

4 1960-1967 IN THE NEWS

IN OCTOBER 1960 white South Africans were asked to vote in a referendum on the country's future. Was it to remain a constitutional monarchy with the Queen as head of state, or should it become a republic with a president? Those wanting a republic won the day — though Natalians voted against them — and the change was timed for the end of May 1961. To satisfy business leaders, the government agreed that it would be a good idea to remain in the Commonwealth, following precedents set by countries like India and Nigeria. In March 1961 the Prime Minister, Dr Hendrik Verwoerd, attended a Commonwealth Conference in London and applied for continuing membership.

Australia and Britain supported the idea, but the Canadian Prime Minister, John Diefenbaker, was violently against it. So were leaders from the Third World. There was such an uproar that Verwoerd withdrew the application and returned home. South Africa had to stand alone, and there was a strong chance that other countries might apply trade sanctions. That put paper supplies at risk, because South Africa produced little more than half of what it consumed. The total embraced 350 000 tons per year — 190 000 tons of unbleached papers of various kinds, 80 000 tons of newsprint, 48 000 tons of printings and writings and 12 000 tons of tissue.

At the beginning of 1961 South Africa's papermaking capacity had stood at 200 000 tons per year, the bulk of it at Sappi's two mills though several other companies made contributions. Premier Paper and South African Board Mills were still in business; Cellulose Products was rivalled by a new tissue mill in Cape Town; and there was a

One-ton cylinders of liquid chlorine, one of several chemical by-products made at Enstra.

Construction of Enstra's newsprint mill, 1960 (overleaf).





fluting mill at Felixton in Zululand, set up by Giuseppe Raimondo in association with the Huletts sugar group, which made its paper from sugar cane bagasse — a South African first, though the technology was not new. In addition, a British company was building a pulp mill in Swaziland, and Sappi was wondering whether to erect a mill in the Eastern Transvaal.

In April 1960 Sappi had bought the farm Mweti near Komatipoort on the border with Mozambique, close to the tree-growing areas of the Transvaal and Swaziland. There was plenty of water in the Komati and Crocodile rivers, and there was easy access to the rail link between Johannesburg and Lourenço Marques — today's Maputo — meaning that a mill would have the option of sending paper westwards for the domestic market or east for export. A subsidiary, Komati Pulp Ltd, was registered; and a caretaker moved onto the farm and used it to grow squashes — only to have the whole crop gobbled up by hippos just when it was ready for harvesting.

The Komatipoort scheme had been John Henderson's idea. In January 1960 Henderson had been appointed Sappi's managing director, still based in the Union Corporation building. Moore O'Hara remained commercial manager while Leonard Job the technical manager held court at Enstra. The three men had worked wonders in transforming the company into a major industry. One of the latest projects was a new bleaching process, an extra stage added to the four used previously, which exposed pulp to chlorine dioxide to make it still whiter and brighter. The new installations included an extension to the bleaching plant and a plant for making the chlorine dioxide, commissioned in 1960.

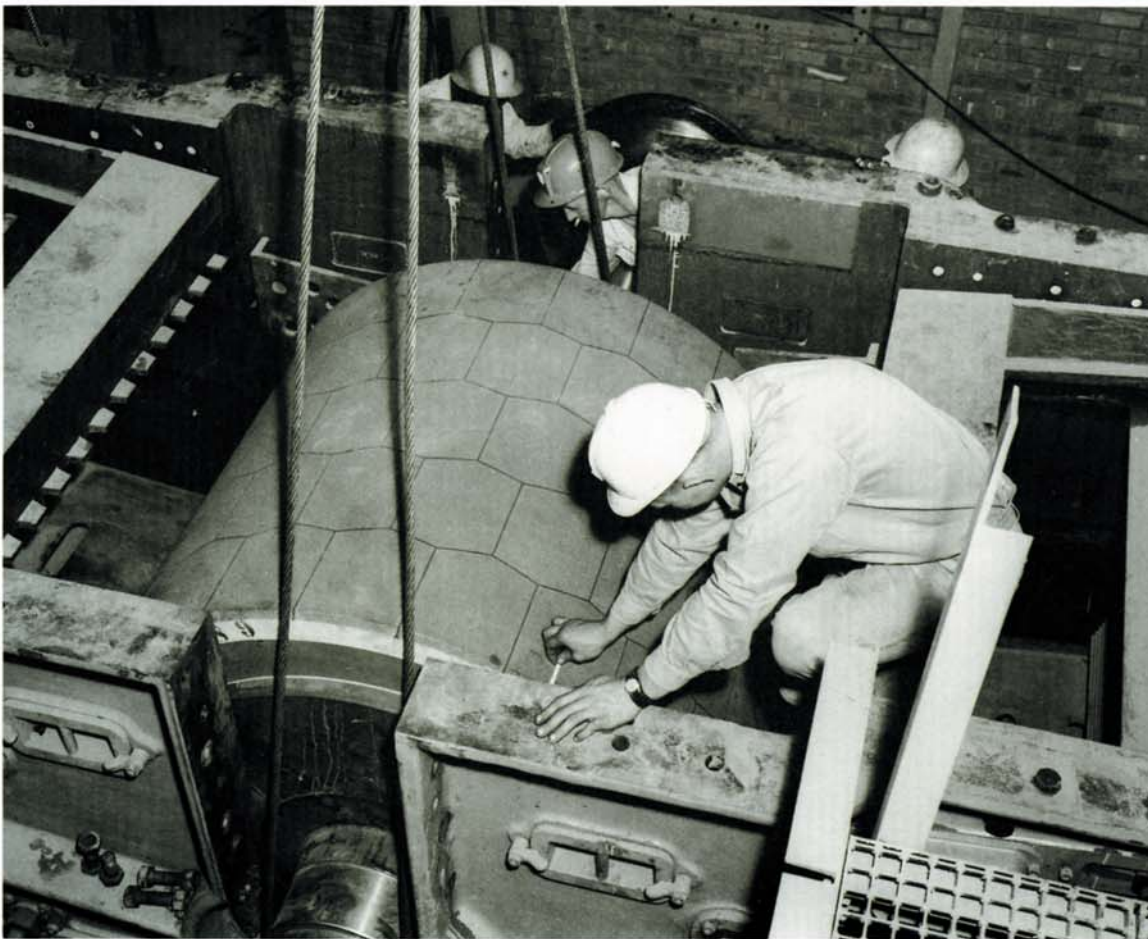
Much of the preliminary work for these projects was done by Leonard Job's technical department, which had expanded from the original two filing cabinets into occupying a building of its own, completed in 1959. The department included a central development team — Job himself, Chris Myburgh, Lon Wayburne, Les McWilliam and others — which explored and monitored new processes and liaised between Sappi and the engineering department at Union Corporation, which was responsible for all working drawings. There was also a research team led by Henry Myburgh and E J Smith, which included a well-established pulp section, a paper-testing section with Ella Steyn in charge, and an analytical laboratory.

