

Adolf Hitler's medical care

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ABSTRACT For the last nine years of his life Adolf Hitler, a lifelong hypochondriac had as his physician Dr Theodor Morell. Hitler's mood swings, Parkinson's disease, gastro-intestinal symptoms, skin problems and steady decline until his suicide in 1945 are documented by reliable observers and historians, and in Morell's diaries. The bizarre and unorthodox medications given to Hitler, often for undisclosed reasons, include topical cocaine, injected amphetamines, glucose, testosterone, estradiol, and corticosteroids. In addition, he was given a preparation made from a gun cleaner, a compound of strychnine and atropine, an extract of seminal vesicles, and numerous vitamins and 'tonics'. It seems possible that some of Hitler's behaviour, illnesses, and suffering can be attributed to his medical care. Whether he blindly accepted such unorthodox medications or demanded them is unclear.

KEYWORDS Adolf Hitler, cocaine, methamphetamine, Parkinson's disease, sulphonamides, Theodor Morell

LIST OF ABBREVIATIONS central nervous system (CNS), ear, nose and throat (ENT), electrocardiogram (ECG)

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It is often said that people get the politicians and the doctors they deserve. Is it also true that politicians, or at any rate despotic dictators, get the doctors they deserve? What can it have been like serving as Hitler's personal physician? What sort of a man or woman would accept such a position? What sort of patient was Hitler and what made him choose, and remain loyal to, his doctor? Did his medical care contribute to his behaviour? This paper explores these questions (prominent Nazis mentioned are listed in Appendix 1).

ADOLF HITLER

The salient facts about Hitler's political life and influence are so well known they need no detailed repetition here. Born on 20 April 1889 in Austria, he was awarded the Iron Cross in the First World War; he founded and led the National Socialist Party (Nazis), became German Chancellor on 30 January 1933 and led Germany into the Second World War. As a result of war and his anti-Semitic 'Final Solution for the Jews' (the holocaust) he was responsible for, or implicated in, an estimated 50 million deaths. He shot himself in Berlin on 30 April 1945 the day after marrying his long-time companion, Eva Braun who, sitting on the couch beside him, committed suicide with cyanide. Their bodies were then burned on his orders but a skull was subsequently retrieved by the Russians and later subjected to forensic examination which confirmed from dental records that it was Hitler's.¹

We now know much about his health and medical care,

not only from the dairies of his physician,¹ but from several scholarly biographies of him and the recorded observations of his closest colleagues, as well as transcripts of the Nuremberg trials.²⁻⁶ Apparently he was a lifelong hypochondriac with a dread of cancer and certain that, like his father, he would suffer an early death. On his 50th birthday and still in reasonably good health he remarked, 'in a few years I shall be physically and perhaps mentally too, no longer up to this'.² He never travelled without his personal medicine chest, and was usually accompanied by a doctor. By his own account, since childhood he had suffered recurrent attacks of abdominal colic with alternating diarrhoea and constipation and what he described as 'gas, clearly related to episodes of stress or crisis'.¹ The clinical features suggest spastic colon or irritable bowel syndrome but no such terms appear in records. Hitler treated the condition with a patent medicine the base of which was a gun-cleaning oil used in the First World War trenches and subsequently found to be toxic, producing headaches, diplopia, dizziness and tinnitus.² On these occasions he had eczema, principally on his legs, and throughout his life suffered from insomnia, depression and panic attacks and, from 1921, a recurrent eye inflammation of some kind.

Some have suggested that he had tertiary syphilis, accounting for his choice of Morell, a venereologist, as his personal physician but serological tests done by Morell did not confirm it.¹ There is doubt about his sexual ability and libido, partly because he kept his friendship with Eva Braun secret until the final weeks of

life, often going for months without making any effort to see her, never allowing her to be seen in public with him, sometimes not inviting her to join guests at his Bavarian retreat,^{2,5} and partly because Morell regularly gave him testosterone injections.¹

Always a non-smoker and abstemious about his food though not a vegetarian in his younger days, he became a vegan, as well as tee-total, after the suicide of a much-loved niece and, according to his cook, ate an even more unhealthy diet after he came under the care of Morell.

