

OVER THE HILL 1897-1898

1 A TRIVIAL EVENT determined fundamental development in the economic and ecological history
 2 of the world. On the 19th August 1897, Mr David Buchanan sat down and signed his name to a
 letter written for him in Dutch (which he could not speak) asking the Landdrost of Pretoria
 whether he might hire the long-derelict Disinfection Station at Daspoort at £5 a month for
 three years. Still bruised by his Conference experience, Schutte sent it on the 30th August for
 comment by the Head of Public Works, S. Wierda who was responsible for the building.

There lifted too over the Transvaal horizon a cloud no bigger than a man's hand which, if
 it did not have the same world-wide influence, certainly closely affected it. Early in the century,
 English colonial enterprise had fostered agricultural societies which, toward the end, associated
 themselves into powerful 'Unions'. The Cape naturally led; but by 1891, the Natal Agricultural
 Union had been formed and provided beckoning example. It was no time for the Transvaal,
 subsequently crippled by Rinderpest, to follow.

3 In 1897, the Pretoria Agricultural Society had been prevented by the rampaging disease from
 4 holding its annual Show; but it courageously persevered (Theiler was made a vice-president and
 5 a member of the Executive Committee in November). Among its far-sighted British and Boer
 members was a scholarly Methodist school-teacher F. T. Nicholson who had taught English for
 13 years in State schools, acquiring thereby a faultless proficiency in Dutch and writing ably in
 both for the Press. For sheer love of the land (next to his books, he cherished his garden most),
 Nicholson drove toward forming a Transvaal Agricultural Union compounded of the societies
 of Pretoria, Klerksdorp, Barberton, Vryheid, Johannesburg, Middelburg and Lydenburg. With
 Pretoria represented by Nicholson, J. J. Enschede and R. T. N. James, they met on the 29th
 6 September and, finding accord, met again on the 14th November 1897 and founded the Transvaal
 7 Agricultural Union. At that meeting, Dr J. W. B. Gunning, a versatile Hollander qualified in
 medicine and zoology and serving as curator of the State Museum, delivered a resounding
 address on policy, principally advocating a State Department of Agriculture that would deal
 inter alia with stock diseases. Only the Free State rivalled the Transvaal in reactionary attitude;
 but now a powerful pressure group began to assault the conservative citadel of the Z.A.R. Its
 tireless and universally-respected secretary was F. T. Nicholson.

Enheartened though he might be by these developments, Theiler was an unhappy man. Over-
 8 whelming depression and distress debilitated the whole country, now threatened by a frightening
 outbreak of Smallpox in Pretoria. State and voluntary relief was totally inadequate. A week
 before his birthday in October, Kruger held another Day of Humiliation in the face of poverty,
 depression, drought, locusts and the ubiquitous and unabated Rinderpest. The Z.A.R. treasury
 9 was empty and, confronted by the Cape with a bill for £1,826 as its share for Koch, the Govern-
 ment climbed down from its high horse and asked its colleague States to help pay for Danysz
 and Bordet. They had so far cost £15,400 - expenses: £9,400; bonuses: £6,000. All replied acidly,
 Natal stating that it considered Theiler and Pitchford to be the originators of 'the French
 method' (Pitchford was busy establishing his case). It irked Arnold and Emma almost beyond
 10 endurance that Danysz and Bordet should be rewarded with bonuses totalling £6,000 while
 Arnold, the founder of their success, received 'not one red heller'.

Theiler went about his business as Gouvernements Veearts while Danysz and Bordet toyed
 11 with Horse Sickness experiments suggested by him at Waterval. Officially he was based there to
 assist them as he frequently did. Meanwhile Wierda had asked Schutte whether he had any ob-

12 jection to the Disinfection Station being hired and Schutte said No. While the matter received further departmental consideration, Theiler went to the wedding of Schutte's daughter. He sedulously kept in the favour of his supervisory Landdrost but he attended the festivities alone. Four days later, Emma presented him with a second daughter Gertrud on the 11th September – 13 'we hope this will be the last', they wrote. During those four days, Theiler's feelings of victimisation had been immeasurably and publicly exacerbated.

14 On the 10th and 11th September, the Volksraad debated a petition signed by 76 citizens of the Lydenburg district in the eastern Transvaal that the post of the Government Veterinary Surgeon be abolished. The Petitions Committee had recommended that it be rejected; but for two days it was hotly contested and the issue in doubt. Without mentioning his name but heavily emphasising 'the doctors whom the State has got out from Europe', members asked what use was Theiler? what had he done for Glanders among Staatsartillerie horses except order their destruction? what had he done for Rinderpest except order cattle to be shot? what animals would have been left if his advice had been followed? what remedies indeed had he discovered? he was in fact no more than a hanger-on of the French scientists. The progressive members spoke less but equally forcefully, led by the young Louis Botha and supported by General Schalk Burger (a member of the Executive Council), the English R. K. Loveday, S. Erasmus (brother of D. J. E.) and others. On the second day, Louis Botha moved that the discussion be closed and the motion 15 put. The Gouvernements Veearts was retained by 13 votes to 9, the result being applauded in the Press.