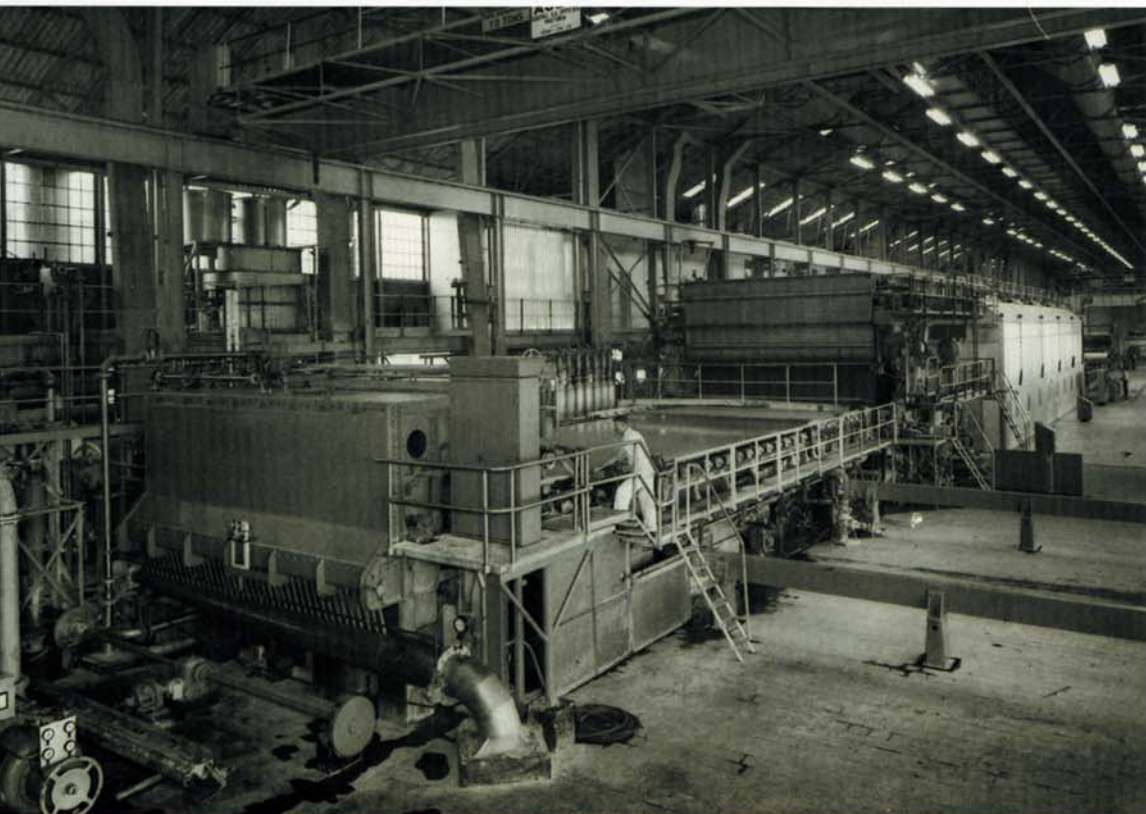
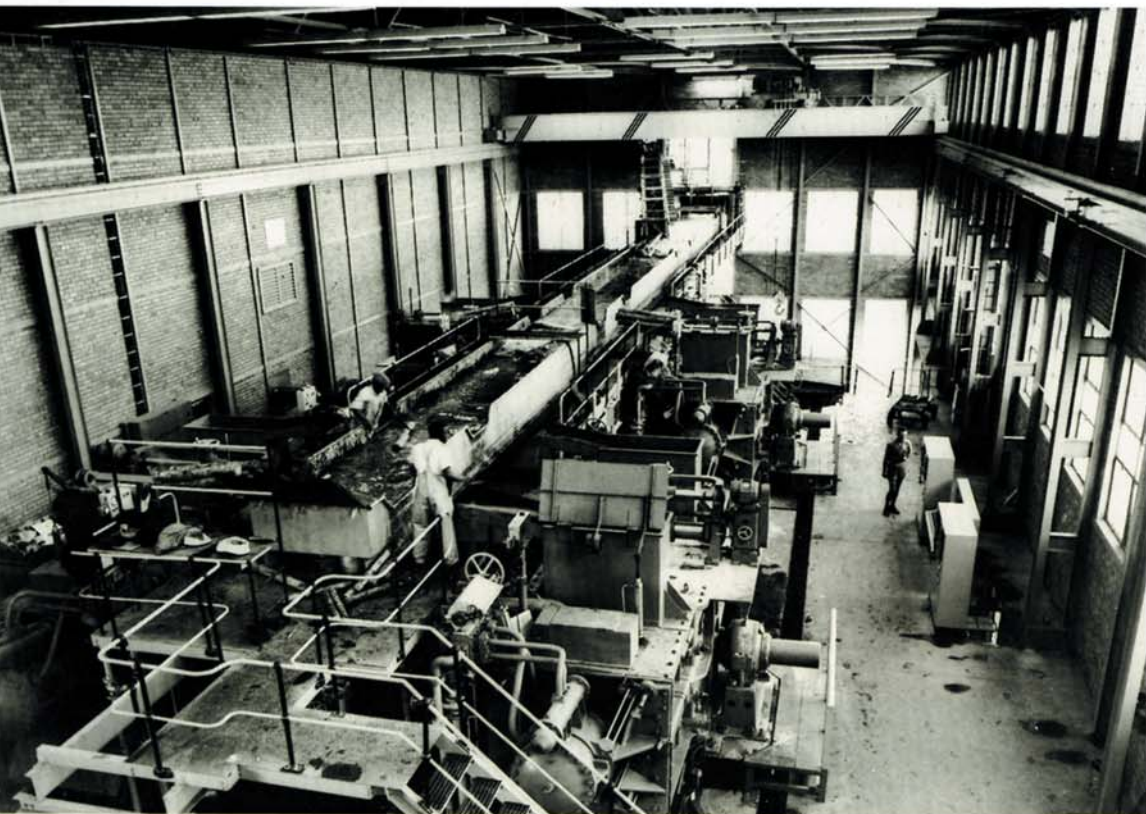
On another part of the Enstra site, the equivalent of a complete new mill was being installed — the Sappi newsprint project, which had got under way in 1959 when contractors began digging foundations. Soon a newsprint machine house was up and equipment was arriving, much of it from Beloit, but some items from Europe or local suppliers. By June 1960 the project's four grinding units were being installed, and an assembly crew was erecting the Beloit paper

machine — actually a scaled-down version of the full design. To cut costs a number of drying cylinders, valve pumps and a host of other features had been omitted. Leonard Job described it as ‘a sawn-off shotgun.’

The decision to scale down the machine had been taken because nobody could be sure how Enstra’s newsprint would turn out. If it worked, and the Newspaper Press Union wanted more, the machine could be extended. When complete the machine would be able to make 70 000 tons of newsprint per year, but Sappi needed only half that and could afford to run it at lower speeds. In planning the project Sappi had asked Beloit to provide two sets of specifications, one for the full machine and one for the economy model, and together the Americans and South Africans had decided what to include.

Assembling a grinding unit for the production of groundwood pulp.





By the early months of 1961 Enstra commissioning teams led by Des Turner were running in the paper machine and the grinding units. Debarked logs, each 1,3 metres long, were fed into the units and shredded by large grindstones that were lubricated with hot water. Mechanical pulp retained twice as much of the original wood as chemical pulp, but to make efficient newsprint the two had to be mixed in a three-to-one ratio. SAFI pulpwood was being railed in from the Eastern Transvaal and was tried out, and at last everything was ready. South Africa's first commercial newsprint was produced in April 1961.

