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Jøtul

- ovner og kaminer

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Chapter 5

The Golden Age (1945–1973)

In the 1950s and 1960s Jøtul focused on developing products suited to the post-war demand for design, comfort and user-friendliness. In this situation housewives became the natural group to target, as was evident in this advertisement from 1958.



Jøtul's history for the first 25 years after the Second World War is primarily a story of increasing success. The entire period was characterised by significant and steady growth in turnover and profits. At the end of the 1940s Jøtul's turnover was a good 6 million kroner annually. In the early 1970s the turnover approached 100 million kroner. The entire time the company showed large profits, and in each year between 1945 and 1973 the owners were able to take greater and greater dividends.

The foremost reason for this positive development was the company's adaptability. After a strong upswing in the first ten years after the war, the market for traditional stoves began to shrink starting in the mid-1950s. The decline was blamed mainly on increasing competition from other types of energy. Electricity and liquid fuel (oil and kerosene) took on ever greater importance in heating, and during the 1960s these energy sources utterly out-competed coke- and wood-fired stoves. This meant that much of the market base for the stove foundries disappeared, and most of them shut down or converted to other types of manufacturing.²⁰⁵ Jøtul, however, began early to focus on new product areas. In the mid-1950s the company began developing models for liquid fuel, and gradually this market became more important. Throughout the 1960s Jøtul was completely dominant in this area in Norway, with a market share of over 65 per cent in the latter part of the 1960s.

Second, with regard to the transition to liquid fuel, Jøtul put more concentrated effort into design. New models were developed with an eye to satisfying the demands of the modern post-war home. This strategy was very successful. Many of the models that Jøtul launched in the 1950s and 1960s became best-sellers. The fact that Jøtul had such great success with its products was primarily due to the company's strong market orientation. Especially strong emphasis was placed on integrating the market and the consumers in the product development process. The internal and external sales apparatus was drawn into the product development work, and these close ties to the market

ensured that product development became a dynamic and open process in the interaction between the market and the company.

Finally, in this period Jøtul managed to build up a particularly strong dealer network. Good, popular products made it intrinsically attractive to be a Jøtul dealer. In addition, Jøtul succeeded through a number of different methods in creating strong dealer loyalty. In this way it was possible to fend off the competition from other manufacturers; at the same time, close relations with dealers provided opportunities for increased influence over market communication. This was particularly important when the competition began to appear with greater force in the 1960s.

In this chapter we shall take a closer look at how Jøtul managed to adapt to changing market conditions in the early post-war period. We shall see how – through active efforts in product development and design, marketing, and an aggressive dealer policy – the company succeeded in building up a very strong position in the market for liquid fuel. We shall also see that Jøtul continued to concentrate on the rationalisation of production, thereby laying the foundation for further progress in production efficiency.

The stove foundries during the post-war reconstruction

The stove industry came to play an important role in the reconstruction of Norway after the Second World War. As a result of the great housing shortage the period was marked by a frenzy of construction activity. Tens of thousands of new residences had to be equipped with heating sources, and wood and coke stoves were still the most common choices.

The rebuilding of the razed regions in the north was another factor. During 1944 and early 1945 the Germans burned down about 12,000 houses, 6,000 farms, 500 factories, and almost all the schools, churches, hospitals and clinics in Finnmark and Nord-Troms. By the time of Germany's capitulation in the spring of 1945, about 75,000 people in these areas were without a roof over their heads, and most social institutions were gone.²⁰⁶ The risk of a social catastrophe was imminent, and most of the people were forcibly evacuated to the south. But many went back home before new housing was ready, and there was an urgent need to secure for them both houses and heating. In this situation the stove foundries came to play a very important role.

For the authorities it was crucial to get reconstruction moving as quickly as possible, and just a few months after Germany's surrender, the construction of temporary housing was under way. Soon permanent housing and other buildings were also built, but not until the early 1950s was the reconstruction completed.

