 1900s, even the importers themselves accepted that there were too many players in the field.<sup>359</sup> Ice consumption was rising but receipts were falling against the backdrop of an incessant price war. As competition was succeeded by combination, Britain's ice importers more and more squeezed the suppliers and shippers, especially

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357 *Cold Storage and Ice Trades Review* X (1907), p. 330.

358 *Ibid.*, XI (1908), p. 25.

359 *Ibid.*, VI (1903), p. 125.



**Figure 8.1.** Graph showing time-series of Norwegian ice imports to Britain, 1861-1908, published in the *Cold Storage and Ice Trades Review* in July 1910 (Bodleian: Per 193998 d.1/XIII p. 185). The peak year was 1899, with 504,627 tons landed. The original data series upon which the major part of this graph is based is unknown. See Appendix for ice imports by port, 1899 to 1903.

in the prices obtained on spring contracts. As we have seen, by the early years of the new century, these contracts were barely paying their way, even in an easy ice harvest when wages were low. They present an interesting foretaste of the modern futures market, with contracts being agreed on quantities of ice that farmers and merchants in Norway merely hoped to be able to harvest. Bargains were thus made without knowing the quality or thickness of the ice in the coming winter, or the costs of obtaining it. They were speculating on an imaginary good. For the ice importers, of course, this was immaterial. Their one concern was getting a succession of ice cargoes into port, and unloading them to store. Sometimes the exporters in Norway contracted to despatch as spring cargoes more ice than it proved possible to obtain. They would then find themselves short by May or June and be forced to buy from other Norwegian merchants at inflated prices. Sometimes, though, as we have seen earlier, farmers and



export merchants were granted temporary deliverance in their otherwise precarious economic lives, for if the British importers had misjudged the coming summer season and made insufficient spring contract provision, then they were forced to buy large numbers of individual shipments in a steadily rising market, much to the favour of the Norwegian suppliers and shippers. Similarly, if it turned out to be an exceptional summer in Britain, the suppliers and shippers would gain all the benefits of a seller's market. July 1904, for example, brought high temperatures and prompted the *Cold Storage and Ice Trades Review* to pen a trade fable:

'But iceman! O iceman! Rise up and hear the bell;  
Rise up – for ice there's still a demand – there's come a muggy spell;  
The butcher bawls, the milkman calls, the fishmonger is vocal,  
Clear as a bird each voice is heard, in ev'ry dialect local.'<sup>360</sup>

Three years later, in 1907, there had been a general fall in the tonnage of ice imported into Britain from Norway and so less ice was stocked all round for the 1908 season. In the event, stocks for 1908 proved quite inadequate to meet demand and the price of ice outside of spring contracts quickly went up five or six times above the level of previous seasons.<sup>361</sup> The Norwegian suppliers and shippers thus had another windfall. Sometimes, though, the ice trade actually failed all the parties involved in it, exporters, importers and shippers alike. A below average harvest, coupled with high summer demand in Britain, compounded by abnormal demands for Norwegian ice in Germany, could exhaust all Norway's ice stocks prematurely. A few exporters might hold back supplies in expectation of higher prices, but that always ran the risk that, if demand slumped, ice would be left unsold.

The Norway ice trade was therefore one of quite exceptional uncertainty. In 1910, the British vice-consuls at Kragerø and at Porsgrunn reported a very profitable year for the business.<sup>362</sup> In fact, it had proved one of the best years since 1899. This was in stark contrast to 1909 when there had been in excess of 50,000 tons of ice remaining unshipped by the close of the exporting season. At times the ice importers in Britain had a similar roller-coaster

<sup>360</sup> *Ibid.*, VII (1904), p. 336.

<sup>361</sup> *Ibid.*, XII (1909), p. 210.