The whole of Enstra had been waiting for the moment, and to celebrate it the company gave a 'Night to Remember,' an ox braai and dance attended by 5 000 people. Sappi's guests ate their way through two oxen, several sheep, 200 chickens and a ton of boerewors, and also tackled a knee-high cheese presented by Beloit as a symbol of Wisconsin, America's Dairy State. Customers and suppliers mingled with staff from Enstra and Tugela and Sappi's head office, and everyone present could feel part of a Sappi family. At least 20 of the revelers had been at Enstra in 1938 when the No 1 machine had started up.

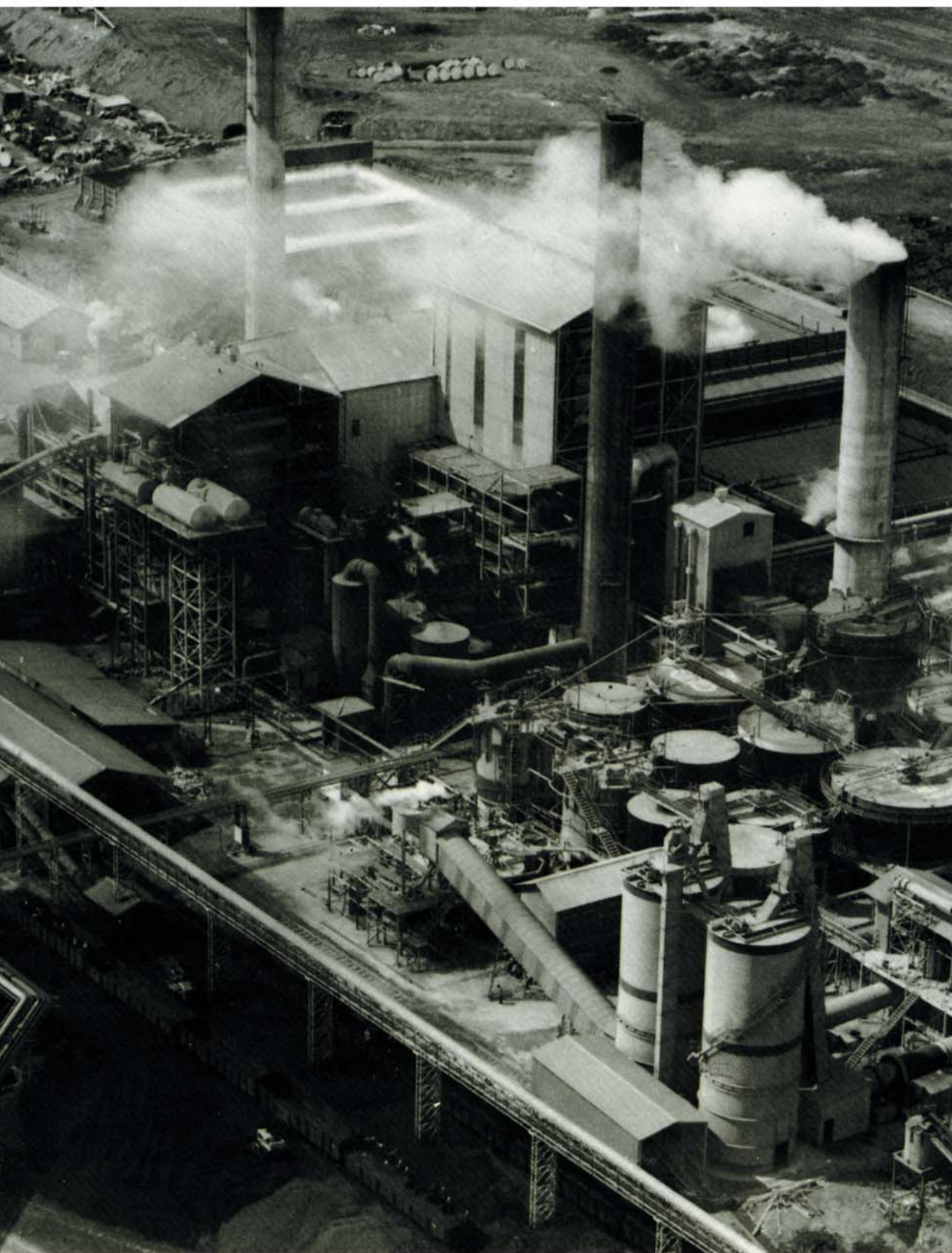
Before long, half the newspapers published on the Witwatersrand were printed on Enstra newsprint, but readers could not see anything different. Much of the news in their papers was about continuing threats of sanctions and about the government's efforts to counter them. Early in 1962 government representatives approached Sappi to ask whether the company could make more. Sappi explained that even as it stood the new machine could make 35 000 tons per year, and the Newspaper Press Union was instructed to take up the full amount. That covered all but a fraction of the needs of inland newspapers, but 35 000 tons more were needed for those at the coast, and newsprint for them was imported.

Newspapers were taking the sanctions threats seriously, and the Newspaper Press Union wanted a new source of local newsprint to supply the coastal market. Because the newspaper owners were wary of putting all their eggs in one basket they deliberately avoided Sappi

Inside Enstra's groundwood plant, with a conveyor belt feeding logs to the grinding units.

Making newsprint on Enstra's No 6 machine, commissioned in 1961.

Tugela's boiler house and pulp plant (left), soda recovery plant and causticising and lime burning plants, with the gas producer in the right foreground (overleaf).





and invited an international company to build a new mill. John Henderson was not impressed. In his view it would make much better sense to establish a newsprint operation at Tugela, where so much was already in place. After consulting the board he offered the newspapers a package deal by which Sappi would provide more than 90 per cent of their requirements for at least 15 years at prices tied to the cost of Canadian newsprint.

As extra inducements, Sappi offered to share profits, and invited the Newspaper Press Union to nominate a director to Sappi's board. These were offers that could not be refused. An agreement was drawn up and signed in August 1963, and Leonard Job and his men were faced with implementing another major expansion. A newsprint mill had to be built at Tugela, and the Enstra newsprint machine — No 6 — was to be extended without delay. Because Sappi was running out of pulping capacity, the management also wanted to build an entirely new mill in the Eastern Transvaal.

Built-In Stretch

DURING 1959 the Natal Administration had built a new road bridge across the Tugela at Mandini. The bridge was named after John Ross, who as a shipwrecked 14-year-old in 1826 had walked from southern Natal to Delagoa Bay in Mozambique to ask for medical supplies for his companions. Already the road south was being tarred, and a journey to Stanger was much less of an adventure. The only reminder of Mandini's colourful beginnings was the row-boat ferry across the river, but even that was little used. Interest in the Red Dog had slumped when Mandini recreation club had been given a liquor licence.

With the opening of the bridge, Mandini seemed much less isolated. That made things easier for the construction workers who arrived to assemble the No 2 kraft Fourdrinier built by Beloit, the twin of Enstra's newsprint machine. The new machine was to be installed parallel to No 1 in the machine house, and to make room for it Enstra's artisans had to move their workshops to another building. New digesters were set up, the woodyard was extended, extra filters were put in, and in February 1963 the No 2 machine was commissioned. Overnight, Tugela's papermaking capacity was raised from 70 000 to 125 000 tons per year.

Originally Sappi's management had meant to use the new machine to make sack kraft, but there was a change of policy. Sack converters were becoming interested in a relatively new product known as ex-





First trial run on Tugela's No 2 machine, 1963.

tensible sack kraft, paper with a built-in stretch that made sacks stronger. The paper was made by the so-called Clupak process, a technique dreamed up by Sanford L Cluett of the United States who was already famous for inventing 'sanforised' fabric which resisted shrinking. The Clupak process was sanforising in reverse, a matter of straining the paper sheet when still warm and wet, then allowing it to revert to its normal consistency. Moore O'Hara travelled to the United States and obtained permission for Sappi to use the Clupak process under licence.

