

CHAPTER THREE

THE THEILER TALE 1867-1891

THE EFFECT of the industrialisation of Europe and particularly of the application of power, early became apparent in the nineteenth century. The factory-town supplanted the rural dorp, the population suddenly increased, the demand for draught animals declined and other ecological stresses and strains manifested themselves. Most were wrought by Steam, closely followed by Electrical Power. Toward the end of the century, Switzerland had won the reputation (doubtless due to its topography) of being the most highly electrified country in the world. Swiss electrical engineers and technicians were consequently in good demand.

Mechanisation of industries produced gross unemployment and distress concurrently with the revelation by explorers, wandering scientists and missionaries of new worlds to exploit – a prospect particularly pleasing to the incipient Colonial powers. What the new territories most needed was ‘mechanics’ – the contemporary term for artisans, craftsmen and anyone trained in a particular job. Great waves of emigrants left Europe for all the other continents, many of them through Government-aided schemes.

1 As mechanical force took a firmer grip on the older European cultures, rendering animal- and man-power more and more redundant, the waves increased. The peak of exodus from Switzerland took place in 1883; but the rate of men and women leaving die alte Heimat for overseas hovered around 7,000/8,000 per annum for a decade thereafter. The diamond and gold fields drew many to South Africa where their special skills in the food and hotel industry, metal working, electrical installation and domestic service seemed to have favourable opportunity.

In the highly cosmopolitan population of Pretoria, there was a small Swiss community engaged in most of these occupations and also flirting with farming. With the *Zusammengehangkeit* typical of their race, they kept in close communication with their friends and relatives at home, keenly aware of their hardships under the new order and anxious to find place for them in the raw but developing lands. In the small Pretoria coterie was an energetic Swiss, E. Constançon who, *faute de mieux*, was appointed Consul for Switzerland to the South African Republic and intermittently sent reports to the Swiss Emigration Office at Berne.

The prospect of emigrating was much discussed there by recently qualified young veterinarians. They included three Zurich alumni – Peter Lyss, Arnold Theiler and their friend Tüller. All knew from bitter experience that their chances of a career in die alte Heimat were virtually nil. Descriptions of the Argentine, Brazil and other South American republics enthralled them. Compatriots described too the burgeoning Transvaal Republic, on the verge of enrichment by a booming gold market, where the importance of animal power was supreme in a land devoid of railways and industry (apart from mining), where there was sun, warmth, the hunting of wild animals, the cheapness of black labour, the chance of every man being his own ‘baas’ with Kaffirs to work for him, the whole glorious quasi-colonial syndrome. It captured the imagination of frustrated youth. In 1890, 7,712 men and women had left Switzerland for the outside world. By the end of that year, Theiler, Lyss, Tüller and others had decided to join the stream. Their aim was South America.

2 In many ways, Arnold Theiler was typical of the tendencies of his times. His father Franz, born in 1832, came of pious peasant stock with 300 years of farming behind him. The family lands at Kriesbaum had become too small for further sub-division and when Franz’ turn came, there was no portion and he was forced to train as a teacher. A man of determined and distinguished character but without academic qualification, he rose high in his calling, developing

a catholicity of interest characteristic of the period. Natural History became his passion, with special emphasis on Botany; but he attacked any subject outside his normal compass with equal enthusiasm and at various times, mastered the French language, mathematics, book-keeping and calligraphy.

For Franz Theiler, the world was widely open to fascinating investigation, be it on the rocks and heath outside or in the myriads of books in which foreign travellers recorded their observations of distant lands. His fieldwork was as extensive as his reading. He enjoyed too the status of the classic triumvirate of his community – the mayor, the doctor and the school-teacher – the educated men of the village. Slowly he progressed from village to village in professional advancement, always extending his knowledge in eager study of various subjects until in 1866 at the age of 34 and high in the estimation of his superiors, he was appointed to a new school at Frick in the Canton of Aargau. It had a staff of three and Franz taught Natural History and Mathematics. Within three years, he was elevated to 'rektor' or headmaster.

His way then seeming clear, Franz had married the 24-year old Maria Jenny of Entlebuch. Shortly after, they set up house in Frick where they remained until his death in 1901. Here on the 26th March 1867, Arnold was born and later, two children who died in infancy. Marie, born in 1873, survived and immediately became the close concern and special love of her six-year old brother. Nine years later, a 'Laatlammetje' (or 'late lamb' as such an event was called in Arnold's future home) was born and christened Alfred. The 15-year old Arnold conceived a high sense of responsibility toward his only brother. His father was aging and, poorly paid as a country teacher, had limited means. In adolescent flights of moral rectitude, Arnold resolved to secure his brother's future.

The versatility of Theiler père was in itself an education. Arnold attended the school at Frick at which he was a gifted teacher. A stocky purposeful little boy, he tramped the long green hills with his naturalist father and climbed the mountains, examining plants and rocks, insects and birds and animals, bushes and trees, mushrooms and fungi, anything living or dead that bore upon the wonder of the world. Franz had outstanding powers of observation and, in revealing to his willing son the marvels of natural history, instilled in him a keenness of perception and a disciplined recording of observation which launched him on life. Refined and inspired by massive experience and study, it ultimately opened new realms for Science. If Arnold tended toward any special aspect of the wondrous Nature which his father worshipped, it was Botany. Until the end of his days, he remained deeply and constructively interested, not so much in systematic botany but in plants, their chemical composition and uses.

Pedagogue though he were, Theiler père turned his hand gladly to mundane matters and in the practical manner of the Swiss, was in many ways a handyman. He had a workshop with a joiner's bench and a turning lathe. He could also solder. He learnt glass-blowing and book-binding. Much of his apparatus was used in teaching Physics at the Frick school and was envied by other unendowed schools. Arnold learnt to be handy too and even as a child, helped his father with the swarms of bees which he enthusiastically bred in numerous hives. The bees, Arnold noted, suffered in health as much as humans and animals. Sometimes a swarm would perish mysteriously from a fungoid affliction.

Franz was a strict and thorough teacher, giving good grounding in all that he taught (including religious morality to his family) but was also esteemed for his general wisdom. Frick appointed him to commissions examining the disappearing vine industry and the difficulties of its water supply. He moved easily and with stature among his people and, upon occasion, participated in national events. He was an exceptionally good shot and long attended the National Annual Shoot where he won prizes. Arnold too loved guns and practised marksmanship.

