

DR. J.F.S. ESSER AND HIS INFLUENCE ON THE DEVELOPMENT
OF PLASTIC AND RECONSTRUCTIVE SURGERY



J. J. S. S. S. S.

Madrid, 1935

Dr. J.F.S. Esser and his influence on the development of plastic and reconstructive surgery

Dr. J.F.S. Esser en zijn invloed op de ontwikkeling der
plastische en reconstructieve chirurgie

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PROF. DR. D. DE MOULIN

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Preface

Jan F.S. Esser (1877-1946) was a remarkable and gifted Dutch surgeon whose contributions to plastic and reconstructive surgery, made long before this specialty was recognised as a branch of surgery, are part of our surgical heritage. His interest in the bloodsupply of skin flaps was the fore-runner of the clinical and anatomical research that lead to the definition of the axial-pattern flap, the island flap, and later the work on myocutaneous flaps.

Esser was one of the first physicians in Holland to have studied both dentistry and medicine, a unique and fortunate combination that lead him to invent the skin graft inlay technique: an operation that is still named after him. His dexterity and love for manual craftsmanship is reflected in his beautiful leatherbound collection of atlases of war injuries, made by the old master book-binders in Antwerp.

He was an eminent chess player and at one time chess champion of Holland. He was also dedicated to the arts and a very shrewd businessman.

He was a tireless and energetic worker, but at the same time a rugged individualist, and at times hopelessly unrealistic. His suspicious attitude, hotheadedness, and occasional stinginess were among his other weaknesses. In the international literature on plastic surgery he is quoted as being one of the pioneers and inventors of reconstructive surgery, of the same stature as Joseph and Lexer in Germany, Gillies and Kilner in Great-Britain, Morestin in France, Burian in Czechoslovakia and Staige Davis in the United States of America. Yet in his native country, Holland, he was barely noticed.

He travelled all over the world with the aim of spreading, on the basis of his personal experience, the possibilities of plastic and "strusive" surgery, especially in Europe and both Americas, for the surgical treatment, rehabilitation and return to society of the mutilated war victims who were regarded as outcasts of society in those days. (Aufrecht, 1946b).

The development of the Esser-inlay, published in both the German and American surgical journals, marked the beginning of an era in plastic surgery and was used extensively throughout the First and Second World War. His discovery of the "biological" arterial flap, used then as a pedicled flap and more recently as a free flap has revolutionized reconstructive surgery. Another of his innovations, the bilobed flap, it still used extensively for the reconstruction of certain facial and nasal defects.

Esser did not invent surgical instruments, but restated and defined surgical principles instead.

In the succeeding pages the writer has attempted to find the answer to the following questions:

1. Who was the Dutchman Jan Esser, and why and how did he become a renowned plastic surgeon?
2. What has been the influence of his published work on modern plastic surgery?
3. What is the explanation of his relative obscurity in his native country Holland?
4. What part did Esser play in the development of plastic surgery in Europe, between 1910 and 1940?

PART ONE

A BIOGRAPHY OF JOHANNES FREDERICUS SAMUEL ESSER

(1877-1946)

...Plastic surgery was known till recently as the Cinderella among the brotherhood of surgical specialities. It was considered undignified for any wellqualified man to be a plastic surgeon.

How wrong was this view was demonstrated by both world wars. The more civilisation progressed and the more powerful the weapons of war became the more hideous the injuries.

Only then people realised that plastic surgery means more than beauty treatment. It was not enough to save the life of a burnt airman or the disfigured or maimed soldier of a tank unit. It was necessary to make him normal in appearance as well, and here plastic surgery came into its own...

George Bankoff, 1947

Introduction to Part One

An incomplete and rough draft of the autobiography of Dr. J.F.S. Esser has been used as a guideline for this biography. These memoirs were commenced on September 28, 1941 in Chicago, when Esser was temporarily bedridden, due to a fall from a ladder. This unhappy event gave him the opportunity to dictate his life-story to two of his ex-patients Robert Hart and David Tucker, who assisted in typing the manuscript.

Since at that time he was without notes or photographs, Esser had to rely on his memory. The life story was written in great detail, but some mistakes in dates and spelling of names did occur. The typewritten pages also contained many iterations and moreover were incomplete. The autobiography stops abruptly in 1928.

Many original documents and letters, coming from the family archives have been studied, and helped to correct the mistakes and ambiguities in the original draft. Information of a doubtful nature that proved difficult to substantiate from further studies of documents, municipal and war archives, institutes of medical history and University libraries, has been omitted.