The process depended on a special unit mounted halfway along the paper machine's dry end. Rather than disturb the No 2 machine, Sappi's management reserved the Clupak unit for No 1 — which in any case needed modifications. Linerboard production was transferred to the new machine, and within four months No 1's refit was complete and the mill was producing more kraft than the local market could absorb. Anticipating the situation, the company had already registered a wholly-owned subsidiary, Sappi Sales Ltd, with offices in Britain. In addition, Sappi had an interest in a British corrugating company, Unicases Ltd, which had been set up by Union Corporation in 1960 to promote Tugela kraft and had a factory near London.

Exports from Tugela were new, but it was not the first time Sappi was selling into outside markets. A Rhodesian subsidiary had been formed in 1958 to handle sales in Central Africa and as far away as the Congo. There had also been orders from East Africa, Mauritius and Ceylon, and in view of the coming expansion programme it was hoped they would increase. The first phase of the programme was the extension of Enstra's No 6 machine, adding the dryers and other features that had earlier been omitted, and equipping it to run at much higher speeds. Many parts of the machine had to be taken to pieces and altered, or in some cases moved to new positions.

The rebuild was complex and would normally have required a three-month shut-down before production could resume. In Sappi's case that was unthinkable because the company had to fulfil its newsprint contract. Enstra's engineers made detailed plans of what they had to do and where possible arranged to make alterations during scheduled maintenance shut-downs. Over a weekend, the calender stack and paper rewinder at the termination of the dry end were moved 30 metres to their new positions. That left a long gap where new dryers were to be put in, and underneath it in the basement the engineers rigged up a temporary conveyor system to carry paper to the calender.

As paper came off the dry end, it was fed to the basement and transferred to the conveyor, then returned to the production floor when it reached the other end. The process was monitored with closed-circuit television, still a novelty in South Africa. The engineers set up new dryers, then shut down the machine for nine days while they made final alterations. By the end of the rebuild the company had lost no more than 14 days of production, an achievement which attracted wide interest among papermakers in other countries. In November 1964 the machine was restarted and appeared to work well. Operators gradually increased its speed until it was approaching full capacity.

The company was spending a fortune — in rands and cents, following South Africa's switch to decimal currency from the beginning of 1961 — and the money was coming from profits and rights issues. To help pay for the Tugela expansion, in April 1961 Sappi's authorised capital had been increased from R3 500 000 to R9 million, with 3 186 879 shares distributed free to registered shareholders and 2 549 503 made available at R1,70 each. To pay for the newsprint expansion and also for the new pulp mill planned for the Eastern Transvaal, in September 1963 the capital was boosted to R12 million, with 2 230 815 shares offered at R4,50 each.

A month later, the company received extra funds through selling Union Corrugated Cases to Union Corporation. During 1962 the mining house's head office had been transferred from London to

Johannesburg, and Tommy Stratten had been appointed chairman, the first South African to hold the post. Stratten remained chairman of Sappi and early in 1963 his board had been enlarged to take in five extra directors — Ted Matthews and P M Anderson's son Colin of Union Corporation, the chairman of the Newspaper Press Union, Dr H J van Eck of the Industrial Development Corporation and P R Rörich of Twello Bosboukorporasie, an Eastern Transvaal timber company which was to supply wood to the new pulp mill.

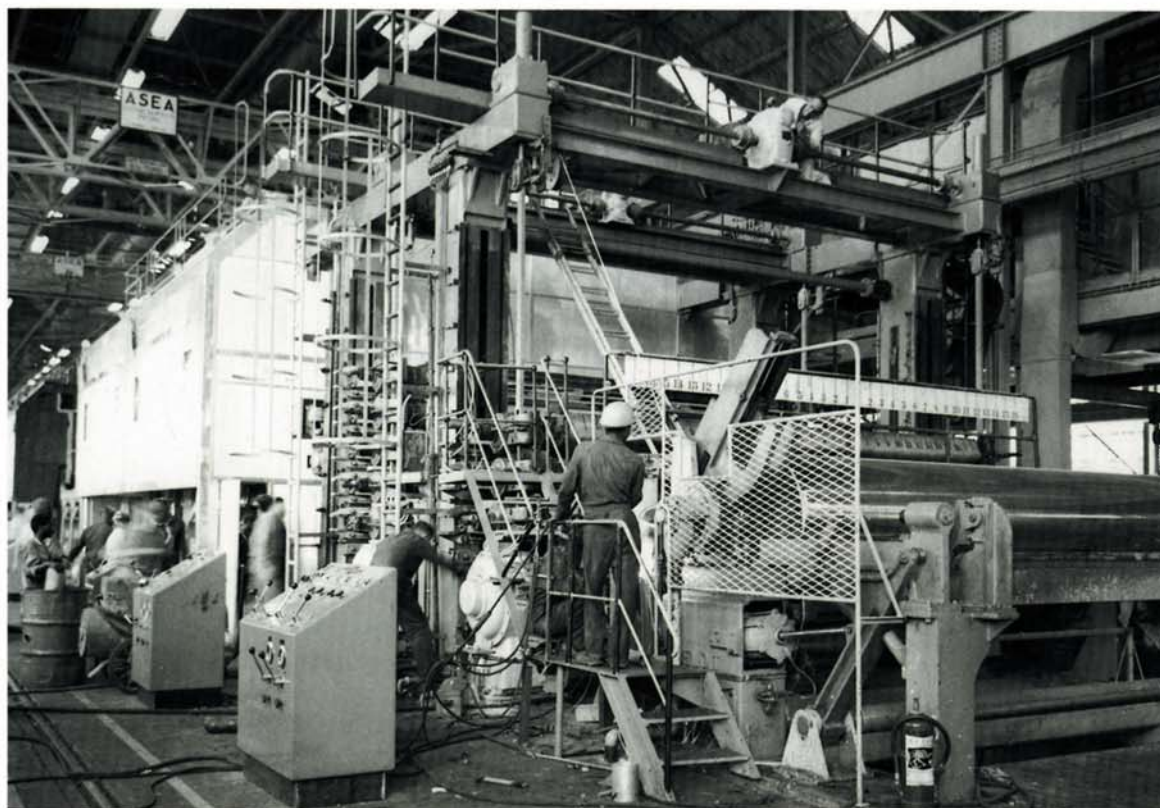
The board met only quarterly and found it difficult to keep pace with all that was happening in Sappi. In August 1963, then, it was decided to delegate some of its functions to a directors' executive committee which was to meet at least once a month. The committee consisted of Tommy Stratten, Whitmore Richards, John Henderson, Moore O'Hara, Leonard Job and Ted Matthews, who as a member of Union Corporation's financial staff had been involved with Sappi's affairs as long as anyone. The first meeting of the executive committee was dominated by discussion of where the new pulp mill was to be.

The Komatipoort site was still a possibility, but there was a feeling that the mill should be located close to large areas of vacant land where the company could develop plantations. On that basis Komatipoort had to be ruled out. To find an alternative John Henderson brought in Fred Snyman, who looked after plantations that Sappi leased near White River and knew the Lowveld like the back of his hand. Henderson wanted him to explore the Elands River valley and on to Komatipoort, looking for properties with access to water and road and rail links, with space for effluent disposal, and above all with room to grow trees.