16 Three months before, Edington, Hutcheon and his troop of 'English vets' had been equally roughly handled in the Cape Parliament in discussion on a motion to reduce the Agricultural Department's vote (lost by 42 to 17) – a procedure which became an annual event and for Watkins-Pitchford too in Natal. In the Free State, Otto Henning pursued an unstable way. Reactionary opinion, heavily enhanced by nationalist sentiment, prevailed throughout Southern Africa but to a lesser extent in Natal where Watkins-Pitchford was establishing his bacteriological research laboratory at Allerton outside Pietermaritzburg, and in the Basutoland Protectorate 17 where Godfrey Lagden had successfully repulsed Rinderpest, first with the aid of H. T. Armstrong M.R.C.V.S. lent by Hutcheon and then by W. R. Davis M.R.C.V.S. appointed to his staff. Veterinary Science and particularly research had far to travel before it made its way in official and public estimation. Typically Theiler was undaunted. He always was when at home with his family.

18 The uncongeniality of his association with 'the French savants' was increasing. While he respected and liked Bordet, he suspected Danysz of purely commercial motives unrelated to the Pasteur Institute whose good name, Theiler thought and stated, he exploited and dishonoured. 19 Danysz had decided that Waterval was unsuitable for Horse Sickness experiments and, demanding the importation of animals from Basutoland and the Argentine, examined distant properties for a site for a new experimental station. He settled on ground 400 yards from the little dorp of Belfast in bleak flat veld on the Lourenço Marques railway line. Waterval was to be dismantled and transported there together with the horses. The staff, consisting of four Swiss recruited by Theiler – D. G. I. G. Schroeder, A. Brenzikofer, Alfred van Bergen and Charles Favre – would live in an hotel. Theiler would be exiled and deprived of his family for months at a stretch.

At that stage in his baulked and unhappy career, insignificant event inclined in his favour and, alert, ambitious and dynamic, he took full advantage of it. The utilisation of the abandoned Disinfection Station at Daspoort had at last received Wierda's final consideration. If Mr Buchanan and other desired to hire it, the proposition should be put out to tender; but before doing 20 so, he asked Schutte to consult Theiler. Schutte advised him on the 15th September that Theiler

21 was at Waterval and that he had forwarded the request of the Head of Public Works. Theiler received it on Thursday the 16th and, his mind aflame, took it home for the weekend. There were works to be consulted before he could constructively answer Wierda. Above all, he needed Edington's annual reports (though he lacked the most recent). It took him a week to frame his reply and the clerk at Waterval copied it beautifully and expansively on only 3½ sheets; but its effect was worldwide. He sent it to Schutte on Saturday the 25th and went home for the weekend to write to his parents.

23 Theiler began by seeking Schutte's aid in promoting his proposal which he conceived to be part of the function of the Government Veterinary Surgeon. He wanted to convert the useless Disinfection Station (built only 9 months previously) into a Vaccine Institute and he produced very convincing figures in support. The Z.A.R. and private practitioners within it had bought 18,363 tubes of various vaccines from Edington's Bacteriological Institute at Graham's Town (to which the Z.A.R. also contributed £300 a year) during 1894 and 1895 at a cost of £2,931.

24 (At that moment, both purchasers were spending £761 on 10,154 tubes in 1897 alone.) Theiler pronounced himself capable of producing first-class vaccine from calves (which could also render profit as meat) cheaper and better than Edington. Further, epidemics like the current Smallpox could be aborted at outset. He supported his scheme with persuasive figures, requiring only that the Disinfection Station be fenced with corrugated iron six feet high and stalls provided for calves. The problem of its disposal would fall away and it would become a State asset.

25 Schutte received the letter on the same Saturday and without delay, forwarded it to Wierda under cover of a memo asking him to submit it to the Government under the personal recommendation of the Landdrost of Pretoria. Simultaneously Theiler wrote his parents - 'I have today

26 made a proposal to the Government which Mr Schutte has actively supported. As he has manifest influence with the President, it is possible that my plans may be realised. Financially I will really gain nothing; but once in operation, I will take care to produce good wares which will serve me in reputation and recommendation. This is part of a proposal to the Government that my Department should be defined and reorganised. If the Government agrees to my proposal, I will clearly have assured my position.' He was in fact deeply depressed. His scheme involved changing the mantle of 'the horse doctor' for that of the vaccine factory manager with no advance in his career as research worker in veterinary science; but, in very troubled times, it would at least promise security.

The immediate prospect of exile at Belfast with his quarrelling colleagues (Danysz and Bordet now hardly spoke to each other) further blackened his mood; but he tried to put a face on it for his parents' sake by proposing to take time off at the new station to go to Lourenço Marques. Its mayor, Dr Nascimento, had invited him at the August Conference. Rinderpest was now

27 massacring untold numbers of domestic and wild animals in Portuguese East Africa and the adjacent Swaziland. It had also reached the suburbs of Cape Town. Koch in Dar-es-Salaam (where he had had less luck) fulminated against the 'intrigues' of Hutcheon and Edington to discredit him and assured Kollo that it was as good as settled that he would return to South Africa.

29 With his protégé and Turner, he remained on cordial terms. They claimed to have refined his 'method' to a higher degree of efficiency. Their colleagues continued to dispute it.

30 Schutte, high in the Government's favour and much enlightened by the gabblings of the 'International Conference' where the complexities of veterinary science and the passions of scientists had been dramatically proclaimed, now encouraged Theiler to speak his mind and to lay before the Government the grand concept that burnt there. He authorised him to take a week off from Waterval (then in process of transition) and to occupy himself at home at Les Marais in writing a letter to the Under-State Secretary clearly defining what he meant by the



The effect of Rinderpest – a Boer trekking with eight 'Government' donkeys and the last dying cow of his herd of 160 beasts.



Jules Bordet (later Nobel laureate) who joined Theiler in investigating Rinderpest at Waterval outside Pretoria in 1898, here recording results in his bedroom workroom at the primitive local inn.