The school years of the Theiler boy never lacked interest. He made collections of everything

he could as a matter of course – rocks and geological samples from other areas; plants, insects, skins of birds, anything relating to Natural Science. To his addicted father, the most precious acquisitions were specimens from overseas. They came rarely but excited enormous interest. Arnold had few idle moments. Such as he had at school were spent with a little girl, Emma Sophie Jegge with fair hair, dark eyes and a little pointed face as earnest as he and as interested in the natural world around them. Emma (soon orphaned) was making her way through school preparatory to finding some way of earning her living, at that time very difficult for unsupported women. As they grew older, Arnold and Emma grew close and pledged themselves to unknown things. His family disapproved and Arnold, already irked by their rigid religious attitudes, came to his own rebellious conclusions. He vowed ‘to spare my children all that made my childhood so unspeakably unhappy and caused me enormous mental anguish: the fear of a God who could only punish and had little love, the compulsion of a faith in which I saw no reason, the mystique of superstition and much more . . .’

In April 1883, at the age of 15, Arnold achieved the School Leaving Certificate at Frick and, waiting until he was 17, enrolled in the Aargau Canton School at Aarau for higher studies. He would walk many miles over the hills in rain and snow to visit Emma. A thickset sturdy chap with the build and cast of countenance of an Italian montagnard, he had all the cautiousness and obstinacy of the Swiss albeit a streak of wildness and insubordination. At Aarau he studied scientific subjects and the English language, having already decided to find his fortune abroad. The scientific world at the time was still agog at Koch’s identification of the bacillus that caused Tuberculosis and all that flowed from that discovery. Long endemic in Switzerland, the incidence of the disease could now to a large extent be controlled. Theiler read of these developments across the Rhine, only a few miles distant from his home, and anything else that fed his endless curiosity.

The conditions of the time and the massive emigration of the Swiss determined that his eyes should be upon the Aussland. He read Darwin’s ‘Voyage of the Beagle’ and Livingstone’s ‘Missionary Travels’ and other germane works. First he inclined toward South America, then Africa. Livingstone, a medical man, had described diseases and how, inexplicably, when Small-pox confronted the Bechuana natives in the very centre of Africa South, they had practised vaccination without any notion of its origin. ‘The disease passing under the term “horse sickness” (peri-pneumonia)’, he wrote, ‘exists in such virulence over nearly seven degrees of latitude that no precaution would be sufficient to save these animals. The disease attacks wild animals too. Great numbers of koodoos, gnus and zebras perished from it but the mortality produced no sensible diminution in the numbers of game.’

Deep in the Kalahari, Livingstone noted the incidence of other cattle afflictions among the local fauna. ‘I have seen the kokong or gnu, Kama or hartebeest, the tessebe and the giraffe so mangy as to be uneatable even by the natives . . . Great numbers also of zebra are found dead with masses of foam at the nostrils exactly as occurs in the common “horse sickness”.’ It was the recurrent scourge of Africa South and a challenge to the world of science. Pasteur and Koch, its then leaders in the bacteriological field, were concerned with men and not with beasts. In their new institutes in Paris and Berlin, the emphasis lay on human diseases. Koch in fact was in India investigating Cholera.

Theiler, a diligent student at Aarau and inclined to become a teacher like his father, kept up his nature studies and, wandering widely in the vicinity, increased his plant collection. Then he decided to qualify as a veterinary surgeon and, duly certificated by the Canton High School in 1887, moved to Berne to enter the Veterinary School at its University. The combativeness that was a lifelong characteristic rose to the surface in confrontation with those in charge. After some months, Theiler took exception to their attitude and summarily left, immediately enrolling at the

Veterinary School of the University of Zurich. The bitterness remained with him for many years until finally his account was squared.

12 Wounded pride, his rebellious spirit and natural exuberance threw him into the company of
13 hard-drinking fellow-students and during his two years at Zurich, Theiler sowed his wild oats
among the lieber alter Bierbrudern of his veterinary classes, creating a very bad impression on
his austere parents. ('I was well on the way to a dissolute life through drink - a ne'er-do-well',
he later wrote.) It was here that he celebrated his majority and in August 1889, attained his
Veterinary Diploma. The ground that it covered hardly equipped him for his planned career (in-
struction in Bacteriology, for instance, was perforce rudimentary though he served as an assist-
ant in the new 'Bacteriological Institute' of Zurich University, and there was no teaching in
tropical diseases); but the basis was solid as far as it went. Before he could test it professionally,
he was compelled to complete the statutory Swiss military service spending a year at Thun as an
Army Veterinary Officer but also receiving instruction in arms.

14 During that year, Koch had the whole scientific world by the ears. At the International Medic-
al Congress held in Berlin in August 1889 (as Theiler got his Diploma), Koch announced a cure
for Tuberculosis in the shape of a lymph deriving from the bacillus itself and subsequently call-
ed 'tuberculin'. It was a rash claim which Koch later alleged he had never made though he
made a similar one for a 'cure' for Leprosy. The injection of 'Koch's fluid' as the English called
it, was supposed, despite violent and painful reaction, to cure the disease but in fact, it was mere-
ly a useful test for its presence. It produced great controversy in the medical field, brought bac-
teriology into increasing prominence and canvassed the merits of what came to be called 'the
serum method' for various diseases. Koch's reputation temporarily declined but the brouhaha
greatly publicised the need for bacteriological research.

15 Theiler, still sowing his oats among military comrades, was well aware of these developments
though ostensibly they fell outside his field. In August 1890 with the controversy mounting, he
was discharged from the Swiss Army with the rank of Lieutenant (having passed first in his
class) and placed on the reserve as a regimental veterinary officer. Under Swiss law, he was re-
quired to keep in training and to pay regular dues to the Military Department. His year of ser-
vice had been of particular value in its close study of Army horses and their diseases as well as
practice in marksmanship and familiarity with military methods. It had been however an unset-
tling experience and he still lacked decision on the line of his future career. His student-colleagues
were similarly undecided and pending the hatching of a plan to emigrate together to one or
16 other of the developing countries in the southern hemisphere, Theiler essayed to go into private
practice in the little village of Beromunster deep in the country about half-way between Aarau
and Lucerne. His fate was certain. The forebodings of his parents seemed justified.