Snyman had explored the valley before during the war years, when he had led the Sappi team that harvested tamboekie grass as a possible alternative to straw. Several days into his search he telephoned Henderson and said he had found a promising spot about 40 kilometres east of Waterval Onder. Henderson went down by car and joined him on the farm Roodewal. The scenery was charming, with citrus groves on adjoining properties and in one area a stand of pine, which seemed a good omen. To north and south were rolling, grass-covered hills used for farming sheep. The rail line to Komatipoort ran across Roodewal, and the farm was bordered by a tributary of the Elands River named the Ngodwana.

Extending the dryer section of Enstra's newsprint machine in 1964.

During the rebuild: newsprint is fed to the basement to bypass the last drying section.



Henderson was an immediate convert and Snyman arranged an option to buy, though without mentioning that he was acting for Sappi. Then Henderson called in Leo Ferreira, formerly manager of the Orange River Salt Works, who was a persuasive negotiator and had already obtained options in the Komatipoort area. Ferreira was to track down the owners of the farms adjoining Roodewal to ask if they wanted to sell. Some properties belonged to several individuals, and that was the case on Grootegeluk which neighboured Roodewal to the east. Ferreira patiently sounded out the owners — in Grootegeluk's case, even attending church with them — until he had the answers he wanted.

Still keeping the project secret, Sappi obtained rights to use water from the two rivers, and in November 1963 took up options on Roodewal and portions of Grootegeluk and announced they would be the site of Ngodwana pulp mill. Somebody suggested that 'Ngodwana' was probably Swazi for 'stream of little logs,' which sounded appropriate, but in fact the river had been named after a local trader named Godwin who had lived in the area in the 1890s. Old maps carried the name Godwin River, and General Ben Viljoen of South African War fame had mentioned it in his memoirs; and when Swazi came to pronounce it they had added on a 'n.

All this time Sappi had continued buying land in the area, leaving all negotiations to Leo Ferreira. He was often accompanied by Bob Scott and Alec Mackenzie, Sappi foresters who served as his advisers. The three men visited plot-owners in the valley and farmers in the hills, many of them living precariously close to the breadline, yet suspicious when Ferreira offered cash. Widows on their own were especially reluctant to sell. Often Ferreira told people that he only wanted their land and they could continue living in their houses, but most who agreed to sell quickly packed up and moved away.

In some cases Ferreira had to pressure land-owners for months before he wore down their resistance. Some wondered if he was really after gold, and stuck out for a hard bargain. Sappi and its intentions were never mentioned, and all transactions were carried out in the name of General Products Manufacturing, once the associate of Cellulose Products but now dormant. The company was still listed in the Johannesburg telephone directory with the same number as Cellulose Products, and more than a few Eastern Transvaal property owners who heard about Ferreira's campaign rang the mill manager and said they had land to sell.

Even before the mill site was chosen, Union Corporation's engineering department had been drawing up plans, and Leonard Job's technical men had recommended a new kind of pulping system. Much of the equipment was already on order so work could begin without delay. The site was surveyed and laid out according to the

plans, and construction crews prepared to start excavating. Then Tommy Stratten intervened, insisting that Union Corporation's geologists should make a careful inspection and check for dolomitic sinkholes. Not long before, a sinkhole on the Far West Rand had claimed a complete gold reduction works, and it was known there was dolomite at Ngodwana.

The geologists probed the area selected for the mill, and discovered cavities. To the east they found solid rock and said it would make a firm foundation. Unfortunately the spot they pointed out straddled the main road. Undeterred, Sappi lobbied the provincial administration and was told the road could be moved, providing the company paid. Once again the site was surveyed and work began in February 1964. By then a trickle of Sappi men was being sent to help, among them Don Fourie who had been appointed mill secretary. Fourie's first job was to soothe angry farmers who wondered what lay ahead.

Fledgling plantations in the green hills of Natal (overleaf).

Pulp wash filters in Enstra's bleaching plant.







If the company could arrange to have a straight road made crooked, then it surely had the power to turn the whole valley upside down.

In time Sappi would build a township at Ngodwana, but Fourie and other Sappi men lived in vacant farmhouses while construction workers camped. The nearest watering hole was the hotel at Kaapsehoop, an old gold mining camp in the hills to the south-east, which was reached by a long and winding track. The road to Nelspruit, 50 kilometres to the east, was not much better. The mill site was excavated and levelled and temporary offices and stores and a post office were erected. Then the construction crews began laying foundations for the mill and made a start on houses for the township. Like Tugela in its early days, Ngodwana was in pioneer country; but where Sappi was concerned, that was only to be expected.

Lingua Franca

SAPPI'S MANAGEMENT was in no hurry to make paper in the Cape Province, in spite of buying a potential mill site in Cape Town's Epping. During 1960 the company had been invited to take over a small wadding mill at Bellville near Cape Town, but had turned it down because of the price. In 1961 there had been talk of establishing a pulp and paper mill near George in the southern Cape, in collaboration with the Industrial Development Corporation. This time the project had been aborted when a timber company exercised a prior option.

Then, in 1964, Sappi was approached by representatives of an Italian industrialist, Gianfranco Fedrigoni, who had earlier been in business with Giuseppe Raimondo and now controlled a modest paper and fibreboard mill in Port Elizabeth. Fedrigoni had similar mills in Italy and Argentina and had established the South African concern in 1949. It was registered as S A Adamas Fibreboard and Paper Company (Pty) Ltd, thus honouring the Italian manufacturer Central Adamas which had built its fibreboard machines. The fibreboard was used to make suitcases, inside panelling for cars and strengthening for shoe heels.

Fedrigoni's mill was built around a row of wartime storage sheds which had been converted into offices and warehouses. The industrialist had imported operating staff from his home town of Verona in northern Italy, and had housed most of them in an apartment block which he bought for the purpose. Following Italian custom he built flats for the most senior staff actually on the mill premises, so that in an emergency his officials could be summoned without delay. The first fibreboard was produced in 1952 and found customers among Port Elizabeth's motor manufacturers.