A man acknowledged by many who met him as having considerable charisma and even charm (particularly with women and children), he was self-opinionated yet, at the same time, insecure enough to surround himself with 'yes men' from whom he demanded unquestioning obedience and loyalty. He dreaded dying before he had completed what he regarded as his messianic mission for Germany. He was a man capable of breaking down in tears at the death of his chauffeur, Julius Schredck, or a favourite dog, but without emotion about the deaths of millions. As the psychiatrist Hasselbach has said of him he 'could hate ferociously while at the same time be totally forgiving towards those he loved'.²

It was during one of these episodes of abdominal colic, eczema and fear of death that he met Morell and invited him to be his personal physician. From that day in 1936 until a few days before his Hitler's death, Morell was at his beck and call every day, responsible not only for Hitler but also, on occasions, in attendance on others of the Nazi leaders and distinguished visitors to Berlin. He treated Speer, Heydrich and Goebbels (see Appendix 1) and recommended a doctor for Mussolini. When Dr Emil Hácha, the Czech State President fainted on being bullied by Hitler and Goring, it was Morell who resuscitated him with an injection.^{2,5,6}

DR THEODOR GILBERT MORELL¹

We know of eight doctors who attended on Hitler on various occasions during his time as Fuhrer of Nazi Germany, but only one was with him almost all the time from 1937 until a few days before his suicide in April 1945. He was Theodor Morell, born on 22 July 1886, the second son of a primary school teacher of Huguenot descent in Trais-Münzenberg, a small village in Upper Hesse.

In junior school he did not excel and is said to have suffered from recurrent abdominal pains, but, having done exceptionally well in secondary school, he went on to a teachers' seminary at Frieberg and taught for one year. He then studied medicine in Heidelberg and went to Grenoble and Paris for experience before commencing training in obstetrics and gynaecology in Munich in August 1910. By 1913, he had completed a PhD and was licensed as a medical practitioner.

However, instead of embarking on a career in that specialty he served for a year as an assistant doctor with three different German cruise lines before buying a practice in Dietzenbach near Offenbach. War broke out and for the next four years he served at the front, then as a prison medical officer at Ohrduf. There is no record of him returning to the practice he had bought or pursuing further studies, but in January 1919 he moved to Bayreuther Strasse in Berlin where he stayed for 17 years, benefiting from the money his wealthy actress wife Johanna Moller brought to their marriage which took place in 1920. They had no children.

Morell set about building up a lucrative, 'up-market' and unconventional practice, receiving invitations to become personal physician to the Shah of Persia and, on another occasion, physician to the King of Romania, both of which he declined. By 1932, he was making the equivalent of £12,000 per annum (a princely sum in today's money, approximately £250,000) and putting at the top of his headed paper 'X-rays, high frequency, diathermy, radiation, galvanic treatments, urinalyses and blood serologies'.¹

Early in 1933 his practice suffered when it was observed that many of his patients were Jewish and he himself could have been mistaken for a Jew because of what he described as his 'swarthy looks'. He was certainly not a Jew. In April 1933, he joined the Nazis and by 1935 had moved to the prestigious address of 216 Kurfürstendamm in Berlin, his name plate showing him as a general practitioner, but actually describing himself and practising as a venereologist. He might have remained there for the rest of his professional life had he not, in spring 1936, been asked to treat a friend of Hitler, the famous photographer Heinrich Hoffman, who, after his wife left him, lapsed into alcoholism and homosexuality. He contracted gonorrhoea, which Morell claimed he cured. The photographer's secretary and model was the seventeen-year-old Eva Braun, who was to become Hitler's secret mistress.^{1,2}

That Christmas he and his wife were two of many guests invited to party at the Berghof, Hitler's mountain retreat. Taking him aside one day Hitler showed him his legs, swathed in bandages and ointment because of chronic eczema and told him of the recurrent abdominal spasms and fits of utter exhaustion often alternating with periods of deep depression all of which he had endured for years. Hitler asked if Morell could help him whereupon the doctor said he would cure the skin condition in less than a year and, with that, Hitler invited him to be his full-time doctor. Morell was thrilled with this change in his fortunes and social standing; his wife was decidedly less thrilled, urging him not to accept. His life was now inextricably bound with Hitler's.