17 Centuries of animal husbandry and their own extreme carefulness had made the Swiss expert
in horse and cattle culture. Once in a while, an epidemic of Swine Fever might sweep off the pigs
or Glanders afflict the horses; but on the whole, farmers far in the country could deal with the
welfare of their stock. In a region politically and socially antagonistic to his own, Theiler walked
and talked but found no work. Later he would say that he found more cases of animal diseases
in 3 or 4 days abroad than he saw in a month at Beromunster. Desperately he wrote from the
cold disapproving atmosphere of his home at Frick to every Swiss consul in the southern hemi-
sphere. To the wonderment of his loving sister Marie, then 20, a flock of letters came, all telling
him to learn English before he thought of employment abroad.

18 By chance, someone sent him a report recently submitted by Constançon in Pretoria to the
Swiss Emigration Office in Berne. It said that as there was no veterinary surgeon in the Trans-
vaal which was periodically wracked by animal diseases, particularly Horse Sickness and Bovine
Pleuro-pneumonia, opportunity seemed to provide for adventuresome and qualified young

19 men. Theiler made up his mind to go. He was not to know that John Cammack M.R.C.V.S. who had vainly tried to earn a living in Kimberley for some years, had been appointed Deputy-Inspector of Cattle at Durban under Wiltshire on the 4th September 1890 and allowed to accept fees. He departed soon after for Johannesburg where he set up a 'Veterinary Hospital'. The unqualified G.C. Baker was purportedly treating animals elsewhere in the Republic. Furthermore
20 the Transvaal Government had blown hot and cold on the proposal to institute a Department of Agriculture with veterinary services and no action whatever had been taken.

Theiler had a fair knowledge of English from his studies at the Aargau Gymnasium at Aarau
21 but now he must learn Dutch. He went to Lucerne for a quick course under Professor Brandstetter. The colleagues in his graduate class at Zurich were all in the same fix and he wrote them of
22 the fine possibilities Constançon had mooted. Peter Lyss agreed to join him in the dashing step he proposed. For Theiler, it would be a heartbreaking wrench. His upright and exacting father already considered him a failure, a man of weak moral principle and flawed devotion to Natural Science. His mother could not but agree. He would miss Marie and little Alfred, then aged 8
23 and recently embarked upon his schooling. Most of all he would miss Emma who, after time spent in Paris learning dress-making and haute couture, was now at Torquay in England as governess companion to a family. Secretly he wrote her his plans, promising that as soon as money could be earned from his Transvaal practice, he would send her fare and they would marry and live in Pretoria. In the atlases they had consulted, Pretoria was clearly marked in
24 mysterious country widely dotted by a few high-sounding dorps – Potchefstroom, Lydenburg, Rustenburg, Pilgrim's Rest, Pietersburg, Zeerust, Middelburg . . . There was no Johannesburg. Cartographers had not had time to prepare and publish new maps indicating the upstart mining camp which unpredictably had failed to disappear but grew and grew.

Theiler made thoughtful preparations in the freezing winter months when travelling between his home at Frick and his professors and friends at Berne, Zurich and Lucerne became a hardship.
25 His father was glad that Lyss would be with him. At the end of December 1890, Lyss astonished and disappointed them both with his refusal to proceed with their joint plan (he was contemplating marriage). Of his colleagues, Lyss was the man Theiler most wanted as partner and when they met at Zurich to say farewell, they agreed that Lyss would come at some time to join him. They would advertise themselves as

A. THEILER & P. LYSS

VETERINARY SURGEONS

Diploma – Veterinary Colleges of Zurich and Berne, Switzerland
Veterinary Surgeons of the Swiss Army
Later Assistants at the Veterinary College, Berne and the
Bacteriological Institute, Zurich

For the present, Theiler would go alone, encouraged by the enthusiasm of his professors, particularly E. Zschokke of Zurich who had taught him Veterinary Pathology and Anatomy and whom he specially revered as friend and protagonist.

26 With his father's help, Theiler packed a trunk with his basic books, a good microscope, a small pharmacopea of essential medicaments and all his clothes barring those he would wear on the journey and the small necessities that he could carry in a valise. Permits and passports had to be obtained and arrangements made with the agent Schneebeli to consign his luggage to South Africa and thereafter, anything he might require. There was much consultation with Swiss who had relatives in South Africa. A Frau Ritter told him of her husband who was a plumber and tinsmith in Johannesburg. Ritter might help him and the electrician Lauber who would accom-

pany him (Lauber in fact came later). Theiler had never before left die alte Heimat. It was very affecting, particularly for his aging father, now gruff and displeased with his wastrel son.

27 On the 8th February, Theiler departed for England with his single suitcase, travelling via Antwerp, Ostend and Harwich to London where a kindly Swiss took him to the shippers Donald Currie & Co. to get his train ticket to Dartmouth to board *Grantully Castle*. He stayed in a cheap hotel and was visited by a Swiss friend, Jean Dietschi until due to leave on the 13th, ostensibly occupied in seeing the sights of London. Whether Emma took time off from her duties as governess in Torquay to bid him farewell in London is no longer known. His family disapproved of his attachment and nothing is recorded in his letters written them; but all signs point to their having met and reaffirmed their plan to marry when Arnold had made his way.

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On an upper steerage bunk in a bucking single-screw steamship, Arnold affected gaiety among his cosmopolitan companions (including a German band beloved by Victorians) 'going out to the Colonies'. He practised his several languages and tried to accommodate himself to the 'curious English food' – a kind of thick groats that one had to eat with a spoon and beef 'quite bloody and half-raw'. He remained on board at Lisbon and wrote his parents, and again at Madeira – he thought of them constantly, he said as the ship carried him toward his goal. 'God helps those who help themselves – so forward!' He had drunk *one* glass of beer and smoked only one cigar given him by a German. He was saving every penny.