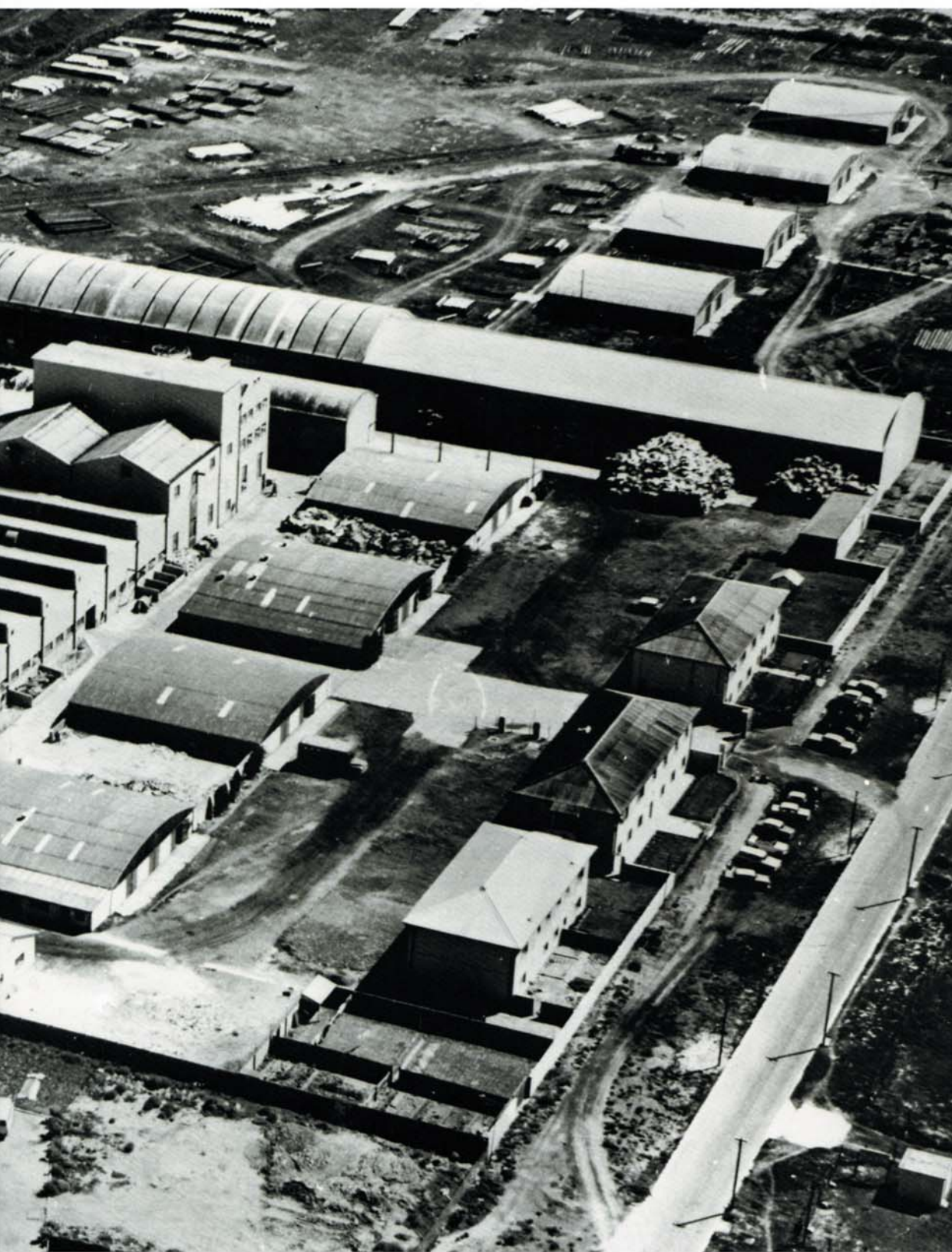
Delivering newsprint in Johannesburg.

Adamas from the air, with wartime hangars used for paper storage and flats for senior staff on the right (overleaf).

In 1955 Fedrigoni introduced a paper machine with a Yankee cylinder, able to make machine-glazed papers from waste and imported pulp. To run it he brought papermakers from Verona, and settled them in a block of old houses which he renovated as flats and which were later declared a national monument. Several of the newcomers were descended from generations of papermakers and knew how to make paper in the old way, by look and touch and taste. Like the earlier arrivals they were soon absorbed by Port Elizabeth's Italian community and made themselves at home.

That was the situation in 1964 when Sappi was brought in. John Henderson asked Alex Rodger, production manager at Enstra and by profession a mechanical engineer, to visit Adamas and assess its potential. The mill manager was a former Italian submarine commander who ran the mill as efficiently as Hans Loebecke had run Enstra, and Rodger liked what he saw. Soon John Henderson and





Ron Day, a member of Moore O'Hara's staff, left for Europe to negotiate with Fedrigoni — not in Italy but in a hotel in France, where it was agreed that Sappi should take over the entire share capital of S A Adamas and two property subsidiaries.

Most of the Italians at Adamas were calm about the change of ownership and agreed to stay on,¹ though the former submarine commander decided to return to Italy. In his place Sappi's management appointed Alex Rodger, suggesting that he should quickly bring the Italians round to Sappi's way of doing things and encourage them to work harder. Rodger soon realised that in some areas the Italians had much to teach Sappi and that they worked harder than most South Africans. He deliberately left Adamas as he had found it, and campaigned within Sappi to retain its special identity.

All told, the mill employed roughly 250 people, among them black employees who had picked up a smattering of Italian which remained the *lingua franca*. Adamas was much the same size as Cellulose Products in Johannesburg, which was being upgraded with advice from Kimberly-Clark of Wisconsin. Several Sappi men had joined the staff and one of the wadding machines had been rebuilt to produce high-grade facial and toilet tissue from virgin pulp. Meanwhile the General Products converting operation was broken up because the government thought it a bad idea for a single enterprise to dominate tissue manufacture from raw material to consumer product.

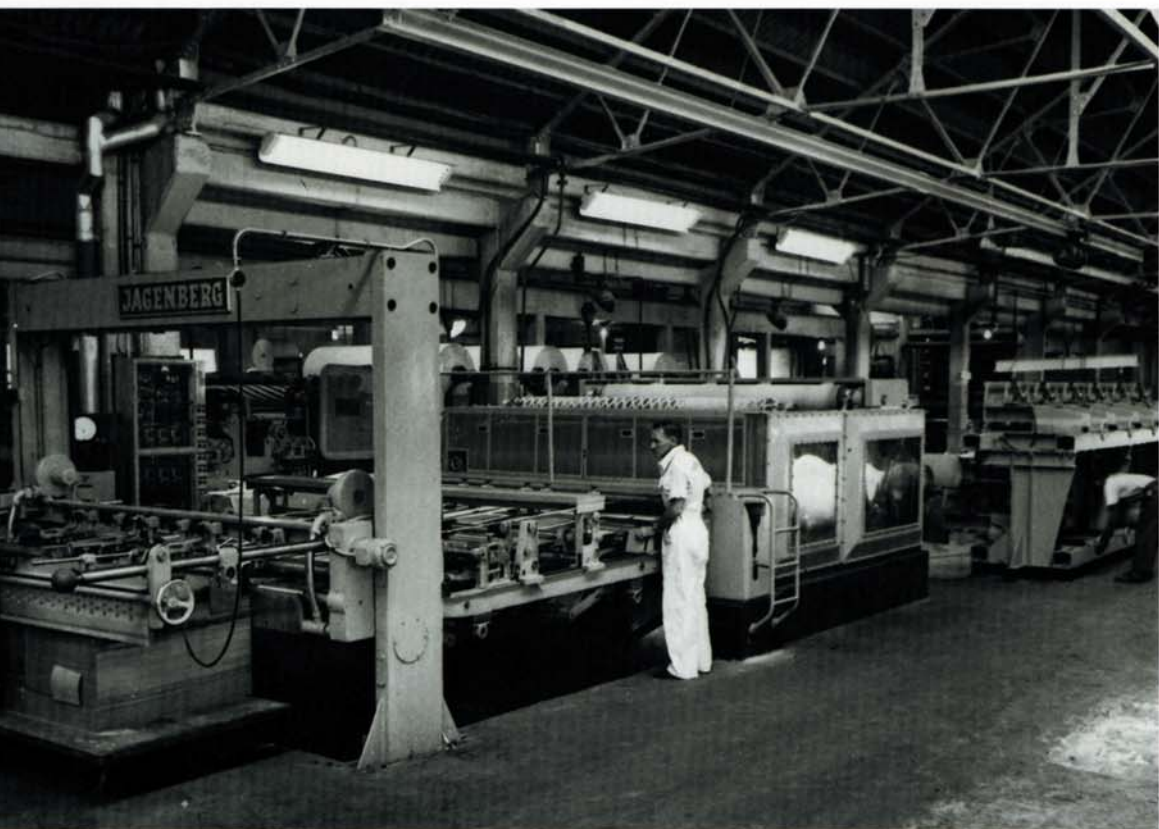
Much of the tissue mill's output was sold to its associate company KCSA. Other customers included a converter named S A Paper Processing which had been taken over by Geoff Kalmanson and his father Willie, members of the family which had set up one of South Africa's leading packaging groups, Amalgamated Packaging Industries. Father and son had spent World War II in the United States and had become fascinated by tissue's potential, realising that it was designed to be thrown away and had to be replaced again and again. The two had introduced many tissue concepts to South Africa, especially facial tissues and soft toilet rolls, and sold their products under the brand name Carlton.