<sup>362</sup> *Ibid.*, XIII (1910), pp. 251–2.

ride. At its AGM in early 1914, the giant London combine, United Carlo Gatti, Stevenson and Slaters Ltd., bemoaned the adverse trading conditions for Norwegian ice, which were reflected in the company paying no dividend to its shareholders in 1910, 1912 and 1913.<sup>363</sup> They were caught between a continuing growing demand for ice at home and rising prices of ice on the dockside. Even though artificial ice was making large inroads into the domestic ice market, many of its customers still retained a preference for the Norwegian product. In Norway, moreover, some regular correspondents on the ice trade with Britain felt certain that Norwegian block ice would never be found superfluous. The editor of the *Cold Storage and Ice Trades Review* was much more sanguine, however. He wrote in 1910 that it was obvious to most that factory ice was ousting ice from 'Nature's factory'.<sup>364</sup> Already artificial ice-making plants were producing over a quarter of a million tons more ice than was being imported from Norway in any one year. In 1910, it became apparent from the preliminary results of the Census of Production Act of 1906 just how far the ice-making industry had progressed.<sup>365</sup> The census of ice factories revealed a workforce of some 1,100 persons. The value of the ice produced amounted to almost £400,000 in 1907 (597,000 tons deadweight). And these figures did not include ice made by cold storage firms or by fishmongers for their own use. But perhaps the most telling portent of the decline of the natural ice trade was the re-naming of the *Cold Storage and Ice Trades Review*, the trade's premier journal since 1898. Towards the close of 1910, it was re-titled *Cold Storage and Produce Review*. The change was not trumpeted in the editorials, rather it crept in by the back door, with the running page-head continuing to display the old title for some while.<sup>366</sup> In its content, however, the journal had for some time been reflecting the vastly increased importance of factory-made ice, with articles on the technology of the business and detailed coverage of the commissioning of new plants. The change of name in effect reflected an emphasis that was already a fact of life.

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363 *Ibid.*, XVII (1914), p. 106.

364 *Ibid.*, XIII (1910), p. 309.

365 *Ibid.*, p. 323.

366 To avoid confusion, the original name has been retained when footnoting the journal as a source after 1910. Volume and issue numbers continued in sequence.

In the 1911 summer season, the Norwegian suppliers and shippers enjoyed an unexpected boom when record temperatures affected north-west Europe in the months of July and August.<sup>367</sup> In England, the mean temperature for the two months breached 18°C. London was consuming 2,000 tons of ice a day. In some provincial cities and towns it became difficult to obtain ice at all. Across the Channel, in Paris, ice consumption jumped from 1,500 to 3,000 tons a day. Train-loads as well as boat-loads of ice were being despatched by the score, at greatly increased prices, from Norwegian rail-heads and ports.<sup>368</sup> The losers in this were those ice importers who had contracted to supply the retail trade at fixed prices. Some were ruined and even the biggest firms found profits squeezed. In London, matters were made worse by a dock strike. Even the ice factories had difficulty responding to the inflated demand, despite working day and night. In Switzerland, glacier ice was being exported to Germany, France and Italy, such was the scarcity of supply.<sup>369</sup>

With the outbreak of war in early August 1914, there was the prospect that the North Sea would become, in the technical jargon, a *mare clausam*: it would become closed to trade under threat of enemy interception, including submarine warfare. However, the timing of the start of the war was fortunate for both ice exporters and ice importers. By August, most ice stores in Britain were well stocked after five months of shipments from the fjords and lakes. Some of the Norwegian merchants had also built up stocks at home in anticipation of a possible interruption to trade. As late as early 1915, the prospects for British consumers did not appear bleak either, for stocks from the previous year's shipments remained considerable.<sup>370</sup> The summer of 1914 had broken no meteorological records and so demand had been tempered. In Norway, though, ice exports were by this time in a state of collapse. In the first three months of 1915, only 3,000 tons were despatched from the fjords for Britain. This compared

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367 *Cold Storage and Ice Trades Review*, XIV (1911), pp. 220–1; see also *The Times*, 10<sup>th</sup> August 1911; Juliet Nicolson's book, *A Perfect Summer* (London, 2006), purported to address the phenomenon of the extraordinary heat of 1911, but in the event gave very little attention to it, or to the extraordinary demands for ice that season.

368 *Cold Storage and Ice Trades Review* XIV (1911), p. 221.

369 *Ibid.*, p. 241.