The parting came between 20 and 24 April 1945 when, with Hitler's blessing, Goring, Schaub (Hitler's Adjutant)

and Morell fled south from Hitler's 'Bunker' in Berlin never to see Hitler again.^{1,5} Fleeing into the American sector on 23 April 1945, just days before the advancing Russian army blocked all exits from Berlin, he was taken prisoner (No 21672) by US troops and kept in American Internment camp No 29 (previously Dachau Concentration Camp). Investigated for war crimes and crimes against humanity he was cleared of all suspicions but his health deteriorated rapidly. Aged only 60 and grossly obese he was recorded as having 'aphasic speech disorders' and transferred to an auxiliary district hospital at Tegernsee on 30 June 1947 where he remained until his death at 4.10 am on 26 May 1948. Until he became unable to do so, he occasionally wrote to his wife who was still in Berlin (and not able to visit him) and his sister, protesting to the end that all the troubles he and the world were enduring were because of the war, not Hitler and his policies.¹

How Morell was seen by others

Perhaps the nickname given to him by Hermann Goring (see Appendix 1), who observed him for eight years, best describes what Hitler's closest associates thought of Morell – 'Herr Reich Injection Master'.¹ Morell's diary and the observations of many of Hitler's inner circle would suggest that it was an apt nickname.

After observing him for years, Eva Braun described Morell as disgusting and his office like a pig sty.¹ The architect Albert Speer had nothing good to say about Morell whom Hitler had asked to look after him in one of his illnesses, describing him as 'very fat, bald, round face, dark brown complexion, with dark eyes, near sight, glasses, hairy hands and chest. A teetotaller and non-smoker, he has an appetite as big as his belly and gives not only visual but audible expression of it!'³

On one occasion some friends remarked to Hitler on Morell's offensive body odour and halitosis only to have Hitler snap at them: 'I do not employ him for his fragrance but for his medical care of me.'¹ On another occasion when Morell's prescribing was being criticised by Hitler's closest colleagues, including Himmler, Hitler dismissed their fears and described him as 'a Superman'.^{1,2} The historian Trevor-Roper suggests that Hitler probably disliked him but knew he was dependent on him.

Morell . . . converted a well man (remarkably healthy for one who had so little exercise and a poor diet) into one regularly plied with tablets and injections of glucose, hormones and even amphetamines and cocaine, daily replacements of iodine, vitamins and calcium as well as heart and liver extract.⁶

Even in March 1945, when defeat was imminent, Hitler still believed in Morell. 'If I had not got my faithful Morell I should be absolutely knocked out – and those idiot

doctors wanted to get rid of him. What would become of me without Morell was a question they didn't ask.'⁷

Trevor-Roper, collecting first hand information in 1945–6, graphically describes Morell as, 'a gross but deflated old man, of cringing manners, inarticulate speech and the hygienic habits of a pig,'⁶ echoing the views of Speer and Braun.

Only in the final days of his life when he felt all were against him did Hitler hint at any disappointment with Morell's care, shouting at him and threatening to have him shot when Morell offered him a glucose injection.

Morell's therapies (see Appendix 2)

It is difficult to know to what extent Morell's prescribing was of his own initiative or as demanded by Hitler. For example, there is no doubt that he gave intravenous glucose and Pervitin® (methylamphetamine) to Hitler on any occasion when he needed a boost, and especially before his famous 'rabble-rousing' speeches to assembled thousands of devotees. For his insomnia and attacks of agitation he gave him either Brom Nervacit®, a bromide/barbiturate tranquilliser, or other barbiturates. When Hitler was over-sedated Morell gave him injections of Coramine®, a CNS stimulant for barbiturate sedation.

In view of Hitler's inadequate diet it is understandable that Morell gave him so many vitamin preparations but he also gave calcium, phosphates, injections of testosterone, oestradiol, pituitary and pancreas, extracts of heart and liver, and injections of adrenocorticosteroids.

He treated Hitler's 'gas' problems with an oral preparation of strychnine and atropine, but perhaps his most unusual prescription for Hitler's intestinal spasm was Neo-Balistol®. It was toxic and had been banned by the Reich Health Agency yet Morell continued to get supplies of it for Hitler. Morell recorded in his diary that on one occasion after using it Hitler experienced headaches, diplopia, dizziness and tinnitus.¹ Hitler's chronic sinusitis (confirmatory X-ray reports have been found) he treated with 10% cocaine nasal drops and Ultraseptyl®, an early sulphonamide, but on one occasion had to call in an ENT specialist for surgical drainage. The recurrent eye irritation of unknown nature which he had from 1921 Morell treated with cocaine eye drops though no photographs show Hitler wearing an eye pad or bandage after its instillation.