By 1964 the Kalmansons were ready for a fresh challenge so entered into a partnership with a large American paper corporation, Crown Zellerbach. The result was a new company, the Crown Carlton Corporation, which was to set up an integrated tissue mill in Wadeville south of Johannesburg, with the Americans providing a

Cellulose Products in Mayfair, Johannesburg: the pioneer of South Africa's tissue industry.

Rebuilding Cellulose Products' No 2 machine around a steam-heated Yankee drying cylinder.





modern wadding machine and the Kalmansons converting its tissue. The government approved and had evidently changed its mind about vertical integration in the industry, presumably because there would now be competition. Sappi and Kimberly-Clark were caught off guard by the move, but decided that to hold their market share they would have to take decisive action.

Late in 1964 Kimberly-Clark of Wisconsin sent two senior men to Johannesburg to take charge of KCSA and to advise on Cellulose Products. The two men, Bernie Conroy and Dean Hoffenbacher, investigated the South African market and recommended that Cellulose Products and KCSA should integrate their activities and operate as a single enterprise, as Crown Carlton planned to do. Only recently Union Corrugated Cases had moved to a larger factory in Brakpan and its old premises at Enstra were empty and would make an ideal tissue mill. The first step was to merge the two operations as a single company, and this became effective at the beginning of July 1965.

The new enterprise was registered as Kimberly-Clark of South Africa and the name Cellulose Products fell away. Kimberly-Clark of Wisconsin held half the shares and the balance was divided between Sappi and Union Corporation in the ratio seven to three. In the near future KCSA's converting equipment would be transferred from Booyens to Enstra but the old Cellulose Products machines were to be left where they were. To compete with Crown Carlton the company would need a new wadding machine, and this was ordered from the United States. Sappi was to provide pulp for the enterprise, and Kimberly-Clark was to give KCSA full rights to its patents and trade marks, many of them already world famous.

Bernie Conroy and Dean Hoffenbach were to stay in South Africa to organise the new company, Conroy as managing director and Hoffenbach as general manager. It was plain that KCSA faced a major battle as the Crown Carlton wadding machine would be on stream many months ahead of Enstra's. The two Americans set out to upgrade the image of KCSA's products and began teaching their staff the elements of marketing — a new concept for the Sappi men, as they had never had to deal with competition. Clive Malkin, mill manager at Mayfair, travelled to Wisconsin to learn more about Kimberly-Clark's way of doing things; and to step up production at the mill, the No 2 machine was extensively rebuilt to make it faster and double its capacity.

The Mayfair operation was far removed from Sappi's mainstream,

Hooker electrolytic cells in Enstra's chemical plant, introduced to replace the Pomilio cells.

Cutting paper into sheets in Enstra's finishing house.

but no mill was closer to head office, and John Henderson frequently dropped in to see how it was doing. Counting Mayfair, Sappi now had four mills in production and a fifth being built, and to administer them all was becoming a major headache. That was why Sappi's management was installing a computer at Enstra, assuming that it would soon take over routine tasks that tied up the labours of armies of clerks. In time, it would be used on more ambitious assignments like the planning of new projects and techniques.

Computers were still a novelty in South Africa, and Sappi's management announced that any member of staff could apply for training. Well over 100 responded, and all were put through a series of aptitude tests organised by the company that was supplying the computer. Only six were found to have the right attributes — three of them typists, one an accounts clerk from head office, one an Enstra storeman, and the last a Tugela despatcher. These six embarked on the training programme, but after a few months only two were left and outsiders were brought in. Even then the computer department fell short of expectations, and in the end it was disbanded. The computer was handed over to Union Corporation and transferred to East Geduld.

Country Life

IN AUGUST 1964 shareholders were asked to approve another increase in Sappi's authorised capital, this time from R12 million to R24 million, to bring it closer in line with the value of the company's assets. Tommy Stratten had said there would be a rights issue too, but this was postponed. Shareholders were given an extra share free for every unit they held, effectively halving the shares' value and halving dividends as well. By March 1965 it was clear that the costs of expansion were higher than anticipated, the more so when S A Adamas was taken into account; so the authorised capital was raised to R28 million, with 4 541 630 new shares made available at R2,50 each.

The rights issue raised R11 million towards the R30 million-odd needed. Most of the balance came from profits, and much of it had already been spent. Enstra's newsprint extension was complete; most of the equipment needed for the Ngodwana project had arrived on the site; and the Tugela newsprint mill was under construction. New buildings had been erected for the No 4 newsprint machine and for grinding units, and a small party of Enstra men arrived to help install the equipment. The newsprint machine had arrived and was similar to Enstra's in that it was a Beloit design, but it had been built by Walmsleys of Bury, which was now closely associated with Beloit.

The machine was in place by December 1965 and was run in with kraft pulp as the groundwood pulping units were not yet ready. That suited the papermakers as the kraft fibre was stronger than newsprint and they were able to tune the machine with less risk of paper breaks, which had been a problem at Enstra. Once the grinding units were working the papermakers switched to newsprint and commercial production began in June 1966. Under the terms of the NPU contract Tugela newsprint was going to coastal newspapers, those in Durban, East London, Port Elizabeth and Cape Town. Reels of newsprint were railed to Durban, and the ones destined for other centres were loaded aboard ships of the African Coasters Line.

A year earlier, African Coasters had carried trial shipments of newsprint to Cape Town but they had been damaged en route by projections and awkward angles in the holds. As a result two ships had been specially modified, with new floors and vertical bulkheads fitted in the holds and remaining projections burnt away or cushioned

Newsprint production on Tugela's No 4 machine, commissioned in 1964.



with mattresses. It was expected that the coastal newspapers would use about 35 000 tons of newsprint per year, but the Tugela machine's capacity was 64 000 tons. Sappi's management was in no hurry to make full use of it because there was a problem over pulp-wood. Now that Tugela had four machines, the estates and supplies department was finding it difficult to keep pace.

Already the company was extracting all available timber from Zululand and the Natal Midlands. Extra supplies were being railed in from the Piet Retief area of the south-eastern Transvaal. Besides that, semi-bleached chemical pulp for newsprint was transported from Enstra as Tugela had no bleaching plant of its own. Another key element in the project was power from Escom, South Africa's Electricity Supply Commission, needed to supplement the mill's generating capacity. The existing sub-station could never have met the demands of the newsprint mill. The power had been connected early in 1965, soon after a catastrophic fire at the sub-station which had left the mill community without electricity for ten days.