Heating sources were a vital necessity in the north, and the stove foundries were therefore involved early in the reconstruction work. In the summer of 1945 the Provisions and Reconstruction Department [Forsynings- og gjenreisningsdepartementet] called on the stove foundries to make the needs in the north a priority. The Finnmark office in Tromsø, from which the reconstruction work was being supervised, had already turned directly to OL with an order for a large number of heating and cooking stoves. It was emphasised that "insofar as these stoves cannot be delivered immediately, a large number of the people who have now travelled to the north for the winter will have to be taken



Top: Vadsø in Finnmark was first attacked by Russian aeroplanes in August 1944. Some months later the town was struck again when the Germans burned the entire town to the ground during their retreat.



Bottom: Vadsø eight years after its destruction. A new town has been built. Most of the new houses and buildings in the northernmost parts of the country were still being furnished with cast-iron stoves as their primary heating source.

back to populated regions".²⁰⁷ In that first winter of peace it was calculated that about 25,000 heating and cooking stoves were needed.²⁰⁸ That corresponded to almost one-fourth of total annual production.

OL called on its members to comply with filling the requests from the authorities. For a while, however, it was touch and go with the will to do volunteer work. Indeed some heating and cooking stoves were sent north during the autumn and winter, but the number was far lower than what the foundries had been asked to contribute. And by the spring of 1946 the supplies ceased almost completely. An investigation carried out by OL in July 1946 showed that hardly any stoves had been delivered during the spring months. Only one foundry, namely Jøtul, had fulfilled the request from the Reconstruction Directorate [Gjenreisningsdirektoratet].

The effort failed because demand was also great all over the country, and the foundries gave priority to traditional established markets and suppliers. Occasionally dealers even pressured companies to get their orders filled. Finally there was no compulsion from the authorities to make deliveries; it was "merely" a matter of strongly worded requests, and in that sense the foundries could do what they liked.

However, the matter also had a moral aspect. In the autumn of 1946 the board of OL had to defend itself before the department, which was sharply critical of the fact that the industry had not made greater efforts in a difficult situation, but instead had given priority to narrow business-related concerns. Such criticism was telling, of course, and in a memorandum issued before the new year OL emphasised that it was "a matter of honour for the Norwegian stove foundries" to support the reconstruction in the north.²⁰⁹ In addition, the department had hinted at the use of coercion if the industry did not fill the orders. In a meeting some weeks later there was complete agreement amongst the members to "support the effort to meet the demand for heating and cooking stoves in Nord-Troms and Finnmark".²¹⁰

By 1947 the temporary housing construction was over, and at the same time work began on the permanent buildings. This created a need to organise the supplying of materials in a more orderly fashion. In order to avoid having the authorities intervene with direct regulations, the foundries established a clearing-house in the spring of 1947 in association with OL's offices in Oslo. This was to function as a co-ordination office between the foundries and the various developers up north. The office was to take care of the distribution of delivery obligations amongst the foundries as well. The basis for the distribution was the share of total production from the individual foundries. This meant that Jøtul would be responsible for 25 per cent of the deliveries, Drammen Iron Foundry 20 per cent, Ulefos Iron Works 15 per cent, while the remaining 40 per cent would be divided amongst the seven other foundries in the association.²¹¹

The arrangement worked according to plan. Of course individual foundries thought that the quotas were unreasonably large, and several partially boycotted the system. Others obviously viewed it as a duty to contribute to the reconstruction, and demonstrated their conviction by making up for the shortfalls of other companies which failed to comply. They were probably also afraid that the authorities would step in. But all in all the needs were filled, and in the summer of 1950 the clearing-house

was finally shut down with a salute from the authorities. As the Reconstruction Department stated in conjunction with the shutdown: "With one exception the foundries have loyally complied with this arrangement, which indeed in practical terms meant that the foundries in the south and the businesses in the north, with the Trade Office [Handelskontoret] as a go-between, arranged the distribution without outside intervention."²¹² The fact that the industry exhibited such capacity for self-organisation was primarily because it could build on an already strong tradition of co-operation.