Between 1940–45, when he was in his early forties, Hitler showed increasing evidence of Parkinson's disease quite possibly related to his consumption of methamphetamine, attested to by those observing him at close quarters⁴ and by film sequences studied by Gibbels.⁹ In January 1945, Guderian noted 'It was no

longer his left hand but the whole of the left side of his body that trembled . . . He walked awkwardly, stooped more than ever and his gestures were both jerky and slow. He had to have a chair pushed beneath him when he wished to sit down.¹² For the Parkinson's disease Morell prescribed Homberg 680® and for the exhaustion Orchicrin® the testosterone elizir, more IV glucose and amphetamines.

By April 1945, with defeat imminent, Hitler was a frail, dejected, ill man. Boldt described him:

slowly, heavily stooping, he takes a few shuffling steps in my direction. He extends his right hand and looks at me with a queer penetrating look. His handshake is weak and soft without any strength. His head is slightly wobbling. (This struck me later on even more when I had the leisure to observe him). His left arm hangs slackly by his side and his hand trembles a good deal. There is an indescribable flickering glow in his eyes, creating a fearsome and totally unnatural effect. His face and the parts around his eyes give the impression of total exhaustion. All his movements are those of a senile man.^{4,9}

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Several times in the last ten years of his life Hitler had ECGs showing 'progressive coronary sclerosis' presumably read and reported on by Professor A Weber, a cardiologist in Bad Nauheim Clinic, known to have been called in by Morell after the abortive '1944 Generals' Plot' to kill Hitler. Electrocardiograms at that time were said to show much worse coronary artery sclerosis than previous ones.¹ Morell prescribed various preparations of cardiac glycosides but though his diary frequently mentions hypertension none of the medications he prescribed were anti-hypertensive and he even gave adreno-corticosteroids as though Hitler had Addison's disease.

When the attempt on his life was made Hitler had been leaning over a massive wooden table which absorbed much of the bomb blast. He escaped serious injury, suffering only bilateral ruptured ear drums which worsened his already impaired hearing and which continued to bleed for several weeks. Morell prescribed a topical haemostatic that had gained some prominence when tried by the haemophiliac members of the Spanish royal family. He also suffered multiple abrasions (for which Morell prescribed topical penicillin powder – it is known that 200 patients were treated with the powder in 1943 and only after that was it made available for US army trial – although how Morell obtained it remains unclear) and tattered trousers which he proudly displayed to his entourage.⁶ Immediately after the explosion he was tended, not by Morell who had to be summoned, but by Dr Erwin Giesing, the ENT surgeon

who had operated on his sinuses, but Giesing was dismissed immediately afterwards as if suspected of being implicated in the plot though no evidence for that has ever been found.²

Morell and his professional colleagues

How were Morell and his unorthodox therapies viewed by Hitler's close associates and fellow doctors? It has to be remembered that many of the Nazi leaders used alternative therapies rather than traditional medicine. It has already been outlined that Speer was treated by Morell but had no time for him. Himmler the architect of the Holocaust, preferred alternative therapists and massage from his masseuse Felix Kersten. Ribbentrop, Hitler's Foreign Minister, did the same. Goebbels, who brought his wife and six children to live in Hitler's Bunker in April 1945 (in fact to the rooms just vacated by the fleeing Morell) so as to be near his Fuehrer, was one of the few people in Hitler's inner circle indebted to Morell.⁵ For years he had suffered from dermatitis of the whole body but within a year Morell had cured it.^{1,5} Wishing to do a favour to his Axis ally, Mussolini, Hitler arranged to have Morell visit him in Rome but instead Morell sent Dr Richard Weber, at that time working as his assistant in the Kurfürstendamm practice in Berlin (though other records suggest it was a Dr Zachariae).