Discussions and correspondence with Esser's relatives, acquaintances, secretaries, and colleagues interested in the history of plastic surgery, have clarified and confirmed many events.

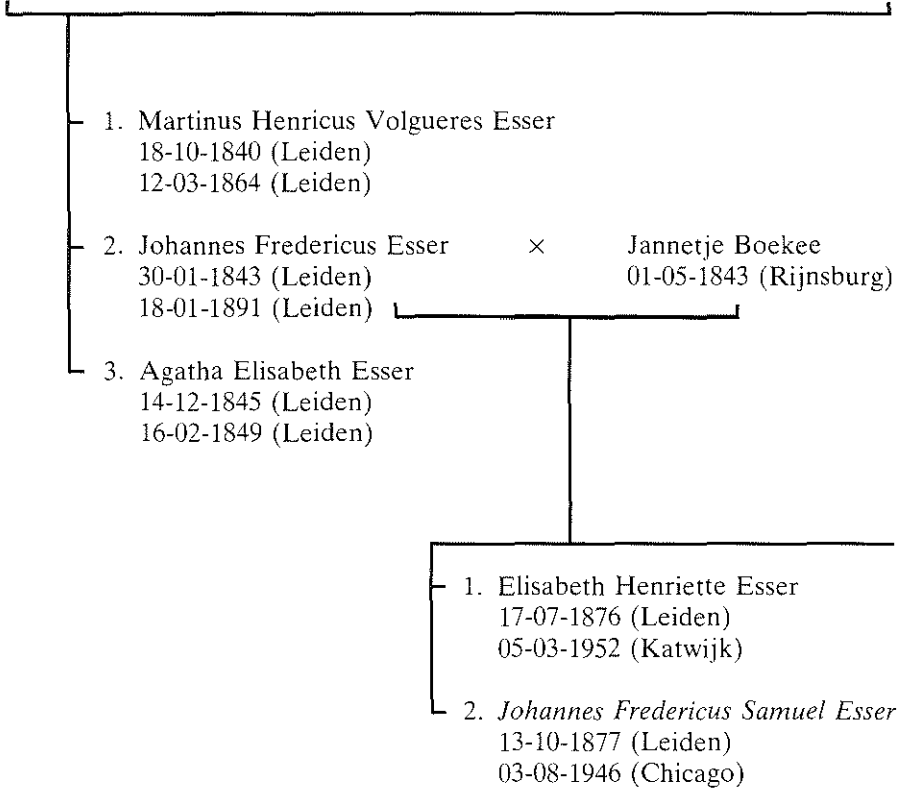
Visits to the Dutch towns and villages, like Amsterdam, Rotterdam, Polsbroek, Utrecht and Leiden, and to Paris and Faye-la-Vineuse in France, proved to be invaluable to understand specific local situations.

Abridged genealogical table of Dr. J.F.S. Esser

Martinus Henricus Esser
19-02-1809 (Amsterdam)
04-06-1891 (Leiden)

×

Voske Elisabeth Hendriks
01-04-1800 (The Hague)
29-06-1886 (Leiden)



Introduction

The second French Revolution started in Paris on July 27, 1830, one day after the proclamation of a new act announcing the abolition of parliament, the end of freedom of the press and a reduction in the electorate. The French King Charles X (1757-1836) left for Great-Britain and was replaced by the Duke of Orléans, Louis-Philippe (1773-1850), nicknamed the "Citizen King". The revolution had an effect on the neighbouring countries and the first signs were seen in the Kingdom of the Netherlands a few weeks later. Belgium was then still a part of the Kingdom of the Netherlands. The Belgian part of the population was mainly Catholic and the Dutch Provinces Protestant. William (Willem) I (1772-1843) King of the United Provinces since 1813, was Dutch and Protestant, but he recognised religious liberty. The official language was Dutch, which offended the middle classes in the southern part of the country, who preferred the French language.

The representation of the northern and southern parts of the country in parliament was unfair. By law, there was an equal number of representatives, although the population of the Belgian part was larger. The population of Belgium was 3.500.000 and that of the Dutch provinces 2.000.000. Moreover there were basic differences in customs, economic interests and religion, between the Dutch and Belgian population.