Big promises and strong measures

During the first post-war years Jøtul's production increased tremendously. A total of 350,000 heating and cooking stoves was produced between 1945 and 1955.²¹³ This corresponded to an annual production which lay far above the level from the period before and during the Second World War. The high production level was possible because "everyone" united behind the big promise. But for the employees these years were also marked by great burdens. Long work days under tough working conditions over a number of years took its toll. Together with a generally tight employment market this contributed to the difficulties that Jøtul eventually encountered in holding on to the work force. At the same time it became noticeably more difficult to recruit young workers. As we shall see, Jøtul



From the assembly department at Jøtul sometime in the 1950s. Many tasks were still done manually, and not much attention was paid to the arrangement of the workstation. For example, here were no adjustable work-benches.

responded to these problems by implementing a comprehensive overhaul of the production plants, combined with other social reforms.

In March 1946 Jøtul introduced two shifts in the foundry. At the same time the company sought dispensation from the labour protection law's maximum limit of 30 hours of overtime per week. It was granted. At first the dispensation was granted for six weeks, but it was subsequently renewed several times. In some departments the overtime was even more extensive – up to 40 hours per week in some periods. In 1952 the foundry switched over to 24-hour operation, and this continued in succeeding years.²¹⁴ However, it was not a desirable solution. "Running three shifts is a strain for everyone," the management stated in December 1954.²¹⁵ It was clear that such a system could not be maintained in the long term.

The intensified operating schedule, however, took place with the blessings of the authorities. As we have seen, the use of overtime and shift arrangements required official permission beyond certain limits. Jøtul always received approval for such applications, and they were always renewed. The good will of the authorities in this area was presumably due to the special circumstances during the years of reconstruction. The country had to be rebuilt, and so it was important to stimulate increased production in every field. In this situation "overtime" became primarily a badge of honour. In the first few years after the end of the war, the authorities even implemented a so-called "overtime action" with the intention of boosting production. Certainly Jøtul was one of the first companies in the nation to join in the activity. Presumably the good will of the authorities was also due to the fact that Jøtul manufactured goods of great importance to the reconstruction efforts. The rebuilding in the north, and the construction of housing generally, took high priority, and here the stove foundries played an important role.

The shortage of manpower was a general problem in the foundry industry after the war. It was particularly difficult to recruit young workers. This problem was due to some extent to the fact that wages were not very high. But presumably even more significant were the poor working conditions. As an article in *Støperitidende* [Foundry Times] put it in 1946: "The reason there are so few apprentices coming into the foundry is not merely a matter of wages. It is quite clear that if young people have the chance to work in a clean and bright workplace, where they do not ruin their clothes and shoes as much as [they would] in a foundry, then such work will be preferable to foundry work."²¹⁶ In addition, more and more attention was being given to the health risk associated with foundry work. What presumably frightened people most was the danger of silicosis. An investigation done in 1940 amongst 400 foundry workers in Oslo and Aker showed that one-third had various stages of silicosis.²¹⁷ These factors certainly did not stimulate recruiting. However, the foundries did not make any great effort to do anything about them. "We cannot counter these expert statistics, proven by investigations carried out over several years, with arguments that people grow old working in foundries," pointed out one of the foremost men in the field, engineer John Sissener.²¹⁸ He referred to the United States, for one, where the foundries were held responsible in cases where the workers became ill as a result of the working situation.

As mentioned, Jøtul undertook a number of measures in this period to improve working conditions. Some of them were prompted by new environmental labour regulations; in other words, they were



imposed. One such measure was the establishment of a position for a company doctor at the plant. In 1946 Eilert Schiøtz was hired as plant doctor at Jøtul, and in this way the employees received more regular health check-ups for the first time. Similarly, after the war all companies had to set up so-called production committees. These were committees in which employees and management could discuss together various matters related to the work situation. At Jøtul the production committee was established in 1947. Of course, such committees did not automatically lead to any improvement in the work situation. Plant management could presumably choose to ignore the wishes of the employees for quite some time. At Jøtul, however, there is reason to believe that the committees had real significance. At any rate, the many measures that were actually implemented bear witness to this.