Then came the bad weather that flung the old ship about like driftwood. The steerage, jerking horribly as the screw came out of the water, was flooded and hardly anyone came to the dining saloon where the bravest were frequently flung from their seats. A steward jumped overboard. As they neared the Cape of Storms, paradoxically it grew calmer. Incurably gregarious and eager to learn, Theiler found an Englishman on board with whom to practice the language, and two South Africans from Natal and the Transvaal to question about his prospects. Was it true, he asked, that there were no veterinary surgeons in the Transvaal? and the man replied that there was one in Johannesburg (Cammack) with his own veterinary hospital. It was a shock but Theiler gamely announced that he had no intention of going there and the man said reassuringly – 'Well, you'll have work enough.' In his letter home, he professed himself full of courage and eager to get started on his appointed path.

On the 6th March 1891, he landed in Cape Town and put up at the Hotel Hamburg where another Swiss joined him in walks round the town. He was astounded by the people of colour – from pitch black to light brown – and by the profusion of fruit ('grapes as big as walnuts') and of strange vegetation such as cactuses in full bloom. All was new and wonderful, even the stamps which he solicited from chance acquaintances and sent to little Alfred. His joy was brief. Search where he might, even in the innards of the ship, his trunk was not to be found. Without it, he was useless. Local Swiss helped him (one a policeman at the Convict Station); but neither the shipping agents nor the Customs nor the crew could trace the baggage which, he had been assured in London, had been sent to the docks to be loaded. In anguish, he wrote his parents to enquire from Schneebeli. It might be another 3 or 4 months before replacement of his equipment could arrive.

There was no point in waiting. On Sunday the 8th March 1891, he clambered at night into a 3rd Class compartment of the train that would take him to the borders of the Transvaal. The ticket cost him £2.4s.6d. and he provided himself with two bottles of wine, bread and sausage. The train would travel 700 miles to Vryburg in Bechuanaland and there he would mount the daily coach to Johannesburg for which he had already bought a ticket costing the immense

sum of £5 although the distance was only 300 miles. His train companions for two nights and two days in considerable heat and a barrage of smuts and dust, were raw natives going to Kimberley. Thereafter he travelled with 6 Swiss miners who had been on the ship with him and, finding no employment on the diamond mines, were going to Johannesburg.

Theiler had not been prepared for the arid wastes of the Great Karroo or the bleak appearance of the northern part of the Cape Colony. No bush, no tree, no blade of grass – only rocks varied by slight eminences, sometimes a tiny dorp of corrugated iron shacks, sometimes only a deserted siding. Everywhere blacks and a few whites at the stations. Toward the end of the railway, the country improved and for the benefit of his naturalist father, Theiler described the falcons and eagles and other birds, the colourful butterflies and the locusts in swarms, ox-wagons and mule carts, Kaffir kraals of beehive huts set in maize fields, and natives trekking along the roadside. Arriving at night and leaving before dawn, Theiler saw nothing of the historic dorp of Vryburg, only nine years previously the 'capital' of the Republic of Stellaland. He was to make its name resound throughout the scientific world.

Nothing in Europe resembled the journey by coach from the rail terminus at Vryburg to the Wit Waters Rand. It was the main route of supply to the large town that had grown out of the mining camp and could in no sense be called a road or thoroughfare. Carts, ox-wagons, coaches, droves of sheep and oxen, adventurers too poor to pay for transport plodding on foot, natives travelling to and from the mines, horsemen, stray animals, sometimes wild ones, tortoises, snakes, a miscellany of moving things used the eroded and pot-holed track that linked the Diamond City to the City of Gold. Its course could be traced by the dust that hung above it at the time Theiler rode, clinging to his cheap outside seat high on the coach and gazing with rapt interest at an entirely new world.

The mules or horses inspanned at ten-mile stages were driven hell-for-leather to the next where a fresh team, already harnessed, stood ready to be inspanned. In teams of ten or twelve depending on the terrain, they were less under the control of the driver as of the wielder of an immensely long bamboo whip with giraffe-hide thong. With exquisite skill, he would flick a lagging beast or a passer-by for sheer virtuosity, shouting the while. The coach rocked and swayed and came near to capsizing but, unimpeded by rain and flooded rivers, made good progress. In the three and a half days that it took to reach the Highveld, Theiler saw more vividly than his books had told him, how the economy of Africa South depended entirely on animals. If they were slowly being supplanted by mechanical power, they remained essential for non-trunk transport and for food. It was the season for Horse Sickness, he was told, and the mortality was exceptionally high in the Transvaal and Natal.

On the morning of the fourth day, wearied by the jolting journey and the crude 'accommodation houses' where he had shacked down for three nights with uncivilised travellers, Theiler saw the strange tinny apparition spreadeagled on the Highveld that called itself Johannesburg. Flicked into a final flourish, the horses galloped through its rough and muddy streets with their tormentor discarding his whip for a brass trumpet blaring the arrival of the post-coach. Among the small gathering at the terminus, the Swiss plumber Jakob Ritter soon declared himself and Theiler's immediate troubles were over. Lodgings were found for him in the Commercial Hotel owned by another Swiss and he took his meals with the Ritter family. No work was done on a Saturday (when he arrived) or a Sunday and Ritter devoted himself to showing the town to the newcomer and discussing his future.

28 On the afternoon of his arrival, Johannesburg staged one of its characteristic audio-visual performances – a 'mild' thunderstorm with fierce lightning immediately overhead. On Hospital Hill, a short distance from Ritter's house, a wagon plodding over the brow on its way to Pretoria was struck and three oxen killed, the owner surviving with severe shock. Uproarious and

29 shattering storms were typical of summer in the Transvaal. Before long, Theiler would see whole teams of oxen dead in their traces after lightning had struck the connecting trek-chain. During his stay in Johannesburg, rainstorms persisted, the post coaches were delayed and the road to Pretoria became almost impassable. Nonetheless the letter he immediately wrote to Constançon was safely delivered and within a day or two, he had a reply written by the Consul's father. Constançon was away for 8 days and would return only on Wednesday the 25th March. Theiler decided to spend the week in Johannesburg. It was still without street lighting except for the lamplit locations of innumerable bars and beerhalls, mostly conducted by his compatriots.

Ritter took him to a goldmine and typically, Theiler recorded every detail of the mining and crushing processes and the primitive means of extraction by which the heavier gold particles sank and adhered to wash-boards over which the residue flowed. The industry was in a state of slump but due to roar later into unprecedented booming life with the MacArthur-Forrest process of cyanide extraction which recovered the maximum gold and eliminated previous heavy wastage. Theiler possessed himself of a piece of gold-bearing quartz to send to his father.