A people's revolt in Brussels on August 26, 1830 was ignited by Esprit Auber's (1782-1871) opera "La Muette de Portici", which dealt with the fight for freedom of the Neapolitans by Masaniello (1620-1647) in the seventeenth century. It was followed by urban warfare in the streets of Brussels in September. The King did not take a strong line at the outset, misinterpreting the importance of the movement. His son the Prince of Orange (1792-1849) marched into Brussels, but had to retreat after four days of fighting.

A declaration of the Independence of Belgium made by the revolutionary government on October 5, 1830 was followed by large scale mobilisation in the Northern-Netherlands in which many volunteers enlisted.

Jan Carel Josephus van Speyk (1802-1831) blew up his warship in the harbour of Antwerp on February 5, 1831, and sacrificed his own life and the lives of his crew, in order to avoid surrender to the rebels, but gained much sympathy and enthusiasm in Holland for his desperate action.

Leopold (1790-1865), prince of Saxe-Coburg, was crowned as the first King of independent Belgium on June 4, 1831, openly supported by Great-Britain and France. One year later he married Louis-Philippe's daughter Louise-Marie d'Orléans. Too late, Willem I decided to establish forcefully law and order in the rebellious provinces of his kingdom. On the first of August 1831

a large Dutch army of 50.000 soldiers crossed the new Belgian borders, under the command of the Prince of Orange.

From the second to the twelfth August in military actions known later as the "Ten days campaign", the Dutch army, better equipped and organized than the Belgian forces, punished the rebellious Belgians and progressed easily (Nater, 1980). Soon the invaders had to withdraw their forces because of the approaching French army of Marshal Etienne-Maurice Gérard (1773-1852) and the threatening attitude of Great-Britain. Armistice was arranged with the Prince of Orange on December 20, 1831, but the treaty was not signed by Willem I. To force the Dutch king a Franco-British fleet blocked the Dutch harbours and Marshal Gérard marched into Belgium once again and laid siege to the citadel of Antwerp, which was still in the hands of the Dutch. The commanding general David Hendrik Baron Chassé (1765-1849), nicknamed "General Bayonet", had to surrender on December 12, 1832. Still Willem I's resistance was not broken, but he had to give in partially on May, 21, 1833. A provisional convention with France and Great-Britain was agreed, and a "status quo" was maintained for several years, to 1839. There was no demobilisation of the army, which consumed a substantial part of Holland's resources, causing an enormous rise in the national debt and a suffering of commerce.

In 1839 the Dutch king had to give in and the separation of Holland and Belgium became a fact. The king abdicated one year later.

Martinus Hendricus Esser (1809-1891) was one of these soldiers who had volunteered to join the army as a lancer, following in the footsteps of his father who had been an army officer all his life. Appalled by the cruelties of war, Martinus Hendricus Esser left the army and became a groom at an inn situated at 14 Noordeinde, Leiden. He married Voske Elisabeth Hendriks (1800-1886), who was eight years older on November 27, 1839 in The Hague. Soon afterwards he purchased the inn and became himself the innkeeper.



Martinus Hendricus Esser
(Jan Esser's grandfather)

They had three children, two sons, Martinus Hendricus Volgueres and Johannes Fredericus, born in 1840 and 1843 respectively, and one daughter Agatha Elisabeth, who died as a child at the age of three years in 1849.

Martinus Hendricus Volgueres (Henri) became a serious medical student at Leiden University, but died at the age of 23 years during an epidemic of typhoid fever in 1864. Johannes Fredericus was quite different. He possessed a capricious mind and showed much interest in nature, sports and arts. He preferred horseriding and sailing to his law studies and made no serious attempts to qualify. He was fond of music, played the violin and flute very well, adored painting and collected many books on history and geography. His mésalliance with Jannetje Boekee, a girl of French Huguenot descent, who went from house to house selling strawberries, disturbed his father in such a way, that he avoided all contacts with his daughter-in-law.

On 17th July 1876 Elisabeth Henriette Esser was born in Leiden, the first child of Johannes Fredericus Esser and Jannetje Boekee.

According to the official birth certificate (Number 904), Johannes F. Esser was a director of his father's private foundation "Tot Hulp der Menschheid". (Aid to Mankind). It was a humanitarian society, one of the first insurance companies for the poor.

Johannes Esser never complied with his directorship, but lived his own life in a peculiar and pleasant way, outside the rigid rules of society, much to his father's displeasure. Later he became a freemason. Because of his conduct and his unusual attitude to life, his father asked him to live in a workers quarter of the city. At the Middelste Gracht he bought three adjoining small houses, which were reconstructed into one house with a marble floor. In the back garden he kept a horse in a stable. His eccentric style of life attracted a lot of criticism in the neighbourhood. Later he moved to a larger house in the same street as Martinus Esser, situated 29 Noordeinde, with ample room for his growing collection of books, he acquired in a few years time.