To their credit, as we shall see, several doctors were worried about Morell's care of Hitler and especially his medications, because as we now know, he had 90 varieties of pills in all, and daily took 28 different pills during the last years of the war, as well as daily (or even more frequent) injections of glucose.² In 1944, led by Dr Karl Brandt (see below) Hitler's inner circle tried to have Morell removed but to no avail. In Hitler's presence they accused him of criminal negligence. He apologised profusely to Hitler who remained totally loyal to him. 'Every other German has a right to choose their own doctor and I have chosen Morell,' he is reported as saying to those who wanted to oust Morell. Retribution followed at once. Bormann, Hitler's Staff Officer, dismissed Brandt, Hasselbach, and Giesing. Himmler installed his personal doctor, the 36-year-old orthopaedic surgeon Ludwig Stumpfegger, as Brandt's replacement and Morell was thereafter left unchallenged. In October 1944, Morell wrote, 'The last few weeks have not been too pleasant for me. There was a lot of trouble but the Fuehrer was so charming to me that this more than makes up for it.'¹

Dr Brandt, a surgeon called in by Morell, was born in 1914 and had been a member of the Nazi Party since 1932. He was Hitler's 'escort doctor' (an honorary position) from 1934–44 and thereafter in charge of Reich Medical Services.^{1,3} Captured after the war, he was tried and found guilty of involvement in Hitler's euthanasia programme and of crimes against humanity

including human experimentation in the concentration camps. He was hanged in 1948 in Lindsberg prison.³ His assistant, Professor Hanskaul von Herselbach, an army surgeon, fared better, living to 1981.

Another surgeon, Dr Carl von Eicken, an ENT specialist in La Charite Hospital, Berlin, was one of those called in by Morell to deal with Hitler's sinusitis (being treated by Morell with cocaine drops and sulphonamides) and laryngeal polyps, which Hitler was convinced were malignant. Refusing to be admitted to hospital for maxillary sinus drainage and irrigation, the operation was performed in the Chancellery building.

Brandt (by then Chief of Reich Medical Services), Hasselbach and Giesing, the army ENT specialist, confronted Morell to ascertain what he was doing and why he was using ever-increasing amounts of cocaine to dull the sinus pain, but he refused to disclose anything even to medical colleagues or to discuss the matter further. So protected was he by Hitler that they must have realised there was no point in pursuing it further.⁵

The only other important illnesses Hitler is known to have had (apart from his colic) were two attacks of hepatitis and a prolonged episode of dysentery at the height of the battle for Russia in 1941. On 26 September 1944, attacked by colic of unusual severity, he refused to get up but lay silent for two days with a loaded revolver beside him. Morell said it was a recurrence of his intestinal troubles and gave him liver extract injections but the pain worsened. Professor von Eicken came from Berlin to see him but Morell refused to permit this.¹ When he suggested alternative drugs Morell told him that Hitler was allergic to everything else. Dr Giesing recognised the significance of Hitler's jaundice but Morell attributed it to 'gall bladder blockage caused by nervous worry'. He started dosing Hitler with castor oil by mouth and camomile tea per rectum (said to have been requested by Hitler). In three days he lost considerable weight but, though blood tests were done, Morell refused to show the results to other doctors. Wanting to know whether side-effects of Hitler's little black 'anti-gas pills' contributed to his illness, Dr Giesing, unbeknown to Morell, sampled one and experienced the same irritability, photophobia, anorexia and abdominal cramps that had afflicted Hitler. When he told Hitler that ever since the battle for Stalingrad, Morell had been giving him strychnine and atropine, Hitler said he had assumed they were charcoal tablets to absorb gas.¹

DISCUSSION

Was Morell the self-opinionated, personally ambitious, professionally second-rate charlatan of a doctor the records might suggest? The fact that he was physically unattractive should not affect our judgement, any more than the fact that he was a member of the Nazi party

and unquestionably devoted to Hitler for, at that time, there were many like him.

Neither should we judge him on the basis of his using medications not only not used today but now known to be either ineffective or downright dangerous. Perhaps we should recall that liver extract, oral vitamin B12, bromides and barbiturates were still being used in orthodox medical practice at that time. In those pre-antibiotic days, sulphonamides were in their infancy (though it has to be asked if he used Ultraseptyl[®] because he had a controlling interest in the Budapest-based company making it in preference to the more commonly used sulphonamide Tibatin[®] made by IG Farben). Herbal enemas and colonic lavage, like spa therapies, were still popular and thought to be useful. Countless 'tonics' were consumed and many people were seeking 'the elixir of youth' in preparations of animal 'glands'. Multivitamin pills were as popular then as they are today. Extracts of belladonna (as in Morrell's Homburg 680[®]) were commonly used to relieve some of the distresses of Parkinson's disease.