Theiler (standing) Watching Bordet make microscopic investigation into Horse Sickness at Waterval.



Danysz (extreme right) supervising the dragging of the corpses of horses dead from the Sickness to the Belfast Experimental Station.

Free at last ! – Theiler (second left with Favre on his right) in charge of the Belfast Experimental Station after the departure of Danysz and Bordet, and now conducting his own Horse Sickness experiments with the assistance of compatriots.



scope and functions of his 'Department'. They had often discussed them and Schutte, privy to the charmed circle, felt the moment had come.

31 Throughout his life, Theiler was distinguished by a gift of empathy. While superficially he appeared merely gregarious, in fact he was capable of projecting himself into the mind and attitudes of every kind of person (except perhaps his children who often baffled him) and adjusting his thoughts and conversation to the level he found. Now, in defining the 'Department of the Government Veterinary Surgeon' in his letter to Krogh, he put himself in the position of the fierce old reactionaries who had attacked him in the Volksraad, and of the cold shrewd Hollander civil servants who, confronted by an empty Treasury, were equally resistant to change because of its cost. His letter was as much a masterpiece of plausibility as of visionary good sense.

32 He began it by recording what he had done in the first ten months of his appointment before the helotry imposed by 'the French experts', emphasising his discovery in collaboration (sic) with Pitchford of a means of immunising against Rinderpest. He had also dealt with the horses in the Artillery Camp and the donkey disease. But, he pointed out, the functions of the Government Veterinary Surgeon were nowhere fully defined, the Glanders Act (No. 8 of 1894) being the only relevant guide to certain limited activities. He had however concluded that there were three functions – to advise the Government and general public on diseases in domestic animals; to devise cures where none existed; and to serve as horse doctor to the Staatsartillerie.

33 Through his work in different parts of the country and (cunningly) from the discussions in the Volksraad, he could grasp what was expected: the Gouvernements Veearts should be

1. head of his department and directly responsible to the State Secretary Section B (i.e. Internal Affairs with which T. J. Krogh dealt while Dr W. J. Leyds or his alter ego C. van Boeschoten dealt with Section A – Foreign Affairs);
2. concerned with diseases of domestic animals;
3. at the behest of farmers and inhabitants of the State for advice on treating animals, and of the Government to investigate unknown diseases.

34 In his logical simple way (derived, it was later said, from the peasant stock from which he was sprung), Theiler then examined the implications of these points.

Firstly an Information Office was required to combat current misapprehensions both in the old farming community (which had misunderstood the nature of Glanders and the urgency of eliminating infection by destroying animals) and in the new land-owners who needed to discuss their cattle problems. Further, good public relations should be established and information conveyed through the newspapers and the *Staatscourant*. A secretary would be required.

Secondly – and this Theiler accounted the main task of a veterinary surgeon in South Africa and pre-eminently of a Government appointee – he must be an experimenter. He gave as an example Sponsziekte (Blackleg or Quarter Evil) which wrought great destruction among calves in the Transvaal (and which he had experimentally combatted in D. J. E. Erasmus' herds in his early days). The ravages of Rinderpest, wrote Theiler pointedly, made such experimentation the more necessary. He had proved the efficacy of the Swiss inoculation against Sponsziekte. Now there must be a research institute or laboratory where all diseases could be investigated and means found to combat them. Everyone knew (even the most reactionary Boers though he did not say so) that Lung Sickness could be prevented by primitive inoculation. The laboratory could make and supply superior inoculative material.

Further, vaccine against Smallpox could be produced in bulk and here Theiler smote his superiors again with the £3,000 per annum that had gone out of the country in 1894/95 to Eding-

ton and the £300 per annum that went to his Graham's Town Laboratory. All that money, he observed heavily, could have remained in the country and neighbouring States could have added to income by becoming customers of a State Institute. Sales of vaccines could pay for the whole of the Government Veterinary Surgeon's laboratory (as he well knew they had done in Edington's pioneering case).

Cutting his cloth according to the stringent pattern imposed by adversity, Theiler proposed a total annual expenditure of less than £2,000 on a Vaccine Institute producing inoculations for Sponsziekte, Lung Sickness and Smallpox with two assistants, each with three 'Kaffir' helpers, and a supply of calves. It would no longer be necessary, he emphasised, to pay the annual £300 to the Cape Government for Edington – an exceptionally cogent point.

Then he expanded his grand concept. The vaccine factory could also serve as a Research Institute for the investigation of intractable diseases beginning with Horse Sickness. His French colleagues had been experimenting with inoculation at Waterval and if they succeeded, production of a serum would have to be undertaken. Equally urgent was the problem of Redwater which, strangely, was better resisted in Natal and the Transvaal by cattle than in the Cape Colony. The question of importing cattle to replace stock destroyed by Rinderpest was of paramount importance; but more than half of imported stock contracted Redwater and died. A form of immunity was essential and (referring to but not specifically mentioning his private researches in Johannesburg and Les Marais), he thought he had isolated the causal microbe of what seemed an infectious disease. He was convinced that animals could be 'salted' against Redwater. He touched tellingly on Heart Water, Gall Sickness and Stiff Sickness – the perennial banes of the Boers – as suitable for full investigation before moving from the known to the unknown and dwelling on the need for research.