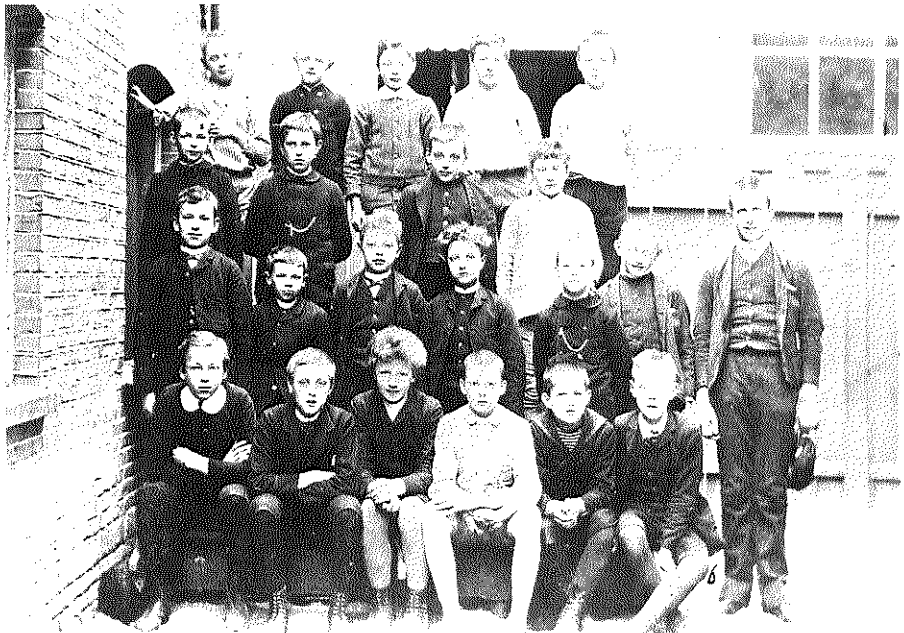


Johannes Fredericus Esser
(Jan Esser's father)

Early childhood and school life of Jan Esser

Johannes Fredericus Samuel (Jan) Esser was born in Leiden in the Netherlands on November 13, 1877 at 3.00 p.m. the second child of Johannes Fredericus Esser and Jannetje Esser-Boekee. He was brought up in the first instance by three persons. His father attended to his general knowledge and appreciation of art and music. He introduced him to painters and musicians, who impressed young Esser immensely. His mother attended to his religious education and his grandfather Martinus taught him the basic principles of economy and conveyed his social experiences and wisdom to him. The combined efforts of these three very different personalities widened his horizons, but caused him discontent in his school life.

He was a precocious boy and was as disinterested in his dull schoollessons as in his fellow pupils. His primary education at the school of Mr. Japikse at the Aalmarkt in Leiden was a struggle. He was physically weak and an attack of rheumatic fever was complicated by a cardiac valvular disease. He became interested in stamp- and bird egg collecting.



Form 6. Primary School Leiden 1888

His secondary school education was also completed in Leiden. He showed little interest with the exception of mathematics and history: he admired his teacher for history Mr. A.E.J. Holwerda¹ (1845-1922).

When young Jan Esser was 13 years old, his father died from a progressive cardiac disease, aged only 47 years. He was then cared for by his grandfather, but only for a short period, as he too died some six months later.



Jan Esser
with his mother and sister Betsy (1893)

Due to a severe depression his mother was incapable of raising her two children and she was admitted to a mental hospital. The children were then adopted by foster parents, Jacob and Ant Splinter who owned a grocer's shop in Leiden, named "Den Gouden Bal" situated on the corner of the Korte Mare and Lange Gracht. They had three children of their own, 10, 11 and 14 years old.

Adjusting to the new environment and routine in the foster's family was difficult in the beginning for Jan and Betsy Esser. The relation with their foster father was especially difficult because he openly criticized the unusual conduct of their deceased father. Mrs. Splinter was far more friendly and also better educated and she and Jan even began to study French.

The owner of the adjoining dairy shop, Leen Spruyt, taught young Esser the first principles of the game of chess. This game eased his sorrow: he was completely absorbed by it and soon became a good player, which caused a rise in his popularity at school. Jan and Betsy stayed with the foster family until the final examination of the secondary school.