30 More exciting to him was the tone of the depressed town. From the coach, he had seen a large race-course with expensive horses. Now he observed that there were in the streets few one-horse traps, many carts and mostly two-horses carriages as well as numerous riders. And what horses! he exclaimed. At the Cavalry School at Thun where he had done his military training, there were no horses such as these! Further there was a Tramway Company with 70 horses, the Mounted Police, heavy horsedrawn trolley traffic, many post-horses for the coaches, even circus horses. The local Swiss calculated the number at 5,000 excluding mules. They could tell him nothing of Cammack and his 'Veterinary Hospital' except that 'a so-called veterinary surgeon' had charged 25s. to visit a sick horse at an hotel. Theiler's hopes leapt high and already he wrote of sending money home.

31 As early as 1889, the few Swiss in Johannesburg had tried in typical fashion to unite themselves in a Schweizerverein (Swiss Society). Less than a dozen were permanent inhabitants though many more constantly arrived and found occupation in other parts of the country. Those that remained were mostly hotel-keepers and beerhall owners with a few artisans such as Ritter. By January 1890, they had formed the Schweizerverein Helvetia in Johannesburg which pursued an erratic existence owing to the constant transference and resignation of its members but nonetheless managed to celebrate National Day in August with what became a traditional ox-wagon picnic. A few of the foundation members foregathered at Ritter's house to meet and advise the young and ferociously-bearded Theiler. They told him that he was sure to find work of one kind or another but if he persisted in his profession, he must serve a term on the land to learn the idiosyncracies of Transvaal agriculture and to become fluent in Dutch and English. Without the equipment lost in his trunk, there was really no alternative.

32 After a week in Johannesburg enlivened by jollification among his compatriots and much
33 toasting of the Fatherland (although they had no time for its consul who ignored them), Theiler took the coach to Pretoria, 36 miles distant, along a track washed away by the current storms. Earlier coaches had failed to negotiate the flooded Yokeskei river and some had overturned. After a torturing five-hour journey, he arrived at what its inhabitants affected to call 'the garden capital' - a sizeable village full of roses and flowers whose broad and deeply-muddy streets were in many places lined by water-furrows inhabited by crabs and eels. It looked, Theiler thought, more like a park, each house standing in large grounds (where horses and cows were paddocked) and few public buildings except for a monumental Parliament House standing in a muddy square. There was also a public gallows. It was sensibly hotter in Pretoria than in Johannesburg but, welcomed by alerted Swiss and a letter from his parents at the Poste Restante, Theiler was overwhelmed by other impressions.

Constançon owned a small farm at Les Marais (originally the home of a Huguenot descendant of that name) a few miles north of Pretoria where he engaged in dairying and poultry-keeping. Twice a day, his younger brother took the milk to town and, on the morning following Theiler's arrival, drove him back to the farm to await his brother. Theiler spent the time in fascinated observation of the kraal housing the farm's labour force (especially the bare-breasted women), even drinking Kaffir beer, entering the huts and exclaiming at their cleanliness, cracking primitive jokes and generally familiarising himself with their *modus vivendi*. He also took such hand as he could in the farming activities. Constançon returned the next day and at last he could ask for the full grounds of the advice given him.

34 They were many. Three months previously, Constançon said, a Pretoria Agricultural Society was formed by very influential people including the Commandant-General, Joubert. They would be staging a Show where Theiler could meet them. Each would be ready to pay him a monthly consultative fee to safeguard the health of their cattle. Further, they would expect him to assist in founding an Agricultural Journal. In time, he could aspire to a State appointment on the level of a Swiss district veterinary surgeon. There was also the possibility of appointment to the Staatsartillerie, the Republic's only organised army consisting of cavalymen with field guns. There would in the end be much work even if the first year were difficult. But, said Constançon, he must first become fluent in English. There was no need to worry about Dutch – it would come by itself. And he must spend at least six months on a farm to gain indispensable local knowledge. The following morning (Good Friday the 26th March 1891), Theiler's 24th birthday – they drove to Pretoria.

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35 As Consul for Switzerland, Constançon could claim a certain standing among the powers around and behind the throne of the aging State President, Paul Kruger. He was therefore competent to conduct his protégé directly to the town office of the influential Alois Nellmapius who, for several days previously, had been embarrassingly engaged in litigation over the ownership of his newspaper *The Press*. The issue was never in doubt and by the time his visitors appeared, judgment in his favour had been given by Justice Morice. After a very unpleasant interlude, copiously reported by the town's three newspapers, he could again afford to be affable.

36 Constançon had described Nellmapius as 'a farm-owner who rates as the richest and most influential man in the Transvaal'. Barbered and bearded and addressing the Hungarian in German, Theiler manfully stated his case: he had come on the advice of the Consul to establish himself as a veterinary surgeon but because his trunk with his instruments and microscope had been lost and his command of English was not yet complete, he would like to find a position appropriate to his learning about farming, cattle, the land and its people.

The rat-faced dapper Nellmapius who wore his hair short and was clean-shaven but for a well-trimmed moustache, looked shrewdly at the bull-necked Swiss who had made no bones about his intentions. It was no act of charity that he inclined toward him. His estate at Irene was now highly developed with experts in charge of every section – dairying, vegetable and seed production, poultry and eggs, horticulture, even quarrying for flagstones – but there was no one in charge of the animals. A large herd of cows, riding- and coach-horses, 40 mules, about 200 oxen, some sheep and a miscellany of other animals, wild and tame, were essential to the farm and contributed to its losses through disease particularly, at this time of the year, Horse Sickness. A man of quick decision, he immediately engaged Theiler as Supervisor of Cattle and Forage at a salary of £10 a month with lodging but no board for which he would have to pay. On the same afternoon, he took him by horse and trap to his Irene estate, two and a half hours

distant, and immediately introduced him to the Estate Manager and his assistant. Leaving Theiler with them, Nellmapius drove to his seigneurial residence set in formal gardens at a distance from the farm buildings and out of bounds to the staff.