370 *Ibid.*, XVIII (1915), p. 48.

with 33,000 tons in the first quarter of 1914.<sup>371</sup> It was a catastrophic fall. Shipments in April 1915 were a quarter of those in April 1914.<sup>372</sup> What aggravated the position was the fact that ship-owners who had formerly handled much of the ice traffic and who continued to operate in war-time were turning to more lucrative traffics. Inevitably, retail prices of Norwegian ice in London were soon rocketing, with rates ten shillings above the levels of the year before, and as high as 30 shillings a ton in a few outlets.<sup>373</sup> Outside London, in parts of Kent, ice had become in such short supply that military authorities had prohibited its sale except to dealers in perishables.<sup>374</sup> Even in October of that year, the dockside price of ice was still averaging 23/5d a ton, despite the 1915 summer season having been cool.<sup>375</sup> In some east coast ports, however, there was a rather different story. Demand for Norwegian ice from the fishing trades had fallen dramatically. The threats from enemy shipping had locked much of the fleet up in port. West coast fishing ports, including those in Ireland, were similarly affected. The upshot was that, over the year 1915 as a whole, only 54,883 tons of ice were exported from Norway to Britain, a quarter of the total for 1914 and a tenth of the record export year of 1899.<sup>376</sup> For the merchants, both in Britain and in Norway, though, the situation was not quite as dire as it appeared. The value of the 1915 ice imports, at £58,321, was one half, not one quarter, of the value of the ice imported in 1914. The ice that was traded in 1915 had double its value.

By the early spring of 1916, the *Cold Storage and Produce Review* was anticipating 'ransom prices' for Norwegian ice in the coming summer season, given the reduction in the trade and the exhaustion of most natural ice stores in Britain. In March 1916, no ice was recorded as having been landed in Britain at all, the first time that this had happened for over a quarter of a century.<sup>377</sup> Then, in May 1916, the British government announced the prohibition of ice importation from Norway, except

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371 *Ibid.*, p. 98.

372 *Ibid.*

373 *Ibid.*, p. 122.

374 *Ibid.*

375 *Ibid.*, p. 249.

376 *Ibid.*, XIX (1916), p. 10.

377 *Ibid.*, XIX (1916), p. 75.

under special Board of Trade licence.<sup>378</sup> It was the trade's death-knell. Most commentators were very surprised by the move. They could see little to be gained by the decision. The kind of shipping tonnage engaged in carrying ice across the North Sea was by then small beer, negligible as a factor in the maritime war. In the Irish fisheries, the news was greeted with dismay. The valuable salmon catches of the south and west ports had already experienced chronic ice shortages and factory ice was much less easily procured in Ireland than on the British mainland. Then, to add to the impact of the ban, the summer of 1916 turned tropical.<sup>379</sup> The average temperature for the month of August reached 16.4°C, the highest since the record-breaking summer of 1911. Ice in London and the south of England become positively scarce. Fishmongers and butchers ended up paying as much as 35 shillings a ton. London importers somehow managed to evade the trade embargo and secured over 3,000 tons of Norwegian block ice in the month of July, with an average dockside price of 26 shillings a ton. Even so, the total ice imports into Britain from Norway over the months from January to July were only 5,877 tons.<sup>380</sup> By the year's end, the total had climbed to some 10,000 tons, two thirds of that quantity landed in London. Elsewhere, ice traffic more or less disappeared altogether. After London, only seven ports landed cargoes in 1916.<sup>381</sup>

For the artificial ice producers, particularly those outside the fishing ports, the virtual disappearance of Norwegian block ice as a competitor product, opened up a potential marketing coup. Notwithstanding the residual belief among some consumers, including many fishmongers, that Norwegian ice was superior to factory ice, the ice factory managers began talking of petitioning the government to forbid any resumption of the Norwegian trade following the end of hostilities, whenever that might come.<sup>382</sup> The trade was not in fact banned, but it never recovered, as will shortly be seen.

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378 *Ibid.*, p. 95.

379 *Ibid.*, p. 178.

380 *Ibid.*

381 *Ibid.*, XX (1917), p. 8.

382 *Ibid.*, p. 24.

At one point during the war, a Billingsgate observer came up with the rather novel idea that the Norwegian ship-owners who had regularly carried ice across the North Sea should be persuaded to collect factory ice made at the ports of Fleetwood, Milford Haven, Swansea and Cardiff and convey it for use in the salmon fisheries in Ireland where the scarcity of ice was presenting such a serious economic problem.<sup>383</sup> But the idea does not appear to have been acted upon. If it had been, perhaps the parlous condition of many Irish fishing communities, especially in the southwest, would have been alleviated.