Involvement in the development of chess in the Netherlands

During the middle of the nineteenth century the leading chess centres in Europe were Paris and London. The middle class took over the game from the upper class. As the number of coffeehouses and cafés increased, so did the interest in chess increase in these establishments. The most celebrated chess centre in Paris was the "Café de la Régence" and in London "The Divan". (Golombek, 1976, Silbermann, Unzicker, 1977), and in the beginning of the twentieth century in Amsterdam, the café "De Roode Leeuw". In 1873 the Dutch Chess Association (Nederlandsche Schaakbond) was established by some members of the chessclub of The Hague, "Discendo Discimus", and the first chairman was Mr. F. Baron van Hogendorp. In 1893 its magazine "Tijdschrift van den Nederlandschen Schaakbond" appeared. Jan Esser and his classmates of the secondary school founded a chessclub in Leiden on 28th December 1893. It was named "Morphy" after the great American chessplayer, Paul Morphy (1837-1884) of New Orleans, who is still rated as the greatest player in the game's history. (Golombek, 1976). He was



Chessclub 'Morphy' (1896)



International Chess tournament Cologne 1898.
with celebrities like Burn, Charousek, Tshigorin, Steinitz, Schlechter, Showalter, Janowski and Albin

a fine blindfold player and during these sessions he attracted a lot of public interest. Jan Esser became the first President of the chessclub and took his duties very seriously. All the famous games were replayed and extensively studied.

The editor of the Dutch chess magazine and secretary of the Dutch chess association was the 19-year old player Norman Willem van Lennep (1872-1897) of Amsterdam.

He was a very active and strong chessplayer and was a member of the local chessclub "Vereenigd Amsterdamsch Schaakgenootschap".

Due to a first place at the "Hauptturnier" in Leipzig, Germany in 1894 he became the first Dutch international chessmaster (Andriessen, 1978). Van Lennep settled down in England in 1895 and died unfortunately two years later at the age of 25 years.

He was succeeded as international master of chess by Dr. A.G. Olland (1867-1933) of Utrecht, who gained the master-title in 1901. Olland was the second Dutch international master of chess and champion of Holland in 1895, 1899, 1901 and 1909. The master-title was gained by winning a recognised international tournament. Olland was an excellent, friendly, gentleman-chess player, who died in 1933 during a match.

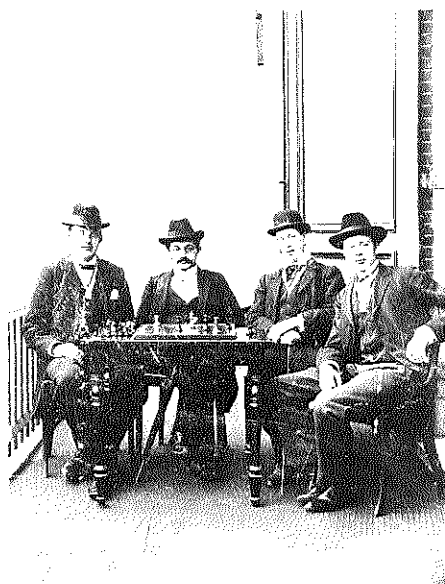
Esser played chess very intensively, and during the last years of secondary school he became Leiden's chess champion. In 1896 at the age of 19, he commenced the study of medicine at the University of Leiden, following in the footsteps of his deceased uncle Henri.

Medical studies: Leiden and Utrecht (1896-1903)

As a student Jan Esser joined the "Leidsch Studenten Corps" with its old traditions and frequented their club house "Minerva".

He rented student rooms in the outskirts of Leiden and soon possessed an impressive collection of human skulls. From a shy, little and weak schoolboy he had now grown to a height of more than six feet. He even took part in student boxing matches, race rowing and cycling and became a member of a student chess club. He attended lectures diligently and thought highly of his teachers, especially Professor Hendrik Antoon Lorentz (1853-1928) and Professor Heike Kamerlingh Onnes (1853-1926) both physicists, Professor Jacob Maarten van Bemmelen (1830-1911) in inorganic chemistry and Professor Antoine Paul Nicolas Franchimont (1844-1919) in organic chemistry, Professor Willem Einthoven (1860-1927), physiologist and Professor Toon Zaayer (1838-1902), the anatomist and friend of his uncle Henri. He was fascinated by the work of Einthoven on electrocardiography and he was one of his chess opponents.