The greatest progress was related to the overhaul and modernisation of the plants in the years around 1950. During this period, comprehensive modernisation of lunchrooms and locker rooms was done, and modern showers and bathrooms were expanded. The production halls were modernised as well. The layout was modified to simplify many jobs. At the same time great effort was put into improvements in cleaning. In 1951–52 two air ventilation units with purification filters were installed, one in the foundry and the other in the polishing hall. Together the units had a capacity of 30,000 cubic metres per hour. Jøtul was the first foundry in Norway to install such units.²¹⁹

The significance of these efforts was undoubtedly great. On the other hand, they must not be exaggerated. With the technology that was available it was difficult to do anything about the fundamental environmental problems. By its nature foundry work involves toiling in surroundings dominated by high heat, heavy dust and bad air. Now of course the requirements for the work environment were much less in those days than they are today. But even compared with other contemporary industries, working conditions in the foundries were generally poor. And as far as Jøtul itself is concerned, a number of remedies were imperative. For one thing, the company was plagued by

From the polishing hall where the goods were polished. Polishing was a heavy and demanding job, and in the 1950s was done as piecework. The polishers were especially susceptible to silicosis, but as we can see a vacuum device was installed directly on the polishing wheel to restrict the release of iron filings into the air.

Jøtul og Kværner Ovnstøperi A.s.



Helt til venstre gokalkap for idrettslaget. I bakgrunnen til venstre sees kantinen. Materiene på veggene fra «Kunst på arbeidsplassen».

For en tid siden var vi innbudt til Jøtul for å bese det nye sanitæranlegget, og det er interessant å se på og konstantere fremskritt i sanitære forhold ved støperiene.

Spisesalen er lys og rommelig, likeå garderoben, vask og dusjrommene. Det er orden og

godt renhold over det hele, og arbeiderne er tilfreds med de nye sanitærrom.

Ved Jøtul og Kværner Ovnstøperi A.s. er ansatt ca. 300 arbeidere og vel 50 funksjonærer.

I entreen til garderobene har hver av de valgte kasserere for fagforening, hjelpekasse etc. hver sitt lille bord på utlønningsdagen slik at all kontingentbetaling skjer idet arbeiderne forlater bedriften, etter at lønnen er utbetalt. De av bedriftens arbeidere som har mest skittent arbeid har dobbelt sett garderobeskap, ett for arbeidstøy og ett for gangtøy, beliggende på hver sin side av badet. Når arbeiderne kommer opp i garderoben etter arbeidet tar de belt av alt tøy (arbeidstøy) og henger dette inn i skapene, som er forsynet med avsgug på topp og varmelementer under slik at tøyet tørkes.

De går så gjennom badet ut til gangtøyet og kler på seg.

I spisesalens kantine fås kjøpt kaffe, melk, landsøl og ellers alkoholfrie drikker. Melk, øl, brus etc. oppbevares i kjøleskap og i salen er plassert kjølekasse hvore arbeiderne kan sette sine flasker fra den ene spisepause til den annen. Sangkoret har en monter for sitt banner i salen og idrettslaget en for premier. Øvrig utamykning er maleri-reproduksjoner fra foreningen «Kunst på arbeidsplassen».

Taket i salen er perforert for lydempning og frisklufttilførselen skjer gjennom perforeringen i takets midtre del. I hver ende av salen, over inngangsdørene er der avsgug. Gulvet er belagt med usfaltfliser. Salen er ellers utstyrt med høyttaleranlegg og der er musikk i hver spisepause.



Avdeling for verkstedet, håndtrøsker ved veggene.



På gulvet Jøtulstøker i rustfritt stål. Duerjer med temperaturregulert varmt vann, 39° C.



Til høyre småbord for fagforeningskasserere og oppslagsstatte med ardeling for bedriften, fagforening og sangkor — til venstre stempling.