Before criticising his prescribing, it is well to remember that we are largely dependent on his diary and know little about dosages, frequency of administration and his reasons for prescribing them. Neither do we know to what extent he had to prescribe what Hitler demanded or (if he was indeed an addict), what he had come to expect and need. If Hitler was not an amphetamine addict, it is difficult to understand why Morell prescribed so much methylamphetamine (in two different preparations) over the years. Perhaps he prescribed it for its euphorogenic effect and its lessening of tiredness but Hitler did experience headache, palpitation, dizziness, agitation, elevation of both systolic and diastolic pressure and increased apprehension. Perhaps this was why Morell had to prescribe bromides and barbiturates to bring him down from the amphetamine highs. There is no way of knowing whether Hitler was barbiturate-dependent because we do not know what dose he was given or for how long. Can we assume that he was sometimes oversedated causing Morell to give him Coramine[®] intravenously?

Cocaine eye drops were not likely to lead to addiction but frequent and long-term use of cocaine nasal drops (especially if the strength was 10%) would certainly have been dangerous, leading to dependency, psychotic behaviour, hypertension and myocardial ischaemia.

More difficult to understand is Morell's use of testosterone (again in two different preparations). Was it for its anabolic or its androgenic properties? What led him to believe that estradiol improved the circulation in the gastric mucosa? Equally puzzling is his use of adrenocorticosteroids. Were they 'tonics', appetite stimulants or euphorants? Did Morell believe that

giving calcium and multivitamins would reverse steroid-induced demineralisation?

If Morell had any clinical freedom (and that we shall never know) then he behaved unprofessionally in attempting to deal with such a diverse spectrum of problems for which no single doctor could be expected to have the necessary skills and knowledge; for not co-operating and being open with medical colleagues; for not seeking or accepting their advice; and for not questioning whether any of his patient's symptoms might be adverse effects of the medications.

Knowing the major decisions affecting millions of people that Hitler was making throughout the time Morell was his personal physician, it must be asked how such decision-making was affected by the many medications he was taking, from stimulants to sedatives, from hormones to multivitamins, from steroids to belladonna and cocaine.

Did Morell's medications worsen Hitler's mental state or personality? Most historians are agreed that they did not.² Did they extend his life so that the suffering of the world went on longer than might otherwise have been the case? There is nothing to suggest that, and much to suggest the opposite. Indeed, his care, if it did not hasten Hitler's end, made his final months more unpleasant and

undignified.

Why did Hitler, the demanding, insecure, despotic hypochondriac, who could have chosen any of hundreds of distinguished German doctors, choose Morell and continue to put such trust in him? Because he posed no political or intellectual threat to him? Because he was obedient, unquestioning and always blindly loyal? Because Morell, like Hitler himself, was not an establishment figure, was unorthodox within his profession and basically a loner? We shall never know. Perhaps it is foolish even to pose the question. After all, historians and psychiatrists still debate, and probably will always debate, why Hitler did what he did. Perhaps Morell was no different to others Hitler chose to have around him self-opinionated, politically and socially ruthlessly ambitious social misfits. We can but wonder if Morell ever knew how much his care and his prescribing indirectly affected so many lives.

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APPENDIX 1 Prominent Nazis mentioned in this paper

Gerhard Boldta	Junior Wehrmacht officer seconded to Hitler's HQ and witness to all that happened in Hitler's final days. ⁴
Dr Karl Brandt (1914–47), surgeon	His wife met Hitler when she was a German swimming champion in 1925 and was a close friend of Speer's wife, another illustration of the close relationship of many of the Nazi leaders.
Joseph Goebbels (1897–1945).	Reich Propaganda Minister.
Hermann Goring (1893–1946)	A First World War Air Ace, Chief of Luftwaffe. He committed suicide the night before he was to be hanged in Nuremberg.
General Heinz Guderian	Brilliant Panzer strategist, promoted to Chief of Staff after the abortive assassination attempt on Hitler in 1944. ¹²
Reinhard Heydrich	Chief of the SS.
Heinrich Himmler (1900–45)	Chicken farmer/fertilizer salesman. Chief of Gestapo (reported as being squeamish at the sight of blood).
Joachim von Ribbontrop	Ex-German ambassador to London, later Nazi Foreign Minister, hanged in 1946 in Nuremberg.
Albert Speer	Hitler's architect and munitions minister. From 1942, the second most powerful man in Germany.