Theiler was now on beloved and much-considered ground. He laid before the Government the simplest and cheapest manner in which the State could acquire an Experimental Station without incurring the heavy charge which Pitchford had laid on Natal in building and equipping the Allerton Laboratory. Theiler went so far as to offer the use of his private laboratory with all its instruments, apparatus, microscopes, etc immediately to get a research institute going. It would require stables, a store, quarters for the kaffirs and grazing for the experimental animals. Such accommodation could be transferred from the now obsolete Waterval experimental station and the site, with grazing, according to Theiler, chose itself. It should be near enough to Pretoria to enable him to ride to his office in town and close enough to his domicile at Les Marais between Wonderboompoort and Daspoort for him to supervise its activities. Lo, there at Daspoort was the Disinfection Station ideally placed! All that was necessary to convert it was to insulate the interior from the baking heat or penetrating cold of its corrugated iron construction by lining it with brick. That, wrote Theiler, would cost only about £50. Grazing could be arranged with the farmer on whose lands it stood.

Methodically he returned to the third supposed function of the Government Veterinary Surgeon – horse doctor to the Staatsartillerie. It was, he said, outside the compass of anyone engaged in all the other activities but could be arranged in conjunction with the unit's medical surgeon. If the horse doctor visited the Camp thrice a week, Dr J. L. Laxton (an Englishman) could maintain order in between. A special fee for this work had been allowed in the Estimates in the terms of Act No. 1 of 1896 which provided the Staatsartillerie with a 'paardenarts'.

In manly manner, Theiler now turned to his own case. He had been working for six months with the Frenchmen, not knowing whether they were staying. The Government was now fully aware that 'the French method' was based on his and Pitchford's work and their experiments at Waterval had merely proved it. He wished humbly to remark that Horse Sickness could be attacked in the same simple and inexpensive way as had been used at Marico. He implied that

he had the advantage of local knowledge and much experience in the field, instancing his work with Lung Sickness, his successful inoculation of 500 of D. J. E. Erasmus' cattle against Sponzietke, his production of Smallpox vaccine in Johannesburg in 1893 and later, and his treatment of and research into Horse Sickness, Redwater and other indigenous diseases on which he had contributed articles to overseas scientific journals (the *Schweizer Archiv fur Tierheilkunde* had in fact published nine during 1897 on Rinderpest, Bovine Tuberculosis, Black Quarter Evil, etc, the incidence of animal diseases in sub-tropical areas being virtually unknown in Europe at the time). He was impelled to mention these things in the light of the unfair treatment sustained at the hands of some members of the Volksraad. He had been accused of failings which fell outside his capacity as Gouvernements Veearts. He therefore asked that his position be clarified so that people should know for what he was responsible and what services he could provide. The establishment of a Bacteriological Institute would serve the State well in this connection. He would be glad to elucidate the matter verbally if required.

In the meantime, he would assist Danysz and Bordet at the Belfast experimental station with his private and official knowledge of Horse Sickness but would appreciate an official communication detailing his duties to the general public.

35 Krogh received the 16-page typed letter on the 6th October 1897. In his anxiety to promote
36 his scheme and be rid of the uncongenial Frenchmen, Theiler sought the permission of Schutte
37 a week later to inspect the Disinfection Station to assess the amount of alteration needed. In
typical bureaucratic manner, Schutte referred it to Wierda who was in charge of the building.
Wierda merely noted it. Caught in the Government web, the unhappy Theiler was not to know
that Krogh had lost his letter and was in any case disinclined to open another laboratory while
the Frenchmen were working at Belfast.

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38 Gloom suffused the times. As Theiler finished his letter on a Sunday at home, the people humbled
themselves before the Lord to seek his intercession against the endless ravages of drought,
locusts and Rinderpest. Bitter controversy still raged among the claimants to providing im-
munity against the disease. The sense of grievance at the Frenchmen's receiving reward was
39 exacerbated in Theiler by Pitchford's writing that the Natal Government was examining their
joint claim with a view to making award. The Z.A.R. Government had not even considered it.
Pitchford and the Frenchmen wrote to Turner, vaunting their success; but Turner himself was
40 locked in serious disagreement with Edington and Hutcheon. The Cape Agricultural Secretary,
Pieter Faure, called them into lengthy conference on the 14th October which produced much
heat and little enlightenment. In despair, Faure cabled Koch at Dar-es-Salaam to come to the
Cape to settle differences on the best way of using his method. Koch would very much have liked
to come but was too involved in his Malaria and other researches and declined.

Always a filthy town with inadequate sewage- and garbage-removal, Pretoria's polluted water
supply now produced a lethal epidemic of typhoid. The drought was broken by torrential rain
and Theiler sat at derelict Waterval, dispirited and disconsolate at the prospect of being reft from
his family at the cheerless Belfast station. His Government chose that moment to offer him
provisional appointment for 6 months as 'paardenarts' at the Artillery Camp at the rate of £300
a year with attendance thrice weekly. With the rain drumming on the iron roof of his shanty and
the remaining horses standing dripping outside, his future became even more confused. It was
41 doubtful whether the Government would accept his grand plan and allow him to serve as a re-
search scientist. It was certain they wished him to become a combined Government Veterinary
Surgeon and Artillery Horse Doctor. He wanted security for his wife and three children but,

passionately, he wanted to be a bacteriologist investigating the nature of stock diseases (he was still ordering supplies – stains, chemicals, apparatus, equipment – from Paris, Leipzig and other European sources). It was his only motive in continuing to work with the Frenchmen. Perhaps he should bite on the bullet and accept the horse doctor appointment, abandoning bacteriology. Perhaps he should give up. He must speak to Emma who had always dissuaded him in his black moods from leaving the Transvaal for home – Switzerland, she said, would be too small and narrow and confined for him. His spirits fell as fast as the rain.