In 1951-52 the locker room and lunchroom were extensively modernised. For the employees this was a whole new world compared with the old facilities.

greater air pollution than most other foundries. This was basically due to the fact that production was so enormous relative to the production area, something that was made possible by mechanisation in the inter-war years.

Possibly as a compensation for the uncomfortable work situation, the employees were offered other kinds of support. For example, in the late 1940s an "interest office" was set up for the employees. Here one could seek support, advice and help in personal matters; under special circumstances employees could even borrow up to 1,000 kroner interest-free.²²⁰

Another important step was the establishment of Jøtul Housing Corporation. In 1946 Gahr took the initiative to set up a home-builder's club amongst the employees who did not have adequate housing. He purchased a plot of 28.33 acres in Manglerud, and started the planning moving for duplex and row-houses for about 100 families. The idea was to form a co-operative in which the company would contribute a significant portion of the funds. The company contributed in other ways as well. After the war construction materials were rationed, and it was not a given that sufficient quantities would be available for such a project. This was solved by assigning four hardy fellows from the plant, with wages from the company, the task of felling timber in Løvenskjold's woods in Nordmarka. In

Workers with long terms of service with the company are appreciated. Travel and other benefits were part of Johannes Gahr's management philosophy, which was focused on building strong loyalty to the company.



Jøtulfolket ser seg om

Aksjeselskapet Jøtul har i løpet av våren arrangert turer for de som har vært ansatt i 25 år eller mer.

De ansatte hadde 3 alternativer å velge mellom.

Tur I: Oslo — Aarhus — København — Oslo.

Tur II: Oslo — Kiel — Hamburg og tilbake.

Tur III: Blomstringstur til Hardanger.

60 av de ansatte deltok i turene, med hovedgruppene fordelt på Danmark og Tyskland som herværende fotografier viser. Turen til Tyskland ble foretatt i april, mens turene til Danmark og Hardanger ble avviklet i siste halvdel av mai og begunstiget med et meget fint vær. Turene hadde et førsteklasses opplegg og ble meget vellykket.

Boligselskapet som selv hogger tømmer.



Sigmund Hiltun.

Jøtul boligselskap skal bygge hageby med 110 leiligheter på Manglerud.

Et eksempel på hva godt samarbeid mellom bedriften og folkene kan føre fram til.



En typisk to-mannsbolig, tegnet for Jøtul boligselskap, av arkitekt Herman Munthe-Kaas i arkitektfirmaet Blakstad og Munthe-Kaas.

Som Arbeiderbladet før har fortalt har Jøtul Boligselskap fått tilstilt de nødvendige materier til de første 30 leilighetene. Det er arbeidere og funksjonærer ved Jøtul og Kvarner anstøptert som skal bygge en hyggelig hageby på Manglerud, og de har fått i skogen til å hogge tømmer for på den måten å gjøre sitt til å minske på materielangelen.

Det er ikke hver dag at et boligselskap sender sine egne folk på tømmerhogst, derfor har en av Arbeiderbladets medarbeidere hatt en samtale med formannen i byggestyret, sanger Sigmund Hiltun. Og det er en interessant historie han har å fortelle, en historie om aktive innsats fra folkene sine og førstehåndskunnskap fra bedriftsledelsen. Et samarbeid som må si gode resultater.

All før krigen tok direktør John Gahr opp en statistikk over boligforholdene hos bedriftens arbeidere og funksjonærer. Statistikken viste at folkene langt fra hadde tilfredsstillende husvær. Direktøren, som er en sosialt interessert mann, lot det ikke være med bare å konstatere at mangelen var der. Han begynte også å smøtt å kjøpe opp skoger i Østfold-egnet for å skaffe sin til dem av organisasjon som hadde de de deiligste tømmerforholdene.