APPENDIX 2 Proprietary medications prescribed by Dr Morell for Adolf Hitler between 1936–45 and the reasons he gave for employing them. I, 10, 11 (The manufacturers' names are shown in brackets and information about present day equivalents in italics)*

Brom-Nervacit® (Herbert Pharmacy, Wiesbaden)	Potassium bromide 4, sodium phosphate 0.1, diethylbarbituric acid 0.33, phenyldimethylpyrazalone 0.67, alcohol 7.5, saccharin 0.02, caramel 0.02, tincture of orange 0.1, tincture of cinchona 0.1, distilled water to 100. Used as a tranquilliser in psychoneuroses and as a sedative (Source of information: Rote Liste 1939 11 (<i>no longer available</i>)).
Camomile tea enemata	This is said to have been requested by Hitler.
Cardiazol® (Knoll, Ludwigshafen)	Used by Hungarian psychiatrists in the 1930s to induce fits in the treatment of schizophrenia, after observing that epileptic patients who developed schizophrenia suffered fewer fits than before. The practice was discontinued after several patients suffered fractures because they had not been given muscle-relaxants and anaesthesia. Morell gave it to Hitler to relieve ankle oedema first evident in 1941. (<i>It should be noted that today there is an unrelated product Cardiazol-Paracodina containing pentetazol and dihydrocodeine, indicated for cough and as an analgesic.</i>)
Coramine® (Ciba)	A CNS stimulant, it was principally used to reverse sedation caused by barbiturates. Morell used it as 'a tonic' but also, presumably, when Hitler was unduly sedated with barbiturates. (<i>It is still available in France as Coramine-Glucose, containing nikethamide, for 'aesthesia and fainting'.</i>)
Chineurin® (Hamma, Olmütz**)	Quinine, for common colds (<i>no longer available</i>).
Cortiron® (Scherng)	Desoxycortisone acetate or desoxycortisone enantate injection. For 'muscle weakness and to enhance carbohydrate metabolism' (<i>still available primarily for adrenocortical insufficiency, hypotension and in palliative medicine</i>).
Doktor Koster's Antigas pills®	Belladonna extract and strychnine nux vomica. Taken before all meals (<i>no longer available</i>).
Enbasin®	Sulphonamide given by IM injection into the glutei. Said by Morell to have been used only once because of the discomfort of the injection (<i>no longer available</i>).
Euflat®	A naturopathic compound, it contained bile extract, angelica, aloes, papaverine, caffeine, and pancreatine. For flatulence and alimentary disorders. Adverse effects included flushing, hypotension, vague abdominal pains, and disorders of hepatic function (<i>no longer available</i>).
Eucodal® (Merck, Daemstadt)	Dihydroxycodeine. A weak opioid analgesic (<i>used in palliative medicine</i>).
Eupaverine® (Merck)	Isocholine derivative. For intestinal colic (<i>no longer available</i>).
Glucose®	Injections of 10 ml of 20%, given every three days and as required between 1938–40.
Glyconorm® (Nordmark, Hamburg)	An injectable compound of enzymes, amino acids, and vitamins B1, B2 and C plus extracts of cardiac muscle, suprarenal, liver, and pancreas. In the late 1930s and early 1940s it was popular in Switzerland as a 'tonic to combat infections' (<i>no longer available</i>).
Harmin®	An alkaloid of belladonna (Solanaceae), used to control tremors in Parkinson's Disease (Morbus Parkinson).
Homatropine®	Eye drops
Homburg 680® (Homburg)	Another extract of belladonna (Solanaceae) used in Morbus Parkinson (paralysis agitans).
Homoseran® (Hamma, Olmütz)	A preparation made from placenta, first given to Hitler on 7 November 1944.
Intelan® (Ankermann and Co. Friesoythe)	A compound of vitamins A, D, and B12. A 'tonic' given to Hitler to combat exhaustion and infections (<i>no longer available</i>).
Luitzym® (Luitpold, Munich)	Cellulose, amylase, and proteases. To encourage digestion and intestinal motility. (<i>A proprietary product Luizym, containing enzyme extract from Aspergillus oryzae, is still available for 'digestive system disorders and the Roemheld syndrome'.</i>)
Luminal® (Bayer-Merck)	A barbiturate sedative (<i>still available in some countries</i>).
Mitolax® (Diwag Chemicals)	Pure liquid paraffin flavoured with vanilla or coffee, for constipation.