42 The whole Republic was in a state of suspended animation as the three presidential candidates – Kruger, General Schalk Burger and General Piet Joubert – began touring the country. The moderates hoped for Burger (who campaigned for a Department of Agriculture with a ministerial head) but few held that Kruger could be defeated. Even the rising deaths from typhoid could not distract the Pretoria public from ‘election fever’. At Les Marais, Emma kept the family well and happy (though the pigs, ducks and turkeys died while the hens and rabbits prospered) and brought her sound common sense to bear on Arnold’s problems. The point to be clarified was his status with ‘the French doctors’. What in fact was he? The Government Veterinary 43 Surgeon or a ‘hanger-on’? On the 12th October, Theiler wrote to the State Secretary asking for a clear definition of his relationship to Danysz and Bordet. He had helped them with Rinderpest because the final technique had then to be found; but Horse Sickness was another matter, demanding original research. Was he to be merely a scientific assistant or a responsible researcher?

44 The reply was equivocal – Belfast would be under the control of Schutte; Theiler would be responsible for the installation, equipment and animals. His function would be to attend the experiments so that if any discovery were made, he would be in a position to carry it further. The Z.A.R. had decided to put an end to the French scientists. Theiler himself attended a meeting of the Executive Council and heard the members discussing him – ‘They all expressed the conviction that the Government Veterinarian should alone be in a position to conclude the experiments’. Danysz and Bordet were given their congé but two hateful months remained before their contract expired. 45

Theiler accepted the Staatsartillerie appointment but no confirmation followed. He postponed his departure to Belfast as long as he could, even finding it necessary himself to trace a missing horse. His antipathy to ‘the tyrannical and authoritarian ways of Danysz’, his contempt 46 for a traducer of the good name of the Pasteur Institute, his sense of injustice at the ‘bonus’ unfairly awarded and his horror at leaving the warm cocoon of his family for an indefinite time produced so powerful a bloc in his mind that, but for his personal involvement in the Horse Sickness experiments, he ‘would have thrown everything overboard’. He left for Belfast early in November and predictably declined into disgust and depression. No confirmation came of the Staatsartillerie appointment which would have brought him home at least once a week.

47 The country was in a sorry state. Wherever he travelled, rural ruination through Rinderpest confronted Theiler. Extreme poverty afflicted the countryfolk and conditions were worse in the towns. ‘Times are terribly bad here’, Emma wrote to his parents, ‘Thousands of unemployed wander about Johannesburg and crime increases frighteningly. The cost of living is also increasing as meat which until now was the cheapest food, is also rising in price.’ Helped by Frau Lauber to feed and occupy the five children and miscellaneous livestock, Emma spent her little leisure in keeping Arnold’s papers in order (he had himself lost heart) and copying his articles 48 for Zschokke who wanted to publish one in the *Berliner Tierartlichen Wochenschrift* (dealing with Koch’s bile injection, it appeared in 1898). Brooding morosely in the primitive ‘hotel’ in Belfast, Theiler told his father of the acrimonious debates in the Volksraad where the report of the Government’s Industrial Commission was hotly opposed for its criticism and condemnation of the monopoly system. Revival of industry was essential but the legislators havered and argued.

49 Ruination might be followed by revolution. Theiler felt miserable and insecure. Krogh, having failed to find it with Schutte, had written him directly about the whereabouts of his grand plan and Theiler had replied from Belfast that as far as he knew the Government had not dealt with it but a certain clerk would know. The file was found early in December.

50 All that was cheering was that Danysz would depart on Christmas Day but Bordet wanted to stay longer, being solely in charge of the Horse Sickness experiments while Danysz (erroneously called 'Dr') examined Pretoria's water supply. Theiler was glad, having found Bordet 'loyal and friendly - a man who knows his business'. There had been a painful scene between the three when Theiler, mortified beyond endurance by his servitude for the sake of security for his family, had attacked them for purloining the whole £6,000 'bonus' due to his initial work and discovery. They had agreed to pay him £500 (there was no mention of Pitchford) but no money changed hands: Finally Danysz gave him a promissory note on a local Swiss (brother-in-law of the Consul Fehr) who got into financial difficulties and Bordet, leaving on the 7th January 1898, 53 duly presented £250. (Theiler was correct in his estimation of Jules Bordet with whom he remained in close and fruitful connection - in 1919 in its devious way, the Nobel Committee awarded him the prize for Medicine and Physiology for his work on bacteriolysis begun in 1896 which facilitated immunisation techniques. He died in 1961 at the age of 91.)

54 At Belfast and throughout most of the country, the rain continued to teem, engendering one of the worst seasons ever known of the 'Horse Death' as it was now called, and malaria. It fell to Theiler to take the horses experimentally salted with virulent blood to the most deadly infectious area - Elandshoek on the line to Nelspruit - to test their resistance. He was enchanted by the lush lovely mountainous country - 'As I came through the tunnel from Waterval Boven and rode on the cog-wheel railway to Waterval Onder, I thought I was in Switzerland! The line runs in daring curves under vertical cliffs with rushing water toward the valley.' He was less enchanted by the visit to Belfast in heavy rain of President Kruger, ostensibly on his annual 'inspection' but actually electioneering. Theiler minded the toadying of the local populace at the banquet given him. No one doubted that the old man would win.