The fire had been caused by an electrical fault in one of the switch-gears. A turbine feeder exploded in such a way that the turbine kept running and continued feeding current into the switchgear. A fierce fire developed, and afterwards it looked as if the sub-station had been hit by a bomb. The men on duty tried to switch everything off but several were overcome by smoke. Only much later was the fire brought under control, and by that time terrible damage had been done. With the whole mill down it was a matter of urgency to rebuild the sub-station as quickly as possible, but the fire had occurred between Christmas and New Year and most of Tugela's electricians were away. In the circumstances, Enstra volunteers who offered to help out were welcomed as heroes.

Several months later there was another serious fire at Tugela, this time in the basement of the machine house among the cables of the No 1 machine. It was supposed the fire had been caused by someone dropping a cigarette butt. At least 200 cables had to be replaced — not plastic-insulated cables like today's but 'wet' cables with a conductor inside, then resin-impregnated paper wound around it, then another layer of paper, then a lead sheath, then a layer of bitumen-impregnated paper, then a steel band and finally hessian sacking on the outside. It took eight hours to make a single joint. Relays of electricians worked around the clock to bring the machine back into commission, but even then it was out of action for ten days.

Tugela's steady expansion had been matched by growth in Mandini township. More than 50 new houses had been erected, and Mandini now had a population of 1 500 which made it the third largest community of whites in Zululand. A benevolent mill manager — Harry Hirsch, transferred from Enstra — made sure that recreational facili-



Reels of Tugela kraft await despatch.

ties kept pace. Golf, tennis and bowls remained popular and until 1964 Mandini's rugby club had been the strongest in Zululand. North of the mill complex the government was building a major township for blacks, to be named Sundumbili or 'the place of two palm trees.' As houses were finished, families moved in — many of them from Tugela married quarters which were later demolished.

Black recreation at Tugela still centred on the Sappi Home Stars soccer club. By 1962, all the major clubs in Natal except Sappi's had turned semi-professional, and the Home Stars followed the trend. Mill transport carried the players to away games and the company provided them with smart black blazers and grey flannels. On the field the team played in green and white and their smart turnout and efficient teamwork won them a wide following in Durban and Pietermaritzburg. Thousands of voices chanted 'S-A-P-P-I' whenever they went on the attack. It seemed that the Home Stars were destined for even greater things, but then Harry Hirsch went back to Enstra, company support dwindled, and the soccer club faded away.

A fitting memorial of the Hirsch era at Mandini was Ingwenya Park, 'the home of the crocodile,' a small game reserve that the mill management created on Sappi land, to the west of the national road. The site overlooked the Tugela River, and Harry Hirsch brought in



Ian Player of the Natal Parks Board to carry out an ecological survey. Then in July 1965 the Parks Boards released 30 impala brought from the Hluhluwe Game Reserve, soon followed by wildebeest and nyala. At about the same time, a handsome guest house for company visitors was built on high ground overlooking the Tugela, not far from the single quarters. John Henderson's wife Mary chose its decor and furniture.

Roughly 450 kilometres due north of Mandini, the Ngodwana project was well under way and everything was going as planned. The mill manager, Lappies Labuschagne, was on the spot, and so were Quintin Stubbings as production manager and Ted Newport as mill engineer,² all living in the Ngodwana township which would eventually consist of 120 houses. Brick was used to build homes for senior personnel, but most of the others were made of precast concrete including gravel from a quarry on Roodewal. There were monkeys in the area, and these soon learnt the meaning of a whistle blown when a blast was imminent. When it sounded, the monkeys scurried well out of the way, and when the blast was over, they all scurried back again.

The monkeys also learnt that Ngodwana kitchens were a never-failing source of food, to the despair of pioneer housewives, and duikers ate the flowers that housewives planted in their gardens. Bushbuck were frequent visitors as well. At weekends, many of the Ngodwana men went fishing in the Elands River, hoping to catch yellowfish which were a noted delicacy. To keep everyone happy the company was already building a recreation club and local farmers and other residents not connected with the company were invited to join. Valley people were learning that Sappi was not such a bad neighbour after all.

At the mill, the centrepiece was the continuous digester which would produce Ngodwana's pulp, very different from the batch digesters used at Enstra and Tugela. In the batch system, wood chips were cooked one load at a time. In the continuous system, chips were fed in at the top of digester and were cooked as they slowly filtered downwards until their lignin content dissolved and usable pulp emerged at the bottom. A small continuous digester was already in use at the Swaziland pulp mill, but Ngodwana's was the first in South Africa. Quintin Stubbings, Ted Newport and Charl Grobbelaar went

Erecting South Africa's first continuous digester at Ngodwana, with four evaporators for concentrating black liquor.

Ngodwana in 1966, dwarfed by a 100-metre smokestack designed to disperse gases in the higher atmosphere (overleaf).







Ngodwana's 'three wise men': (from left) Quintin Stubbings, Ted Newport and Lappies Labuschagne.

to Sweden, Finland, Britain, the United States and Canada to find out how it should be operated.

The continuous digester was essentially a tall, slender cylinder and had been built by a South African company to the design of Kamyr of Sweden, the world leader in pulping technology. The digester's capacity was to be 250 tons of pulp per day, though that could later be doubled, and as pulp emerged it was pressed out as a flat sheet and wound into reels on a roll-up machine. The digester produced its first pulp on August 30 1966 — an achievement recorded in the first issue of *Sappi News*, published four months later — but output was severely hampered by continuous jamming on the roll-up machine which failed to slice off completed reels. The problem baffled those at the mill, but Leonard Job solved it by going to Nelspruit and buying a carpenter's power jigsaw.

Most of Ngodwana's wood came from government plantations and private contractors, notably Twello Bosboukorporasie. Even then much of the harvesting was done by Sappi. Trees were felled with chainsaws, stripped of branches and hitched to mules which dragged them to access roads. Then they were loaded onto trucks and taken direct to the mill or to the nearest rail halt. About ten per cent of the wood came from plantations that Sappi had bought or leased, and in

time the proportion would increase as trees raised from seed approached maturity. Those planted at Ixopo in the mid-1950s were already half grown.

Already company foresters were planting seedlings over large areas of Grootgeluk and Elandshoogte, the hills on the north side of the valley. More than 400 men were at work on the open hillsides and all activities were carefully planned in advance. First an area was divided into blocks by marking out access roads with pegs. A bulldozer or grader was brought in to make the roads, and unwanted vegetation was cleared from the planting area. If necessary, the block was ploughed, and then a long chain was used to measure out a grid of planting 'pits' at intervals of 2,4 metres.

Once holes were made, teams of planters inserted seedlings with a special trowel and packed them with soil. The first 100 000 seedlings planted on Elandshoogte were obtained from a government nursery, but those that followed were from a nursery on Grootgeluk. In its first year, the Sappi nursery held four million seedlings; in the second, six million. Seedlings remained in the nursery for eight months until ready for transplanting and grew in individual plastic sleeves which helped soil retain moisture. Once in their final positions they were left alone for six months, then inspected. If mortality was higher than ten per cent, planters returned to 'blank' gaps with fresh seedlings.

Enstra and Tugela mills had been brought into being without any fanfare, but for Ngodwana the company laid on an official opening ceremony which took place in August 1967. Jan Haak, the minister of economic affairs, was invited as guest of honour. In welcoming the minister, Tommy Stratten pointed out that Ngodwana was already the largest industrial undertaking in the Transvaal Lowveld, but there was much more to come. At that stage the mill was producing only unbleached pulp, but in time the company would add paper machines. What the minister saw, said Stratten, was only a very small nucleus of what he was convinced would one day be the largest pulp and paper complex in Africa.