The effect of the scene, already legendary throughout South Africa, was overwhelming to the impressionable Theiler, smarting at the thought of his uncelebrated birthday, his lack of clothes and money, his equivocal status through lack of his professional equipment, and the general strangeness of his surroundings. 'Courage!' he cried to himself as he always did, and set about mastering the situation. Some of the farm buildings such as the immense cow byres and the cool dairy, were constructed of stone from the estate but the majority were of corrugated iron throughout, the floors, through lack of timber, being of stamped earth. Theiler was given a room in one of these. Its only window was the transom above the door. The furniture consisted of a bed with a mattress stuffed with grass and a table. He had no bed-linen and lay directly on the scratchy mattress under a thick woollen blanket bought in Antwerp but without a pillow. The door had no lock and the sole luxury was a wooden floor. Theiler propped a box against the door and stood an empty bottle upon it which, falling in the night, would wake him in time to seize his military revolver kept at the side of the bed. No burglars came but he was tormented nightly by myriads of fleas, bugs and mosquitoes. Not until his delicate European skin had accustomed itself to these plagues did an English colleague give him some flea-powder.

A man of lesser fibre than the young Theiler would have left the place within a few days. He had little standing among the farm staff who included imposing personalities like the bearded German horticulturist Hans Fuchs, then laying out magnificent gardens and woods on the estate. The managers ignored him. His job was menial – on a level with the smith, saddler, cabinet-maker, carpenters, butter-maker, storeman, coachman, drovers and numerous other specialist workers whom Nellmapius had imported. They were divided into farm workers and technicians. Theiler was a farm worker.

A time-keeper woke them by ringing a bell at 5.30 in the frosty mornings. Theiler rushed out, taking his keys, opened the stable doors, made a general inspection and examined any sick animals. At 6, he went to the store and measured out the maize for the mules (no natives could be trusted in the store), ensured that the forage was issued, the cows milked, the calves fed and put out to graze, the stalls and stables cleaned. The same procedure obtained at midday and in the evening, the cows being fed on a chaff of mealie leaves and stalks chopped by a steam-operated cutter mounted near the smith's workshop and also used for wood. Much of the farm work was mechanised. The cultivation, sowing and grass-cutting on the lands were done by machines drawn by mules or oxen.

The deadly routine might have quelled his spirit had it not been for his natural élan, irrepressible curiosity and the richness at hand of material for his true metier. It astonished him that no animals were sheltered at night. Cows, calves, horses, mules, donkeys, sheep were all left in the veld. When it grew really cold, Nellmapius would follow the example of the Boers and drive his stock to the Lowveld for winter grazing. Constançon had suggested that Theiler might accompany them or else be attached to some rich Boer as officer in charge of his migrant flocks and herds.

In the wet summer at Irene and throughout the Transvaal, Horse Sickness flourished. Theiler looked with amazement at a mule in good health in the morning and dead by the afternoon, emitting litres of frothy fluid from its nostrils. Two weeks before, as he sat in the train at Vryburg, *The Press* had published a 'Remedy' emanating from 'an experienced gentleman at the Cape': 'Take a handful of slanghoutjies (snake root), a handful of garlic and ditto of wynruit (an aromatic root), mix together and boil adding two bottles of water to one of the mixture, then add a handful of gunpowder and give to the animal, taking care that it does not drink any



A botanical excursion in the Swiss Alps around 1880 of the kind that the young Arnold Theiler joined.

Arnold Theiler (extreme left front) – the only photograph showing his left hand – with his 'lieber Bierbrudern' at the University of Zurich.





Cape Town and Table Mountain as Theiler first saw them when he landed in 1891.

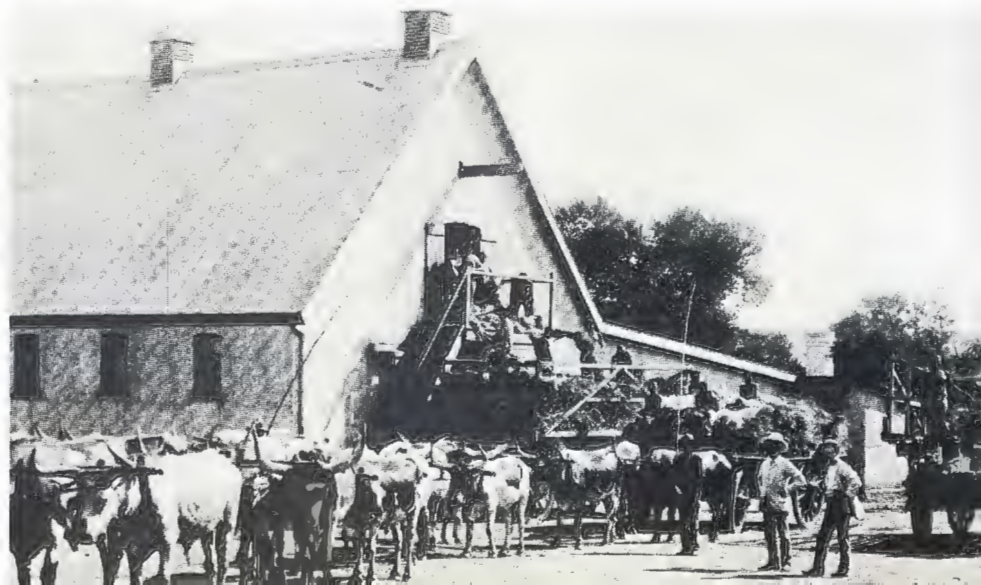
The importance of the horse in transport, here seen in 1891 on the dusty track of Sir Lowry's Pass at the Cape.



The importance of the ox as a draught animal and in other ways including postal delivery by 'post-cart' in Bechuanaland shown here.



A cow byre at Irene with ox-wagons (12 in a span) unloading fodder for storage in the forage loft in 1892.



water for three days. At the end of that period, give the horse about a bottle of water and then allow it to stand quiet for three hours. After this process, the horse may be allowed free' – if it were not dead.