57 Schutte called Theiler back to Pretoria in time for Christmas and told him of developments. Krogh had found his grand plan and dismantled it into three Memoranda - Provisional Regulations for the Government Veterinary Surgeon (which prohibited private practice); A General Explanation (which fixed his various emoluments and allowed him a secretary); and a Statement of Costs for the Veterinary Department including the laboratory or incipient Vaccine Institute. 58 They had been submitted to the Executive Council which had agreed to them in principle and had authorised Krogh to arrange with the Treasurer-General to include the cost in the Budget Estimate for 1898. Only the Volksraad could approve the expenditure on Theiler's scheme and for some weeks, his future would remain undetermined. In the meantime, residual funds amounting to £2,000 were available from the Danysz-Bordet vote and he was instructed to continue the Horse Sickness experiments at Belfast. He hoped to make the money last for six months. Light was appearing on the horizon and the Theiler family traditionally celebrated 60 Christmas except that, in blazing heat, the tree was a candle-lit acacia. Frau Lauber then departed and Emma alone ran the complicated menage while Arnold, now king of his own castle, reigned at Belfast.

61 The sun seemed at last to be shining. In the middle of January 1898 Krogh sent for him to discuss his proposals - the modification of the Disinfection Station, the staff he required, the probable date on which he could start operations, the amount he would need to carry him through 1898 - all contingent on the Volksraad's assent. The signs were propitious. Theiler 62 estimated a total of £1,945 and on the 20th January, confirmed part of their discussion in a letter applying for the appointment of a secretary at £200 and a vaccine-producing assistant at

£180 per annum from the 1st June. He recommended as secretary one of his compatriots at Belfast, Charles Favre who was proficient in English, French and German and later evinced versatile talents but not as secretary.

63 The march of his plans was exhilarating. A further small stimulus to his morale came from the decision of the Executive Council on the same day to extend his naturalisation to full voting rights. It was a privilege accorded on application to all those who had declared themselves for the Republic during the Jameson Raid. Theiler was now an enfranchised burgher committed to his new country. The certificate, signed by Dr Leyds himself on the 31st January, came too late to enable him to vote in the presidential election. He was back at Belfast and not in his own 'wyk', Pretoria. Kruger, then 73, was returned resoundingly with 12,864 votes, scarcely challenged by Schalk Burger (3,814) and the aged General Joubert (2,009). At the same time, production of gold by the recovering mining industry soared to record heights. Misleadingly, all seemed set fair.

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65 For Theiler, after years of delay and disappointment, events suddenly moved quickly. Krogh put his Department's proposal to the Volksraad early in March and secured immediate agreement. The lease of the Belfast property from a mining company would expire at the end of the month. The experimental station there would be dismantled and work on the conversion of the Daspoort Disinfection Station would immediately begin. Schutte sent at once for Theiler and together with Public Works officials, they inspected Daspoort and determined alterations and improvements. Schutte would return with him to Belfast to supervise the transport of equipment and the closing of the station.

66 Theiler exulted. 'What should I have been in Switzerland at this time? A good-for-nothing such as the dear people of Frick have so gladly seen in me! What will they now have to say about it? You must not be silent,' he exhorted his parents, 'but tell in public places about the new successes of "Arnold".' They lay some long time in the future. Tenders were issued for building, reconstructing, fencing, asphaltting the floors of the stables, laying on water and a dozen other requirements grinding their way through formal Government procedure. Theiler claimed advances on his budget to lay in laboratory stocks, particularly for Smallpox vaccination and – joyous respite from his own enormous outlays – to buy scientific books and journals from overseas and pay his subscriptions to the Cape and Natal Agricultural Journals. He had also to feed and keep his experimental horses and attendants. Otherwise, for the interim period he remained the Gouvernements Veearts responsible to Schutte, with miscellaneous and distant duties.

69 He lived again in the little corrugated iron house at Les Marais with the makeshift laboratory brought from Marico, happy in the presence of his family among the prosperous poultry and the already tall eucalyptus trees he and Emma had planted, together with a large vegetable garden. They lived off their little piece of land and heard with horror of the distress up north. Malaria and Horse Sickness were completing the ruination of Rinderpest. The railway was creeping slowly toward Pietersburg but it would be more than a year before it brought succour to a population cut to its knees. Poverty ruled and pride went by the board. When a contractor employed by the Government to erect a telegraph line to Spelonken 65 miles in length, offered 3s. for each hole dug for a pole, 'it was accepted by the poor burghers with such avidity that they worked night and day and covered the whole distance within a few weeks'.

Theiler himself had not done badly during the time of his travail. His salary was £500 a year and £1 a day allowance if he were away on duty. Much was wasted in the 'hotels' at Waterval and Belfast which Emma compensated by the sale of produce from their place; but now he was