Summer holidays were spent in London playing in chess tournaments. Esser was impressed by this cosmopolitan city, still regarded as the "Mecca of chess". He could afford these trips abroad since he had inherited some money from his grandfather.



Student Chess club ALAPIN (Philidor?) 1898. Esser president, with Lasker the world champion



Dental Clinic Utrecht 1901

During the second year of his medical studies, Jan Esser tutored his sister Betsy in pharmacy. She had formerly been a pharmacist's-assistant and for eight months he was her exacting and ruthless teacher. She later abandoned her study of pharmacy and took up dentistry. He helped her in this study too and they both sat the oral examinations together. Until 1908 it was possible to sit for the oral examinations in dentistry at the Universities of Leiden, Groningen, Amsterdam and Utrecht. (De Maar, 1977).

However as practical dentistry was taught only in Utrecht University, they had to move to that city, where they settled down on the Oude Gracht. Jan Esser continued his medical studies there and attended at the same time the practical course at the Dental School under Dr. Theodore Dentz (1840-1933), who was appointed Reader in dentistry at the University of Utrecht in 1877. Dentz had studied medicine in Amsterdam and qualified in Utrecht. He obtained in 1864 a doctor's degree in medicine by defending a thesis on galactoceles. ("De Melkbreuk der borstklier").

In 1865 a clinic was established for the poor in Utrecht for the treatment of Skin- and Throat diseases, Pediatrics, Ear- and Dental diseases and in 1897 the first Dental Institute (Tandheelkundig Instituut) was established in the Wittevrouwenstraat with twenty dental students. The Dutch Dental Association was founded at Dentz's house in Utrecht on March 4, 1881.

Utrecht was an ideal town for chess players, because of the presence of the Dutch chess champion, Dr. Olland and a former medical student of Leiden, Ben Leussen, who was totally absorbed in chess. Many a day and night was spent on chess matches and Esser even took up a position as chess column-writer for the Dutch newspaper "Algemeen Handelsblad". Moreover he tutored a few dental students, friends of his sister Betsy. He met at the dental

institute Hindrik van der Molen (1882-1964) who qualified as a "tandmeester" in 1902. They became friends for life. These combined activities delayed his studies, but with his remarkable memory, strong willpower and tireless energy he was able to catch up and take his examinations more or less in time.



"Tandmeester" Van der Molen



Esser in London 1902

In Utrecht some of the Professors were world famous, such as Professor Sape Talma (1847-1918) in Internal Medicine, Professor Albert Narath (1864-1924) in General Surgery and Professor Herman Snellen (1834-1908) in Ophthalmology.

Talma had suggested an operation for cirrhosis of the liver, a combination of a splenectomy, rawing the surfaces of the viscera, and implantation of the omentum (omentopexia) in the abdominal wall, to encourage a collateral venous circulation. The operation was carried out by Narath. Snellen was renowned for the invention of ophthalmological instruments and the optotypes, large black letters for the testing of the eye sight. (Snellen, 1882).

Narath was a good surgical teacher. He had been a pupil of the great Theodor Billroth (1829-1894) of Vienna, and his lectures attracted large audiences. He stayed in Utrecht for ten years from 1896-1906 but never obtained his badly needed new operating theatre, at the Catherijnesingel.

One of Esser's chess opponents in Utrecht was the German professor of psychiatry, Georg Theodor Ziehen² (1862-1950) who stayed in Holland for only three years. (1900-1903).

In Utrecht as in Leiden all the summer holidays were spent in London playing in chess tournaments.

Jan Esser did his final examinations in Leiden, because he regarded this a special honour to become a graduate of Holland's oldest university. Just before qualifying in 1903, he won the first prize in the best class of chess (Hoofdklasse) in 1902 in The Hague, and was made an Honorary Member of the local chess club of Leiden, Nijmegen and Delft. On December 18, 1904 Betsy qualified as a dentist in Utrecht. She married Dr. de Bouvé and started a practice in Utrecht.

Medical career

After graduating from Leiden University in 1903 in order to get some practical experience, Esser held three locum general practitioner posts in the villages of Hazerswoude, Herwijnen and Hilvarenbeek, where he showed skill in performing difficult tooth extractions.