If the ice factories thought they were on a rising tide of prosperity, they were soon to face a rude awakening. For as we have already seen, in late 1917 the wartime government passed an Ice Cream Restriction Order which entirely stopped the business of the ice cream trade. Not only were ice cream makers and ice cream vendors mortified by the decision, as the preceding chapter made plain, but so were many operators of ice-making plants and their allied cold stores. Increasingly, small-scale ice-making plants had obtained most of their annual profit from ice sold to ice cream makers in the summer months. In a heat wave, they could expect profit levels to rocket, with nearly two-thirds of daily output going to the ice cream trade. One proprietor, in evidence to the Food Ministry, observed that in Bath and Swindon the plants were run at a loss in the months of December, January and February. They started to move into profit in March, with July and August providing the best returns, sometimes as great as 500 per cent.<sup>384</sup> Petitions by the various trade associations to the Food Minister met with relatively little success and plants that had already been struggling to survive quickly closed their doors. In February 1918, the entire equipment of the Potteries Pure Ice and Cold Storage Company was advertised for public auction, including one Lancashire and one Cornish boiler, two compound steam engines, two ammonia compressors, as well as ice-making tanks and ice moulds.<sup>385</sup> Soon ice plants in other towns were going the same way, with the result that ice production began to fall to quite an alarming extent, according to an editorial in the

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383 *Ibid.*, XIX (1916), p. 33.

384 *Ibid.*, XXI (1918), p. 82.

385 *Ibid.*, p. 46.

*Cold Storage and Produce Review*.<sup>386</sup> That summer, considerable quantities of fish arriving at southern destinations from Aberdeen were ending up in very poor condition through want of sufficient ice. More widely, the country's fishing industry was by then struggling with shortages of ice, especially among fleets operating in Irish waters. Nor were the ice factories helped by the fact that their operatives were liable to conscription after 1916. It was not until August 1918 that the Ministry of National Service conceded that managers, foremen, tankmen and engineers in ice factories should be exempt from call-up.<sup>387</sup>

The problems of the availability of ice during the last years of the war were matched by an equivalent problem in cold storage capacity. The victualling needs of the armed forces and the exigencies of wartime food supply had placed enormous demands on cold storage facilities. It quickly became apparent that storage space was hopelessly deficient and, worse still, no policy seemed to be in place for any concerted expansion of capacity. Some of the larger ports found themselves having to leave food cargoes, including meat, undischarged because they had no cold storage left. Even where new capacity was on the drawing board, there were major difficulties in acquiring the necessary construction materials, particularly steel and concrete. Construction labour was likewise a problem. In Liverpool, the port's regular manual and clerical workforce had been so reduced by the War Office that it was barely able to operate its existing facilities. Another difficulty was a chronic shortage of refrigerated railway wagons, vital for moving the increasing imports of Canadian fish, for example, that were being carried across the Atlantic to west coast ports to try to ease domestic food shortages.<sup>388</sup>

Increased cold storage capacity, whether in situ or mobile, naturally required increased ice-making capacity. But, as we have seen, ice-making was contracting during the last years of the war, partly at the instigation of government. Eventually, with the help of Treasury loans, the position began to be rectified. From 1918 to 1919, cold storage capacity in the UK

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386 *Ibid.*, p. 181.

387 *Ibid.*, p. 182.

388 Some of the main problems of cold storage at the time are dealt with in *Cold Storage and Ice Trades Review* XXI (1918), pp. 87, 110–2.

was anticipated to grow by a quarter.<sup>389</sup> At Bristol's Avonmouth docks, the cold stores were being trebled in capacity by means of a ferro-concrete building over 200 feet long and over 100 feet wide, equipped with six one and a half ton lifts.<sup>390</sup> Amidst the food shortages of the last months of the war, of course, it was by and large too late.

By the late summer of 1918, most commentators were clear that there was a 'national ice question' that needed urgent attention on the part of the Ministry of Food. London suffered serious ice shortages in the summer of both 1918 and 1919.<sup>391</sup> At Grimsby, the re-emergent fishing industry was found desperately short of ice, with trawlers forced to call in at Aberdeen on their outward voyages in order to replenish ice stocks. Grimsby's local ice factories were working flat out, but their capacity fell short of the local fleet's needs, and this was quite aside from the ordinary demands for ice within Grimsby and its environs.<sup>392</sup> In other towns and cities, municipal corporations became so exercised by summer ice shortages that they began making urgent expansion plans. At Burnley, the weekly demand during the summer season was around 80 tons, but the local municipal ice plant could barely manage 30 tons.<sup>393</sup>