- 71 sent hither and yon. At the end of March, he went to Komatipoort only 60 miles from Delagoa Bay and was appalled by the sere and feeble inhabitants and the cemetery crowded by fever victims. Hardly back, he was on the train as far as Belfast and thence on horseback to Ermelo, 72 all on Horse Sickness business. He returned in time to hear Kruger open the revived Pretoria 73 Agricultural Show with plaudits and promise of assistance. Among his colleagues on the Society's committee, he might well strut around the grounds. They all knew how his 'Department' 74 was developing, busy with builders and artisans, and the newspapers commented on its progress. Then he was off to Lydenburg to inspect his 'salted' horses, fearful that the dreaded 'aanmaning' or recurrence might have appeared. Edington, he knew, had returned to the same problem.
- 75 The success of 'staking all on one card' as he put it, was like oil to a flame. Now 31, Theiler 76 found nothing too arduous. He drove by cart 60 miles into the Lowveld to station one of his Swiss assistants at his experimental horse camp. He made a distant inspection at Zeerust, travelling by train to Potchefstroom and thence by coach. He got to know the land and its peoples as never before. Speaking the local 'taal', he easily made friends with the farmers. (Emma had 77 greater difficulty - 'I speak the Boer language fairly fluently', she wrote, 'but something goes 78 terribly wrong with the High Dutch because I have no opportunity to speak it. The two languages stand in relation to each other as Schwizerdutch does to Hoch-deutsch.') 79
- In Pretoria, Theiler busied himself on a Transvaal Agricultural Union committee engaged in launching an Agricultural Journal which would place him on all fours with Hutcheon, Edington and Watkins-Pitchford with their excellent monthly departmental publications. His collaborator was the dynamic Dr Gunning, director of the State Museum, and he begged his father to send 80 geological and palaeontological objects for him so that, improving their liaison, he might 'approach a wider circle of Transvaal savants and be able to gain entry into their company'. The myth of Theiler's 'intellectual isolation' in Pretoria was ill-founded. Physical difficulties and a lower status prevented his knowing the scholarly John M'Fadyean and F. T. Nicholson 81 or Gunning himself or the new young State Attorney J. C. Smuts appointed on the 8th June 1898 at the age of 28 as a man of brilliant scholarship and attainment. He contented himself with assembling 35 Pretoria Swiss and forming the Schweizerverein Alpina with himself as president which, apart from reunions, proposed engaging in the 'Shoots' beloved by the Swiss. Father 82 again, himself an addict, had to arrange the supply of guns and cartridges.
- Nor was Theiler idle in his own interests. Duty occasionally took him to the Artillery Camp where he enquired after his Letter of Appointment. No one knew but, persona grata as he was 83 he searched and found it. The letter continued its wanderings and it was not until the 1st August 84 1898 that it was duly signed in the quavering hand of the State President and the newly-appointed State Secretary, the scholarly judge F. W. Reitz previously president of the Orange Free State who had replaced Leyds and his alter ego C. van Boeschoten (both having returned to Europe, Leyds as plenipotentiary for the Z.A.R.). Theiler then became the officially-appointed Veterinary Surgeon to the Staatsartillerie.

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- Meanwhile the dry cold winter had banished the summer rains conducive to the 'Horse Death' and brought the Smallpox. Theiler had ordered prototype lymph from Switzerland in good time 85 had successfully tried it on his children and then begun production at home. The epidemic 86 was menacing and Schutte, chairman of the local committee, enforced the dormant edict of compulsory vaccination. Daspoort was progressing but by no means ready for operation. Theiler could not even employ his secretary and wrote all his official letters at home. Now he and Emma returned to their Johannesburg routine of countless calves and tubes of vaccine

deriving from them. As the epidemic spread far beyond the borders of the Transvaal the demand grew huge.

87 Other troubles afflicted the Z.A.R.. As a quid pro quo for Kruger's recalling 'the Banjaland Trek' in 1891 when Boers intended settling in Mashonaland to balk Rhodes' plans, the British Government had consented to the Transvaal's making a protectorate of Swaziland. Its paramount chief – a dissolute young man, Bunu – became increasingly intractable and when suspected of murdering one of his indunas, fled to Zululand under British protection, leaving his country in uproar. The Z.A.R. mobilised its corps of Vrywilligers (volunteers), alerted the Staatsartillerie and piled arms and ammunition – 'whole cases of guns and revolvers stand around in corners attracting dust, dirt and thieves without anyone worrying about them', wrote
88 Emma who heard all the rumours. By June, the need to discipline the Swazis had reached the
89 point when Theiler himself thought that he would be compelled to join the 2,000 Boers and two
90 batteries of Staatsartillerie leaving to control the country. Instead, while Louis Botha, Volksraad member for Vryheid, was preparing to issue summons on Bunu, Theiler was borne off in the opposite direction on military service.

The Malaboch War and their losses through Rinderpest had not quelled the spirit of the Zoutpansberg tribesmen and the Z.A.R. was compelled to maintain a series of forts manned
91 by the Staatsartillerie throughout the area. Glanders had appeared among their horses at Fort
92 Schutte (previously Fort Hendrina). On the 18th June 1898, Theiler accompanied Schutte by train on the Pietersburg line as far as it went and thence by cart to the fort to investigate. They were away 10 days and upon their return, Theiler entered into occupation of his Daspoort
93 Laboratory and grandiloquently became the self-styled 'Chief of the Bacteriological Institute of the South African Republic'. He was in fact still the Gouvernements Veearts at £500 a year.

By no means fully equipped, Daspoort (as it came to be called) was a wondrous place – the
94 first laboratory devoted to health in the Transvaal – 'a splendid thing and a stimulus to new work', its delighted incumbent exclaimed. In planning it, he had failed to take account of the virulence and extent of the Smallpox epidemic. Yellow flags were flying in many streets of Pretoria and some of the main thoroughfares were devoid of pedestrians. The demand for lymph
95 from all quarters (even Bunu in Swaziland) was inexhaustible and neither staff nor equipment
96 were adequate. Always the obedient bureaucrat with prompt attention to departmental memos, methods, filing and financial authorities, Theiler was now compelled to take urgent action and either seek post hoc authority or artlessly announce that it had been given him verbally. He had
97 dismissed the four Swiss who had worked with him at Waterval and Belfast; but now he re-employed them – A. Brenzikofer and Alfred von Bergen from the 1st July and Charles Favre and D. G. I. G. Schroeder subsequently. He ordered alterations and extensions to the building at a cost of £217 which even Schutte at first refused to approve, and constantly applied for advances on his budget, notably to pay for thousands of tubes for the vaccine which he began by
98 producing at 1,000 a day and later 40,000 a week. He had reason to believe that they would pay for his excesses.