APPENDIX 2 continued

Mutaflor® or MutaXor® (Hageda, Berlin)	Enteric-coated tablets said to contain strains of <i>E. coli</i> . To improve the intestinal flora (<i>still obtainable</i>).
Nateina® (Llopsi, Madrid).	Constituents unknown. Used as a haemostatic in Hitler's ear after the bomb blast intended to kill him.
Neo-Balistol®	The precise composition is unknown but it was based on a product used to clean gun barrels and, still advertised for that purpose. Morell managed to procure it in spite of it being banned for human consumption.
Omnadin® (IG Farben)	A mixture of proteins and lipids. Taken with high dose vitamin preparations at the onset of any infection.
Optalidon® (Sandoz, Nuremberg)	Caffeine and prophenazone. An analgesic.
Orchicithin®, Orchikrin® (Hamma, Olmütz)	An extract of bovine testosterone, pituitary gland, and glycerinophosphate. Marketed as an aphrodisiac and 'tonic' (Source of information Gehes Codex 1937 (<i>no longer available</i>)).
Pencillin topical powder	Antibiotic used to treat Hitler's infected arm after the 1944 assassination attempt. There is no record of Morell giving the drug parenterally.
Pervitin®	Methamphetamine. Used by Morell for treating depression and fatigue. (<i>Still manufactured in the Czech Republic</i>).
Progynone B-Oleosum®	Estradiol valerate. Used 'to improve the circulation in the gastric mucosa'. (<i>Used today for the management of menopausal disorders, dysfunctional uterine bleeding, and osteoporosis.</i>)
Prostacrinum® (Hamma, Olmütz)	An extract of seminal vesicles and prostate produced in an injectable form and as dragées. Morell is said to have given two ampoules every second day for a short period in 1943 to combat Hitler's depression.
Prostrophanta®	Glucose, vitamin B, nicotinic acid, and cardiac glycosides in injectable form. A 'tonic'.
Septoid® (Diewag Berlin)	A 3% solution of iodine said to have been given intravenously to disinfect inflamed areas and so save having to use sulphonamides with their adverse effects.
Strophantin-H®	Straphantus grafus glycoside. A homeopathic mixture based on cardiac glycosides taken by Hitler in 2-week cycles between 1941–44 for 'coronary sclerosis' (<i>it is still obtainable</i>).
Sympatol®	Oxedrine tartrate. Taken as 10 drops daily from 1942–45 to 'improve cardiac output' (<i>available today for the management of hypotension</i>).
Testoviron® (Schering)	Testosterone enethate
Tonophosphan®	A phosphate 'tonic'
Ultraseptyl® (Chinion, Budapest) **	Sulphonamide for infections (<i>this is today a proprietary name for cotrimoxazole in South Africa</i>).
Veritol®	Eye drops, composition unknown.
Vitamultin-Calcium® (Hamma, Ulmütz)	Amphetamine, caffeine, various vitamins, and calcium. Given as an intramuscular injection for mental depression and fatigue. Morell said he also used Vitamultin-Forte (Hamma) but it is not listed in any pharmacopoeia.

Notes

* Based on information in Irving D. *The Secret Diaries of Hitler's Doctor*. Grafton Books (a division of Collins) published in 1990 (and subsequently reproduced in 2001 for the International Pharmaceutical Federation, by Colonel R. Van Damme, Belgium. Permanent Secretary Military and Emergency Pharmacy Section). Reproduced by kind permission of the author and considerably modified for this paper

** Hamma, based in Olmütz was a small pharmaceutical company owned by Morell. He was known to have interests in other pharmaceutical companies including Chinion of Budapest.