Så kom krigen og satte en stopper for dette arbeidet. Men da freden kom ble arbeidet med boliger igjen tatt opp igjen. Sigmund Hiltun

fortalte i klassetypet, og han reiste seg på en stund. Og direktør Gahr sa Hiltun i oppdrag å se seg om etter en passende tomt for boligbygging. Og denne fant han på Manglerud i Østfold. Det er et areal på omkring 70 mål, som ligger høyt og fyllt av bare en 20 meterlange spærter fra bedriften. Direktør Gahr, assistent Sigmund Nilssen og arkitekt Herman Munthe-Kaas fant ved ledningen at dette var den ideelle tomt for en hageby for arbeidere og funksjonærer ved Jøtul og Kvarner anstøptert. Det var Realitetskomiteen som eide tomtene — og snart var selget til Jøtul Boligselskap i zeden.

Og nå begynte arbeidet for alvor å rulle. Arkitekten hadde allerede fått fra seg av. Men han tok til seg utøveren, og etter de samarbeidende uttalelser har han funnet fram til en ypperlig planløsning for husenes innredning. I de vesentligste tremannsboligene blir det en stor stue og kjøkken i første etasje og tre soverom med bad i annen. Disse leilighetene er på 86 kvadr. Så er det en type to-mannsboliger. Der er det stue og kjøkken i første og to soverom og bad i annen. Disse er på 80 kvadr.

Foruten tremannsboligene er det planlagt en del sekkehus. Det er jo en god del ungdom ved bedriften, og de behøver ikke så store leiligheter. I tillegg fikk i første omgang.

Kontrollmannen Asbjørn Abramo og Sigmund Hiltun var i høst på en studiereise, først i Østfold og senere i Bergen. De ble særskilt interessert i arbeidet med byggingen ved Dale i Østfold. Der er det en helt gjennomført boligselskap, som har i tillegg i det hele tatt mer enn sytte av disse studiereiser som bedriften sendte seg på, sier Hiltun.

Men så var det forutsettningene. Det ble innledet forhandlinger med Lovenshaugen om levering av materialer til boligselskapet, og han var villig til å betale det, men så kunne de ikke bygge til skogen. Nå er taken den at under hele krigen har bedriften med egne folk høvd og så vel til innredning som til fylling. De har en som har stått for denne høvden, har vært ved Jøtul og Kvarner i 20 år, men før den tiden var de slingskaver. Og de har såvidt ikke gjort alle samle husene. De får som nå ligge sine på Grøntrøst og stikke nedover til Heggelø i Nordmarka, og her er husene av Gulmound M. Martinsson, Lars Einar Anton Randsen og Einar Martinsson. Det er så ganske ansett kvantum disse husene skal bygge.

Jøtul Boligselskap regner etter hvert å bygge en 110 å 120 leiligheter på det innkjøpte området. En til stue å få en så god boligstandard som mulig. Den første typen vil omfatte 8 vertikale de to-mannsboliger, 10 leiligheter. Det er sålt en meterstol til 30 leiligheter, slik at neste periode blir i tillegg seks og etter Manglerudveien.

Og det gjeldende ved det hele er at det er så smått tatt i gang med arbeidet. Det er sagt en stor del av

de Heggeløveien. Den er sålt opp som arbeiderboliger på tomt. En er videre gått i gang med tilkjøring av materialer, tilpasset det hjørne fram stupa til foretaket av Manglerudveien.

Ellers er det sagt å gå i gang med byggearbeidet så fort som det går ut av halsen. Vi regner med å ha alle materialer framme i midt til, sier Hiltun. Og så er det

for programmet, skulle den første innflyttingen kunne foregå i midten av august i år.

Den midlertidige byggeleder heter er Sigmund Hiltun, Adjunkt Alshåmann, Otto Andersen, Gustav Lind og Alf Pedersen. Overrettsassistent Georg Rjøerth er foretaksleder for selskapet.

E. O. S.

Co-operation produces results. At Jøtul the workers received considerable support from the company in building their own houses. The employees could own their own house and property.

this way they obtained most of the materials they needed. Of course, not as many housing units were built as they originally envisioned. But by the mid-1950s thirty-one families of employees had received "Jøtul houses".