As long as the cold weather lasted and Smallpox accordingly prospered, Theiler and his Swiss assistants were singlemindedly devoted to producing vaccine. Overworked and distracted, his thoughts hardly had time to dwell on the continuing sequelae of the Rinderpest which still
99 recurred in most of Africa. An exhausted Dr Turner had left Kimberley on 3-months overseas leave while the Chartered Company occupied the Station to make serum for Rhodesia and Kolle
100 investigated Leprosy on Robben Island. The Rinderpest had broken other men but now Hutcheon collapsed and Soga who had played a unique rôle and ruined his health, took recurrent sick leave and finally resigned. On many occasions, both had barely escaped with their lives
101 from tribesmen infuriated by the slaughter of cattle. Now such circumstance killed Haslam.

Soon after the Pretoria 'International Conference', he had been detailed from Natal to East Africa, meeting Koch in Zanzibar in June 1898. Koch, according to the veterinary historian Sir Frederick Smith, 'was so struck by Haslam's ability that he urged the Governor to send him into the interior to investigate an outbreak of Cattle Plague then raging'. Haslam duly went to Kenya where, as in Uganda, the P.V.S. Robert Stordy was compelled to slaughter native cattle in menacing conditions. On such an errand, Haslam was killed by the Wakikuyu on the 17th July 1898 only 50 miles from Nairobi. (The British exacted a dreadful vengeance, killing 100 Wakikuyu on a punitive expedition.)

102 More closely related to Theiler was a tragic event of a different character. Only five years after its opening, Pietermaritzburg's splendid Town Hall was destroyed by fire on the 12th June 1898, the townsfolk urbanely regarding the scene from afar in the belief that Fillis' Circus in the adjacent Market Square was staging a pyrotechnical stunt. Watkins-Pitchford's office, still in a corridor of the building under the grand title of 'Mining and Agricultural Department' was incinerated together with all his records including those of the Marico experiments on Rinderpest. It was to embitter his life and relationship with Theiler until its end.

103 Theiler had now attained the highest point of his career. He had proved indispensable in a crisis. He was important, well-known, appreciated. With the help of his compatriots (notably Tel Sandoz, Jules Perrin, W. Braunschweiler, F. T. Mauchle, L. Weber and E. Lutz, the Town Engineer), he could aspire to waving the Swiss flag on National Day (the 1st August, also marking his official appointment to the Staatsartillerie) and know that the highest in the land would honour it. As president of the infant Schweizerverein Alpina, he received the State Secretary F. W. Reitz representing the Z.A.R., the Swiss Consul C. Fehr, the Commandant (S. P. E. Trichardt) and officers of the Staatsartillerie and sundry Government and town officials at the beflagged and decorated Caledonian Hall at 8 p.m. where the local Swiss presented gymnastics, wrestling and tableaux vivants. The company numbering about 150 then adjourned to the Central Hotel for a banquet where the Government Assayer and Director of the Mint, Jules Perrin, already venerable, proposed the toast of the two republics in a long speech in French. The State Secretary (sitting on Theiler's left with the Swiss Consul on his right) felicitously replied in his academic manner in Dutch. A ball followed and Theiler went home, glowing with pride. The Swiss had made their first successful démarche a month before excitement seized Pretoria over the abdication of Queen Emma and the accession of Queen Wilhelmina of Holland.

104 Winking at the brim though it were, Theiler's beaker was not yet full. The ancient Hellier, still editor of the *Cape Agricultural Journal*, had published on the 18th August the first notification of the staging of the 7th International Veterinary Conference at Baden-Baden in August 1899. 'Without a glimmer of a thought of taking part', Theiler wrote to Baden-Baden registering himself as a delegate but hardly allowing himself to hope. If his star shone truly, he might be able to persuade his Government to send him as a delegate. After eight years, he could see his family again. He could come in triumph and perhaps few would notice his lost left hand. His star shone truly and high State occasion prospered his cause.

105 With little overt except mounting unrest in Johannesburg, the trend of political event moved inexorably toward confrontation of the Z.A.R. with the Colonial power. It was a time for fraternal rapprochement and Kruger invited his colleague of the Orange Free State to visit the Transvaal. President M. T. Steyn arrived in Pretoria on the 20th September for informal discussion. A day or two later, Kruger sent him to Daspoort to inspect his Government's latest innovation. Theiler conducted his distinguished guest and entourage around his laboratory and recorded the visit in a photograph. (Always a stickler for the dress appropriate to an English gentleman, he sported upon this occasion a tweed suit and billy-cock bowler.) 'Steyn', he wrote in his cock-a-hoop manner, 'paid a great compliment to my success. He felt he had already

known my name for a long time. That did not much surprise me as I have a good name wide-spread.'

106 The Pretoria *Press* shortly published a letter written on that day by Dr T. Mulock Bentley, district surgeon at Vrede in the Free State, extolling 'the good lymph turned out by Dr Theiler' and castigating Edington's 'as worse than useless' while Natal's was 'inactive through age'.

107 'There is no doubt whatever' wrote the good doctor who never met Theiler, 'that the lymph manufactured in Pretoria is excellent and trustworthy and we can thank Dr Theiler for his promptness in delivering the vaccine as the main cause of checking what threatened to be a very serious epidemic.'