One might have expected that Norwegian ice would have quickly filled the lacuna in ice supply. But there was little ice to be had from the Norwegian stores. In August 1919, it was reckoned that there were barely 5,000 tons of ice in all Norway.<sup>394</sup> The explanation was that the infrastructure of ice farming and ice storage there had progressively collapsed during the later years of the war. Initially, Norwegian ice had found markets in the expansion of the country's own fish trades.<sup>395</sup> However, British investors in the ice exporting business in Norway had been steadily withdrawing over the course of the war. The United Carlo Gatti company finally wound up its operations there in 1920–21.<sup>396</sup> In April 1920, the *Cold Storage and Produce Review* had estimated that there were

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389 *Cold Storage and Produce Review XXI* (1918), p. 257.

390 *Ibid.*, p. 182.

391 *Ibid.*, p. 181.

392 *Ibid.*, XXII (1919), pp. 198, 227.

393 *Ibid.*, XXIII (1920), p. 222.

394 *Ibid.*, XXII (1919), p. 198.

395 See R. David, 'The Demise of the Anglo-Norwegian Ice Trade', *Business History* 37 (1995), p. 65.

396 *Cold Storage and Ice Trades Review*, XXIV (1921), p. 95.





**Figure 8.2.** Ice-loading at Kragerø in February 1919 (Norsk Folkemuseum NF.W 20461).

only 18,000 registered tons of ice available for export that season.<sup>397</sup> In the first six months of 1921, a paltry 2,776 tons of Norwegian ice entered Britain. The prevailing view in the British press seemed to be that the trade had by and large decayed altogether.<sup>398</sup> However, that judgement proved a trifle premature. In the years following, signs of a sort of revival emerged. The winter of 1921–2 produced an exceptional ice harvest, better than many could remember. The ice was 15 to 20 inches thick and crystal clear. Editors quickly swallowed their earlier words. They reported how Norwegians were coming back into the trade. By spring 1922, it was estimated that around 30 firms had become so engaged. A London business, A.E. Martin Ltd., had for several years maintained an interest in Norwegian ice imports to the capital. In the course of 1921, in fact, it had landed more than 10,000 tons. For 1922, the firm anticipated

397 *Ibid.*, XXIII (1920), p. 86.

398 *Ibid.*, XXIV (1921), p. 189.

an even bigger trade, not just on account of the excellent ice crop, but because freight costs were falling and suitable shipping was becoming available once more.<sup>399</sup> However, what was not falling were wages. The costs of manual labour in Norway rose markedly in 1918–1920, a feature that slowly rising levels of mechanisation only partially offset.<sup>400</sup>



**Figure 8.3.** Machine-cutting of Norwegian lake ice in 1921, a means of reducing the costs of harvesting when wage costs were rising (Norsk Folkemuseum NF.WB 14615).

The ice harvest of 1922 in due course yielded some 80,000 tons, with somewhere around half of that total maintained in store to meet the 1923 season.<sup>401</sup> Even so, Norwegian ice was still costing over 30 shillings a ton on the dockside in London, well up on the price before 1914.<sup>402</sup> Other ports were not long in resuming Norwegian ice imports. In June 1922, Ipswich celebrated the arrival of its first cargo of Norwegian ice since the start of the war. It arrived on board the 177-ton Danish brigantine,

399 *Ibid.*, XXV (1922), p. 50.

400 See P.T. Sandvik, *Nasjonens velstand, Norges økonomiske historie, 1800–1940* (Oslo, 2018).

401 *Cold Storage and Ice Trades Review* XXV (1922) p. 304.

402 *Ibid.*, XXVI (1923), p. 7.