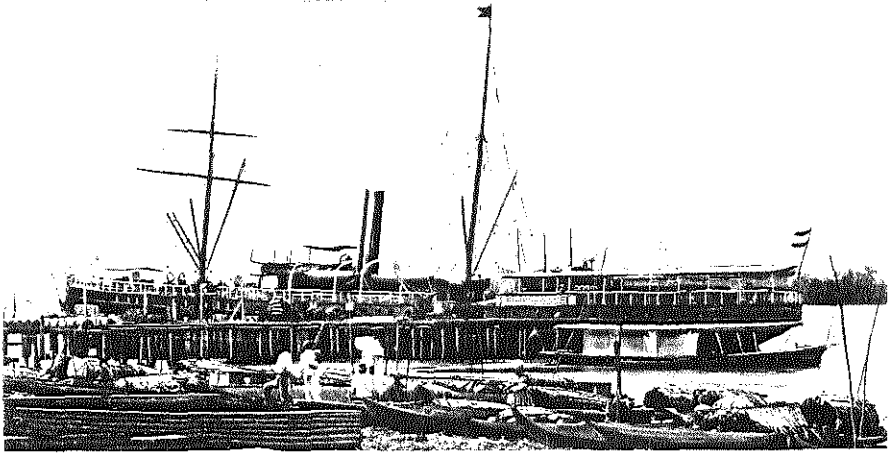


Map of the Netherlands

In order to obtain the degree of doctor of medicine he sat a public examination on December 1903 in Ghent, Belgium. (Matton, 1982). There was no need to defend a thesis in Belgium. Due to the regulations then in force, it was not possible for him to submit a thesis in Holland, because he had not passed through a grammar school (Gymnasium). The final examination of a gymnasium was required, if one wished to write and defend a thesis in order to obtain a doctor's degree. Indeed this restriction was not lifted until 1921. The right to submit a thesis was named "Jus Promovendi".

In January 1904 Esser sailed on board the steamer "Prins Maurits", in the capacity of ship's surgeon, via the Azores to South-America, visiting French, Dutch and British Guyana, Venezuela, the Dutch West Indies, Haiti and the United States of America (New York).

The "Prins Maurits" was a small passenger-cargo ship of 1500 tons of the Koninklijke West-Indië Mail Dienst (K.W.I.M.) (Julsen and Benders, 1976).



'Prins Maurits' Courtesy H. v. d. Nieuwhof, Haarlem

His medical work with the Royal Dutch West Indies Mail Line took little of his time, and more often than not he would be playing chess with the first officer of the ship, Mr. Nieman of Amsterdam, who was fascinated watching him playing blindfold simultaneous chess sessions. He telegraphed to the agent of the shipping company in Caracas in Venezuela, that the Dutch chess champion was arriving. This agent was the President of the local chessclub of Caracas. He organized a cordial reception and a great chess tournament that was repeated on the journey to Holland.

On his return Jan Esser settled down as a country doctor in the small village of Polsbroek in June 1904, on the recommendation of his brother-in-law Dr. de Bouvé.

It was a remote small village of only thousand inhabitants within a very close community of farmers, situated in the province of Utrecht. In addition to the usual duties of a family doctor Esser showed an interest in dentistry and otorhino-laryngology. He stayed in Polsbroek for only eighteen months but found the village too isolated and moved to Amsterdam where he practised from October 1905 onwards. He settled down on the outskirts of Amsterdam at 91 Verhulststraat, later moving to the nearby 156 Willemsparkweg, in a fashionable district in Amsterdam.

In that year his friend Ben Leussen had obtained second place during the 1905 International chess tournament in Scheveningen. Esser took up his beloved chess game again and attended many of the annual England-Holland chess tournaments in London which had been interrupted in 1901 in protest

CATALOGUS VAN
SCHILDERIJEN, TEEKENINGEN
EN BEELDHOUWERKEN
IN HET STEDELIJK MUSEUM

BEHOOREND AAN
EN IN BRUIKLEEN BIJ DE GEMEENTE
AMSTERDAM



STADSDRUKKERIJ, AMSTERDAM — 1924

BREITNER.

3

BREITNER, George Hendrik, geb. te Rotterdam, 12 September 1857, overleden te Amsterdam, 5 Juni 1923. Leerling van Neurdenburg, Rochussen, de Haagsche Akademie en W. Maris.

17. Stratenmakers op het Rokin.

h. 0.47, br. 0.63, P. get. l. o.
In bruikleen van Dr. J. F. S. Esser.
(rechtvervleugel).