38 The 'remedies' were more lethal than all the diseases that came to Theiler's notice. Within hours of his arrival, he was the reluctant witness of one of Nellmapius' horses being treated for congestion of the lungs. Arsenic and other chemicals were poured through its nostrils ('nothing could be more absurd', he expostulated), it coughed, developed pneumonia from the intrusion of foreign bodies, and died – as did others similarly treated. Meanwhile in Pretoria five fine horses died on one day and hundreds elsewhere ('en masse', Theiler called it and noted the steep rise in the price of horses) in 'one of the severest seasons ever known'. A few days later, Nellmapius told him that if he could find a cure for Horse Sickness, he would make £1,000,000 within two years. The bait was tantalising but there was still no sign of his trunk with its microscope and instruments which would have enabled him to take it.

Aided by the estate's 'Kaffirs' (Griquas, Shangaans, Zulus, Fingos, Basutos and others) with whom he had immediately made friends and who sat with him at night watching sick animals, Theiler made many postmortems on horses but came no nearer divining the cause of their sickness beyond suspecting Pneumonia. He also had to deal with Lung Sickness in nearly 200 oxen and, for the benefit of his parents, vividly described the demented scene in which his 'boys' would lasso a case among the half-wild animals whose huge horns clashed as they thrashed about the kraal into which they had been driven. The accepted remedy was Epsom Salts which, like linseed oil in vast quantities, was prescribed for all and any affliction and did no good.

39 Apart from the letter which travelled in the same ship as himself, no word came from his family and home sickness seized him. Without newspapers or visits to Pretoria, he could not know that torrential rains had delayed the coaches. Six mules had been drowned in a flooded river en route and the mail bags thrown into the water. The European mail had completely disappeared. His skill availed him nothing, his clothes were wearing out, his broken shoes were mended by the smith and his money was at an end. His colleagues were hostile though the English lent him cheap novels which he read at odd intervals to improve his knowledge of the language. Then, on the 12th April, a telegram came from Cape Town advising the arrival of his trunk and its immediate despatch. When it arrived, life would begin again.

He wrote long, acutely observant and vivid letters to his parents, describing all he had seen in Johannesburg and Pretoria and every detail of the Irene estate. The 'Kaffirs', 'kulis' (Indians) and 'Cape boys' (Malays and coloured) fascinated him. They were his friends and brought him snakes and lizards and beetles and other items for the 'collections' he hoped to send his father. Theiler was their 'Baas' but not in the sense of other Europeans who sometimes exasperatedly kicked them in the rear. He wrote piously that he considered even natives as freedom-endowed colleagues but he was not above yelling at them in Schwitzerdutsch when they did wrong, failing to understand his English. Soon they were coming to him with their own afflictions and, still without his instruments, he cleaned and sewed up stab wounds, extracted thorns from bare feet and, greatly enhancing his reputation, restored a pendant testicle to a badly-torn scrotum gored by an ox.

40 His experiences with animal welfare were far less felicitous but he learnt all the time and made copious notes on Horse Sickness with a view to contributing an article to the Swiss Veterinary Journal. Nellmapius and his manager brushed him aside when it came to the killer disease. He was forced to witness the barbarous treatment applied to any valuable animal showing a temperature. It was stabled in an hermetically-sealed stall in oppressive heat with a bag of hot bran round its head so that it breathed the steam. Utter nonsense, Theiler knew but, suffering with the agonised animal, could say nothing. If, after 24 hours, it became restive and tried to toss the

sack from its burning head, two native stable-hands would tie its legs and rub them with straw until the pain of its scarified skin caused the horse to kick which was interpreted as a good sign. When one of them asked him how long he should go on rubbing, Theiler bitterly replied – until the horse is dead. The managers would not allow him to apply his knowledge to any of the cattle diseases but continued in the barbarous practices which he abhorred.

He had however made his way with Nellmapius who gave him not £10 but £12 at the end of his first month and later specially instructed him to take complete control of all the animals. He must be independent of the other staff, Nellmapius said and take full responsibility. His salary would be further increased. By now he looked, he wrote, like a street thug with uncut hair and beard and holes in his shirt and trousers. There was no one to shave him at Irene (in the towns it cost a prohibitive 6d.) and his razor was in his trunk, allegedly on its way from Cape Town. His English had improved and he took easily to Dutch but he had not once returned to Pretoria. All his colleagues were now preparing the estate's exhibits for the first Agricultural Show and perhaps he would go then.

41 The assault on Theiler's pride, professional and personal, was hard to bear, particularly as no news came from home though all the staff regularly received letters from Europe. Doggedly he went on writing, reminded daily of his people by the Swiss condensed milk which he had at meals (all the farm's milk was sold). On the 16th May, he privately celebrated his parents' silver wedding day and bravely wrote that he longed to send them money and make his father proud. Nellmapius had bought a zebra for £22 which came under his charge and he described its mulish antics. Sometimes a copy of his employer's newspaper *The Press* came his way. He read of Kruger's ceremonial journey to Newcastle when the Natal railway reached the Transvaal border and of the cannonades and parades and addresses presented to him on his return. He is honoured like a King, Theiler wrote, resolving at all costs to get into his good graces. Nellmapius could arrange it. He must stay at Irene until the *démarche* could be made.

42 When the great day of the Show dawned, winter had settled on the Transvaal and the nights were freezing cold. Theiler had been swept into the preparations of the massive exhibits of the Irene estate and could gaze with pride on the imported thoroughbred Friesland bull William IV and his son William V. On the day before, a train of wagons took vegetables, seeds, poultry and all the products of the farm to the Pretoria Race Course to which some buildings had been added. On Wednesday the 13th May 1891, the State President opened the first Pretoria Agricultural Show. On the afternoon of the same day, the remains of the Voortrekker leader Andries Pretorius, having been exhumed from his farm, were ceremoniously interred in the Pretoria cemetery so that the Boers who came to town could attend both occasions.

43 Theiler missed nothing. Shocked at having to pay 4/- entrance, he milled among the crowd in the constricted space of the Show and chatted with everyone known and unknown. Constançon who won prizes for a milch cow and poultry and was himself a judge, was too busy to exchange more than a few words; but there were many convivial Swiss, one of whom had enterprisingly staged a Beer Garden. Elsewhere the Brass Band of the Johannesburg Wanderers Club contributed to the jollity. At a distance, he saw Kruger, 'a simple old man with a beard', in the company of Nellmapius whose bulls had duly won prizes. Other Irene products were similarly rewarded.