*Seierkransden*, interesting evidence of the continuing attraction of sail tonnage for the ice trade.<sup>403</sup>

Two factors seem to have been driving the revival of ice farming and exporting. One was the growth in demand for ice on the continent, particularly in France and in Germany. The second factor in the trade's revival, particularly as far as Britain went, was the impact of the hot, dry summer of 1921 when ice was in desperately short supply in some towns and cities.<sup>404</sup> The mean July temperature that year was 18.5°C, breaching even the record figures for the summer of 1911. The capacities of British ice factories were severely tested. When the final tally of Norwegian ice imports to Britain over 1922 was done, it emerged that nearly 40,000 tons had been landed, the bulk of it to ports in England, with London taking over 23,000 tons.<sup>405</sup> The trade's speculators, however, were severely disappointed with the scale of the recovery. They had banked on the summer season of 1922 being a match for 1921. But in time-honoured tradition the English climate failed to oblige. The summer proved cool and damp, with July and August temperature means of 13.7 and 13.6°C, a bleak five degrees below the level in 1921.<sup>406</sup> The ice that entered London in 1922 was mostly handled by A.E. Martin Ltd., with the dockside price between 27/6d and 30/- a ton. Wooden steamers, mostly Norwegian or Danish owned, carried the ice from the Norwegian ports. The smallest were just 200 tons on the net register, the largest up to three times that figure.<sup>407</sup>

The 1922–3 winter season in Norway did not begin well. By mid-January 1923, it was reported that the winter there had been as mild as that in Britain. What little ice that had formed had also been spoiled by heavy snowfall.<sup>408</sup> Cold weather set in in mid-February, with ice developing to a thickness of 18 inches in some places, but cutting and storing the ice was subsequently very slow. It was not just that there were far fewer participants in the trade, but even where exporters remained in business, there was the separate problem that many of the old ice stores were in varying

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403 *Ibid.*, XXV (1922), p. 160.

404 *Ibid.*, XXIV (1921), pp. 189, xxvi.

405 *Ibid.*, XXVI (1923), p. 7.

406 *Ibid.*, XXV (1922), p. 304.

407 *Ibid.*, XXVI (1923), p. 7.

408 *Ibid.*

states of decay, with limited incentive to repair them. Nor were any new storehouses being erected. Lower shipping rates might have tipped the balance, but in 1923 many classes of shipping became involved in carrying coal from British ports to the Ruhr, a situation that arose from the French occupation of the Ruhr which had dislocated Germany's supplies.<sup>409</sup> The start of the summer season in Britain did not augur well for the ice trade either. June came in with 'arctic' temperatures according to one commentator.<sup>410</sup> The mean temperature for the month was 12.5°C, the second lowest for over a century. Rather than a perspiring public clamouring for ice, those involved in the trade found themselves sitting on their stocks, the artificial ice-makers included. Come July, though, the thermometer abruptly turned and the ice trade boomed, the monthly mean hitting 17.5°C. There was a sudden all-round demand for ice from whatever source. Whilst up until the end of June, less than 6,000 tons of Norwegian ice had been landed in Britain in 1923, the month of July alone saw as much unloaded in port or in transit across the North Sea.<sup>411</sup> By the year's close, England had imported around 25,000 tons, valued at nearly £30,000. The figures were down compared with the 1922 import year, and London took only 12,000 tons. But this was unsurprising given the season's slow start and the fact that ice stocks were still high from the poor summer season of 1922.<sup>412</sup>

Weather conditions in Norway the following winter (1923–4) were highly favourable for ice formation and, by mid-February, British ice traders were getting news that the ice crop was already in the ice-stores and that it was of fine quality.<sup>413</sup> Even so, the scale of the harvest remained limited by the diminished storage capacity besides lakes and fjords. There was probably no more than 60,000 tons of ice, whereas ten times that figure would have been in store around the turn of the century.<sup>414</sup> But even 60,000 tons turned out to be overproduction. British demand for Norwegian ice plummeted in 1924, total imports by the year's end

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409 *Ibid.*, p. 92.

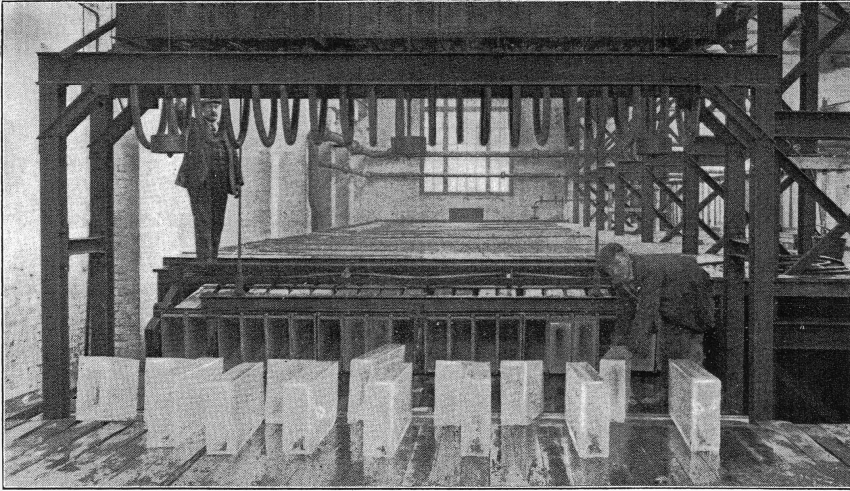
410 *Ibid.*, p. 208.