The completion of this project also provides an illustration of Gahr's leadership qualities. He was obviously keen to build trust amongst his employees. With the housing project, it was the employees' representative in the co-operative committee who was given the assignment of leading the project. And with financial support from the company he travelled around the country with the rest of the project group, looking at similar projects. "An example of what good co-operation between the company and the workers can lead to", wrote the labour newspaper in 1947 about the project.²²¹

As a whole, it seems that in spite of everything the relationship between employees and management at Jøtul was a good one. In 1946 club foreman Asbjørn Abrahamsen was quoted in *Arbeiderbladet* [Labour News] as saying that there was "an unusually good co-operation between the workers' representatives and company management".²²² Of course, it is dangerous to read too much into public statements of this type. But in Jøtul's case there is reason to believe that it held true. Johannes Gahr was far from a soft-hearted man, and in many ways he was rather authoritarian. On the other hand, he was regarded as honourable and reliable. And even though he was a reserved man by nature, he was also interested in making contact directly with the employees. For example, he often went around in the production hall to talk with them.

Rationalisation and modernisation

The many measures which management implemented to improve the lot of the employees both at work and at home were certainly based on genuine concern. But they were also essential because the company had to hold on to its employees, and at the same time manage to recruit new and preferably young workers. The employment market was tight and the alternatives for an iron and metal worker were many, and as we have seen, the foundries were not the most attractive workplaces.

The work force situation, however, also contributed to prompting measures of another type. In the first years after the war, Jøtul actively focused on rationalising and modernising production. New technology was put to use, and the organisation of production was simultaneously initiated to save on labour. In this way one managed to reduce the need for labour as the production capacity increased. Through these measures the company moved another step forward with regard to production technology compared with its competitors. In this period it was indeed Jøtul that went the furthest of all the stove foundries in automating production.

It was, however, not only the manpower situation that provoked these measures. There is much to indicate that under Johannes Gahr's leadership Jøtul was basically focused on rationalisation – the company had its own "rationalisation culture", if you will, which existed more or less apart from the development in the labour market, the competitive situation, etc. Although the truly great technological advances occurred in a few concentrated waves, at the same time continuous work on rationalisation was going on throughout the entire period from 1930 to 1960. Much of this was because of Gahr's special interest in the field. Ever since the early 1930s he had been fascinated by rationali-



sation as an essential tool in industry. It was because of his interests in this area that he won a key position in the rationalisation office of the Industrial Association after the war – a position that quite certainly also gave Gahr and Jøtul many new ideas in this area. At the same time Jøtul had talented technical experts who were able to implement the measures in practical terms, and who could also develop new technical solutions on an independent basis.

As we have seen previously (Chapter 4), Jøtul began using labour studies in their production early in the 1930s. They continued doing this throughout the thirties and on into the post-war period. After the war, time studies were added. This was a method that became quite common in Norwegian industry throughout the 1950s. However, Jøtul began doing time studies in 1946, which was quite early for Norway. Men in white coats with clipboards who peered over the workers' shoulders were of course not always popular. But Gahr thought that the time and motion studies contributed important information to making operations more efficient.²²³

Most important in this period was the conversion to a fundamentally new moulding technology. This conversion is particularly interesting because the new technology was developed by the company itself. Given the technical resources available, and the high technical complexity of the new system, it was a very impressive achievement. The main reason behind the success of such a project was the company's rationalisation culture which we mentioned before. The development work was not carried out by making specific changes in the external conditions. It was a result of goal-oriented efforts sustained over a period of many years.

It began in the second half of the 1930s, when operations engineer Arne Krogvik started experimenting with a new method based on automation of the moulding process. This work continued during the war and into the early post-war years. In 1948–49 Krogvik was released from all other tasks in the company in order to devote himself full-time to this work. Around 1950 the new system began to take shape, and in 1952 the first moulding machine was put into operation. With this machine the time- and labour-intensive moulding work could be automated. While the flasks were previously filled partially by hand, the moulding machine made it possible to "shoot out" a new flask ready for casting every fifteen seconds. Over 300 kilos of moulding sand were used each minute during the process.