In such august company, the shabby Theiler had no chance of consorting with the great but his keen eye had noted them: the patriarchal General Piet Joubert, Commandant-General and president of the Agricultural Society who had won a prize for his team of six South African-bred mules; D. J. E. Erasmus, the rich cattle farmer and his brother S. P. Erasmus; E. P. A. Meintjes, the miller and landowner; Commandant H. N. P. Pretorius, head of the Staatsartillerie and many other notables indicated by his Swiss friends. Excluded from hobnobbing with the high

and mighty, they joined the impressive funeral cortège and listened to Kruger's emotional speech, twitting themselves that they too were Republicans. That night Nellmapius staged a party in his town residence, Albert House, at which the garden was electrically illuminated and the Wanderers Band played to raise funds for the Agricultural Society; but Theiler was too tired and went to bed in his bivouac on the Race Course. Mice ran over his head but at length he went to sleep.

44 The Show had been a great success and raised many hopes in many bosoms but Nature inter-
45 vened. Even as it was held, dense clouds of locusts were carried down from Mashonaland and
46 destroyed the Transvaal. Day after day they came and the ravages they wrought were equalled
47 by the Horse Sickness. Stephanus Erasmus' prize-winning locally-bred stallion died within hours
48 while the locusts ate every verdant thing on his farm. In Natal, horses 'died wholesale'. Excep-
49 tionally cold weather which, it was hoped, would 'kill the germs' quelled neither Horse Sickness
nor the locusts. On the 16th May 1891, snow fell for the first time in Johannesburg - 'the first
ever to whiten the streets and roofs of the City of Gold' and there was even snowballing.

48 At Irene, news reached the farm that the locusts were 6 miles away. The managers called out
the entire staff to cut every living thing that could be dried for forage and food before omni-
vorous swarms, already darkening the sky, descended to destroy them. They looked like clouds
of smoke, the enchanted Theiler wrote and nearer, like a snowstorm with their transparent
fluttering wings. Fires were lit and tins banged; but the swarms came on, the Kaffirs dancing with
joy at unlimited food falling from the skies and sweeping them up for later roasting. Ten days
49 later, another gluttonous swarm appeared and denuded the estate, eating even the trees. It
would have been worse had it not been the time when the farmers habitually moved their flocks
and herds from the dry and frozen Highveld to the lush pasturage of the Lowveld.

Theiler's spirits rose. He now heard frequently from his family and friends. With new excep-
tionally fast steamships, the mail came quickly and regularly. In April, *Dunottar* had reached
50 Cape Town in less than 16 days and in October the yacht-like *Scot* was to make the run in 12.
51 Switzerland was suddenly much closer. Apart from a passing fever which the manager (whom
Theiler called 'the linseed oil Doctor') regarded sardonically, he professed himself well and
greatly impressed Nellmapius by singlehandedly saving a valuable cow, considered incurable.
Of his standing with Nellmapius, he had no doubt and could confidently go forward regardless
of hate and opposition. The staff were jealous and antagonistic but his stock stood high with the
labour whom he treated for all manner of afflictions. His eye was on the gilded prize of a cure for
Horse Sickness, now departed as the dry winter came. He made endless observations and notes
on this and many cattle diseases manifest at Irene; but little could be done, particularly about
the parasites which he found in profusion, without his microscope. Despite letters and advices
and constant enquiries, his trunk had still not come. On the 27th May, Cape Town advised that
its contents were not dutiable and it had been sent by train to Vryburg. Theiler took the letter to
Nellmapius who instructed his agents to clear the trunk at the Transvaal border, have it brought
by coach to Pretoria and thence by cart for delivery to Theiler at Irene.

52 He was cock-a-hoop and propounded wild plans. Nellmapius, now his friend, and proponent,
approved of scientific treatment and would understand his wishing to leave to open a practice in
Pretoria which would earn at least £40 a month. He would spend his free time in the town in-
specting the buildings and meeting people. His English was now fluent and when his Dutch im-
proved, he would get Government appointment. He could earn as much as £4,000 a year. He
would make his parents proud. Theiler rattled on. To Emma too (also saving pennies from a
niggardly governess' salary), he wrote enthusiastically of his prospects and the wealth of scienti-
fic investigation that would come so easily and so gainfully to his hand.

Nellmapius' agents delivered the trunk to Irene on the 10th June. Only one glass slide was

broken. In a pocket of the coat which he had so badly needed in the frigid nights and mornings, he found a letter from his mother, secretly inserted before he left. It had taken four months to reach him. She had been deeply concerned about her errant son. His heart lifted as he examined all his things. There was neither time nor place to make use of his scientific equipment – it was too cold, icicles everywhere, and he was too tired. Through lack of acclimatisation, he had had gastro-enteritis but was on the whole well. Thus he wrote his family on the 18th June.

The cruelly-cold Highveld winter now gripped the estate. The farm lay fallow as frost blackened the remaining verdure. The remaining cattle were sent out to graze on the few blades of yellow grass left by the locusts but were brought in at night to be fed and stabled. Even the wild veld-trained oxen were driven in, fed and sheltered. Theiler's work was vastly increased and his free time disappeared. Each day, he had to prepare great quantities of forage and reduce mounds of maize stalks to edible proportions in the steam chaff-cutter. A dozen natives helped him, requiring constant supervision which, he said, was work enough. When the day was done, he was too tired to do more than fall on his bed ignoring even the English books that he customarily studied.

On the morning of Saturday the 20th June, routinely tending the thundering chaff-cutter, his attention was momentarily distracted as he pushed the maize stalks into its heavy revolving blades. A jerk, a sudden stab of pain and he dragged out the stump of his left arm, the hand completely severed above the wrist. His natives howled. One of them ran for the manager Kretschmar. A horse was hurriedly harnessed to a trap. Theiler looked at the trickling stump and knew his future was finished. Kretschmar bound it as best he might and drove the stricken man to Pretoria. For two and a half hours in a state of shock, he was bumped and shaken over the rough tracks until they reached the primitive Volkshospitaal outside the Staatsartillerie headquarters. A runner was sent for a doctor. On a Saturday, he might take long to come. The untrained nurses watched over Theiler, not knowing what to do. His hopes, his ambitions, his purpose in life were at an end.