411 *Ibid.*, p. 263.

412 *Ibid.*, XXVII (1924), p. 2.

413 *Ibid.*, p. 48.

414 *Ibid.*, p. 88.



**Figure 8.4.** An ice-making plant installed by the London-based Lightfoot Refrigeration Company in the early 1920s. The ice-cans and ice blocks are small compared with those from earlier days of artificial ice manufacture (Bodleian: Per 193998 d.1/XXVI p. xxvi).

reaching only 10,882 tons.<sup>415</sup> It proved to be a cool summer and ice factories in London and other cities more and more had the productive capacity to meet summer peaks, unless temperatures turned exceptionally hot. London's leading ice importer saw gloomy prospects for the trade. Indeed, the capital's imports had all but collapsed, with less than 1500 tons landed in 1924. Southampton and Portsmouth each imported greater tonnages than London.

Nevertheless, it was not events in Britain that finally all but extinguished the Norwegian ice trade. It was a disastrous harvest season in Norway in the winter of 1924–5. The weather was exceptionally mild. There had been no winter like it for a hundred years. The 'ice-growers' faced the real prospect of the ice crop failing. In none of the lakes and fjords where ice was systematically 'cultivated' was there any ice to speak of.<sup>416</sup> Twenty years earlier, had such a condition prevailed, the ice merchants would have moved their operations inland to waters that were always frozen during the winter season. But such was the state of depression in the trade that this was no longer an option. Soon commentators were talking of the

415 *Ibid.*, p. 310; XXVIII (1925), p. 50.

416 *Ibid.*, XXVIII (1925), p. 50.



'failure' of the Norwegian ice harvest. For parts of Norway, it had been an 'iceless' winter. Cargoes ordered from British buyers under spring contracts had to be cancelled. What little ice Norway had was of very poor quality, much of it 'needle-ice', fit only for local consumption.<sup>417</sup> The editor of the *Cold Storage and Produce Review* likened writing about the Norwegian ice harvest that year to writing the famous chapter on snakes in Ireland: there are none.<sup>418</sup> Norway's importers of coke for central heating had traded one twentieth of their usual quantity that season, such was the extraordinary mildness of the weather. For the timber exporters, too, the absence of heavy snow resulted in there not being enough meltwater in the rivers to float timber down to the sawmills.<sup>419</sup> The meteorological explanation was that, over much of north-west Europe and Scandinavia, the winter months had been dominated by a south-west airflow. The synoptic conditions that had perennially provided Norway with one of its staple export trades had failed spectacularly. It was a freak of nature, but one that did irretrievable damage to what remained of the trade. When the tally of Norwegian ice imports into Britain in 1925 was finally done, London turned out to have landed no ice at all. Across Britain, less than 7,000 tons was traded, some of it comprising ice stored in Norway from the preceding year.<sup>420</sup>

With a relatively normal winter season in 1925-6, the trade recovered to a little above its 1924 level, buoyed by an unusual rise in demand from Scottish ports which actually imported more than English ports, 6,648 against 5,509 tons.<sup>421</sup> In London, though, the import trade remained dead. The metropolis that in prolonged summer heatwaves had once generated small fortunes for natural ice traders had now become solely reliant upon artificial ice. Over 1927 much the same pattern prevailed, with Scottish ports ahead of English ones in the tonnages they landed. Stornoway in the Western Isles imported over 2,000 tons that year, Lerwick in the Shetlands some 1,600. In England the trade was becoming highly localized, largely

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417 *Ibid.*, p. 92.

418 *Ibid.*, p. 35.

419 *Ibid.*, p. 50.

420 *Ibid.*, XXIX (1926), p. 6.