The moulding machine, or the "Jøtul automat" as it eventually was called, was probably the first of its kind in Europe.²²⁴ Along with the other automation of the production cycle, the moulding machine made it possible to run mass production in the foundry in earnest. The automat met all expectations, and two similar machines were installed in the following years. In this way it gradually became possible to abolish shift work. By 1957 almost as much was produced in one shift as previously was done in two.²²⁵

The man who had led the work on developing the automatic moulding machine, Arne Krogvik, did not have the pleasure of witnessing the final result of his work in this area. In May 1952, shortly before the automat came on line, he died of a heart attack during one of his many study trips to the United States. He was 65 years old.

Opposite page:
From the foundry. Moulds ready to cast were moved forward on the conveyor belt, where the caster stood ready with the "ladles". When the ladle was empty, a new supply of molten iron was fetched from the cupola furnace.



Operations engineer Arne Krogvik was employed at Jøtul from 1917 until his death in 1952. Throughout this period he played an enormously important role in company operations. Krogvik was a mechanical engineer and thus had a different educational background from most engineers in the foundry industry. Jøtul's strong orientation towards operations technology is largely due to Krogvik's technical expertise and excellent background in this field.

The young engineer Knut Tronstad would take over the reins from Krogvik. Tronstad was hired as Krogvik's assistant in 1945 and was immediately drawn in to the work on developing the new moulding technology. In 1949, when Krogvik turned all his attention to the automatic moulding machine, Tronstad took over as operating engineer. Tronstad continued to take part in the development of the automat, however, and when Krogvik passed away, Tronstad completed the project. Tronstad had many of the same qualities as his predecessor. Like Krogvik, he was also a loyal employee. He remained at Jøtul for his entire professional life, until he finally retired in the early 1980s.

From co-operation to competition: The industry agreements are gradually dissolved

As we have seen in Chapter 4, in the 1930s the foundries established close co-operation on prices and discounts. In addition, arrangements were set up to regulate the discount practices of the suppliers. Through these agreements the industry dealt with the most aggressive competition, which was important in a time when the market was weak and profitability at both ends was poor.

In the early post-war years, the market situation was turned on its head. Demand far outpaced the production capacity of the foundries, so they no longer had to compete for market share. From this perspective, the original basis for the regulation of competition disappeared, although it was maintained for many years after the war. Not until the 1950s when the authorities began to focus greater scrutiny on such business agreements in general did the co-operation come under pressure. Such forms of competition regulation were increasingly regarded as unfortunate. The stove foundries' mutual agreements were also scrutinised, and in 1958 the industry was ordered to dissolve both the stove arrangement and the dealer agreement. This meant that prices in the stove market for the first time in twenty years were left up to the market and the individual company. In such a situation the disparate strengths of the various manufacturers came more clearly to the forefront. Those who had concentrated on modernisation could take advantage of the market mechanisms, while those who had stagnated during the protectionism of market regulations were in a weak position. It was no accident that Jøtul was amongst the manufacturers who welcomed "deregulation".

In the first years after the war the industry had in reality a limited influence on prices. Until about 1950 there was a price freeze on most goods, including stoves and fireplaces. And until the mid-1950s permission had to be sought to institute price increases. Of course, the foundries did obtain permission to raise prices a bit in these years because production costs were rising.

The surcharges applied only to wholesale prices, however. With the dealers a special form of price regulation was practised, and it was much stricter than what applied to the manufacturers. As a general rule, dealers had to base their retail prices on their profit margins in kroner and øre as of the outbreak of hostilities in 1940, and this was largely followed in practice. Thus the manufacturers were compensated for their increased production costs, while the dealers were not compensated in any way, either for increased overhead or wholesale prices.

Throughout the first part of the 1950s the dealer organisations began to complain about their diminishing profit margins. One of them, the Norwegian Hardware Dealers Association [Norges Jernvarehandleres Forbund], stated in 1953 that the per cent dealer margin had "reached a level that bears no reasonable relationship to the dealers' overhead in the sale of heavy and difficult-to-handle