421 *Ibid.*, XXX (1927), p. 2.

at the south coast ports of Portsmouth and Southampton.<sup>422</sup> In July 1928, the *Cold Storage and Produce Review* was remarking that ‘the trade had shrunk until it had almost melted away’. Its remnants were confined almost exclusively to remote ports where artificial ice was either expensive to buy or hard to obtain quickly.<sup>423</sup> Neither Lerwick nor Stornoway had ice factories according to the census of cold stores and ice factories of 1926.<sup>424</sup> Portsmouth and Southampton, though, which continued importing small quantities of Norwegian ice in the years to come, did have ice factories. In 1926, they had daily output capacities of 48 and 80 tons respectively.<sup>425</sup> The continuing need for Norwegian imports may have been related to the twin demands of the Navy and of ocean passenger shipping. Portsmouth was a leading naval dockyard and Southampton a growing liner port. In summer, these activities may have absorbed all the factory output, leaving little ice for ordinary public sale. Portsmouth, or Southsea to be more specific, was also a major holiday resort, adding further to ice demand in summer.<sup>426</sup>

One might be forgiven for thinking that owners of ice factories were by the late 1920s looking to improve their prospects given the collapse in the import of natural ice. Between 1907 and 1924, employment in Britain’s ice factories had more than doubled, according to the National Census of Production.<sup>427</sup> However, the reality was otherwise. The editor of the *Cold Storage and Produce Review* in February 1928 talked of ‘the ice man’s lament’. The ice factories that expanded on the ashes of the Norwegian trade were far from secure. Yet again, cool summers were knocking their fragile profit margins.<sup>428</sup> The year 1927, for instance, was a very poor one, the month of June bringing a mean temperature of only 12.6°C. But supplementary to cool weather, the sale of small machine refrigerators was starting to stunt ordinary demand for ice in season. Many more butchers

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422 *Ibid.*, XXXI (1928), p. 2.

423 *Ibid.*, p. 210.

424 *Ibid.*, XXX (1927), pp. 173–4.

425 *Ibid.*

426 This was despite the fact that Portsmouth had witnessed a major extension of its ice-making facilities in 1922 – see *Cold Storage and Ice Trades Review* XXV (1922), pp. 199–200.

427 *Ibid.*, XXX (1927), p. 223.

428 *Ibid.*, XXXI (1928), p. 39.



**Figure 8.5.** An Electrolux refrigerator, run on gas or electricity, as advertised in 1928 (Bodleian: Per 193998 d.1/XXXI p. xxv).

and fishmongers were now investing in such appliances, and so too were some of the better-off households. Both business and domestic customers were becoming ‘proselytized in thousands to the small machine’.<sup>429</sup>

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429 *Ibid.*



Electrolux and other companies began advertising campaigns to get their refrigerators into the smarter homes.

It was hardly surprising, then, when some operators of ice plants found themselves struggling. While artificial ice-making capacity was now sufficient to cope with the often insatiable demand for ice in a prolonged summer heatwave, the industry was otherwise plagued by overcapacity and, as an inevitable corollary, cut-throat competition. As we have seen, to make a profit, or to break even, the industry had to have three months in the summer where its plant was more or less working flat out. Meeting peak hot weather demand meant large, even gross, surplus capacity for most of the other months of the year, with all the attendant cost penalties. Unfortunately, the fickle English weather performed its usual tantalizing act. The years 1928 through to 1931 produced a run of cool summers, the August mean temperature dropping to as low as 14.4°C in 1931. In an early act of desperation, the *Cold Storage and Produce Review* announced in 1928 a competition among ice businesses for ‘the best accounts of the summer campaign’. Its declared object was to try to stimulate local self-help and up-to-date business methods.<sup>430</sup>

There appears to have been no definite point at which Norwegian ice ceased to be imported into Britain. Imports in 1933 amounted to 2,544 tons, valued at £2,076;<sup>431</sup> and occasional cargoes continued to arrive for some years after. Norway had maintained a trade in natural ice with Denmark, Germany, France and Belgium, so there were still a small number of exporters and shippers participating in the business. But few at the time would have imagined that, seventy years on, natural ice (this time from Sweden) would once more find its way to London as the capital opened its first ice bar, even if this was merely one of the more perverse facets of 21<sup>st</sup>-century conspicuous consumption.

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430 *Ibid.*, XXXI (1928), p. 210.

431 *Ibid.*, XXXVII (1934), p. 24.