18. Besneeuwde brug.

h. 0.22, br. 0.27, P. get. l. o.
In bruikleen van Dr. J. F. S. Esser.
(rechtvervleugel).

19. Stadsgezicht.

h. 0.21, br. 0.26, P. get. l. o.
In bruikleen van Dr. J. F. S. Esser.
(rechtvervleugel).

20. Vrouwen op het land.

h. 0.35, br. 0.50, aquarel, get. l. o.
In bruikleen van Dr. J. F. S. Esser.
(rechtvervleugel).

21. Bouwwerken.

h. 0.25, br. 0.21, D. get. r. o.
In bruikleen van Dr. J. F. S. Esser.
(rechtvervleugel).

22. Vrouwen op een brug.

h. 0.41, br. 0.63, aquarel, get. l. o.
In bruikleen van Dr. J. F. S. Esser.
(rechtvervleugel).

23. Korte Prinsengracht te Amsterdam. Pl. 8.

h. 0.75, br. 1.15, D. get. l. o.
In bruikleen van Dr. J. F. S. Esser.
(rechtvervleugel).

24. De Dam bij avond. Pl. 9.

h. 1.46, br. 2.21, D. get. l. o.
In bruikleen van Dr. J. F. S. Esser.
(rechtvervleugel).

25. De Dam bij avond.

h. 0.76, br. 1.17, D. get. l. o.
In bruikleen van Dr. J. F. S. Esser.
(rechtvervleugel).

at the cruelties committed in South Africa by the British troops during the Boer-War (1899-1902).

He became a honorary member of the Amsterdam chessclub Parkwijk. Several members of this chessclub were doctors and painters, like Willem Witsen (1860-1923) and George Hendrik Breitner (1857-1923).

Many artists were also his patients, and since Esser had been interested in the arts from his early youth, he cultivated the company of painters. Shortly afterwards his home became a meetingplace for painters many of whom became famous like Breitner, Witsen, Piet Mondriaan (1872-1944), Leo Gestel (1881-1941) and Jan Sluyters (1881-1957). He sponsored painters and organized exhibitions of their work. Before long, half of his time was occupied by these activities.

He added another storey to his house to create an exhibition centre with a studio, which can still be seen today.

He became an eager art and antiques collector, acquiring a large collection of nineteenth and twentieth century Dutch paintings. These paintings were often obtained in return for medical services rendered to his artist friends. He sometimes valued the paintings more than the artists themselves and never came away empty-handed from visits to the studios of his friends.

When he salvaged from the rubbish bin and exhibited some of Breitner's work, unknown to the painter himself, Breitner was very displeased, and their relationship deteriorated for some time. This quarrel between them is expressed in many letters (Venema, 1981).

Esser lived in luxury, not the result of his medical work, but rather that of his commercial dealings in properties and houses.

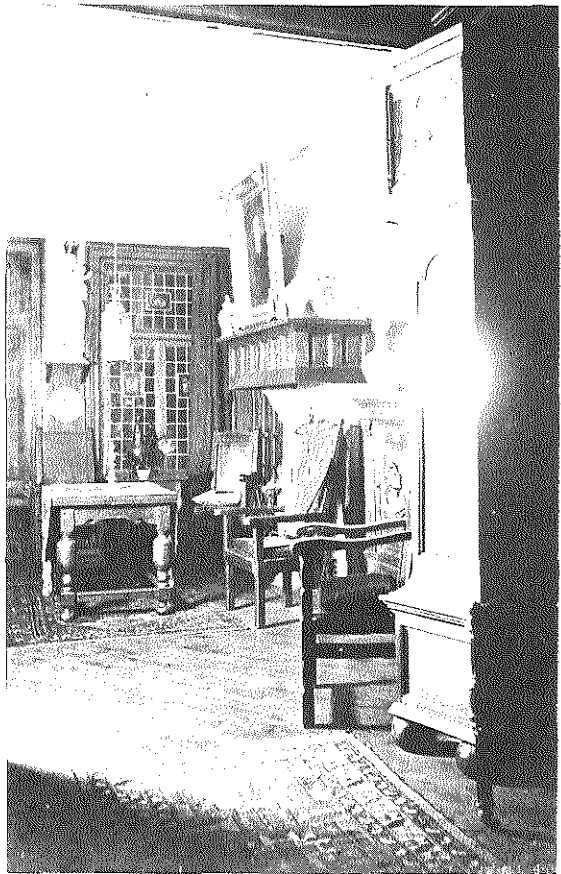
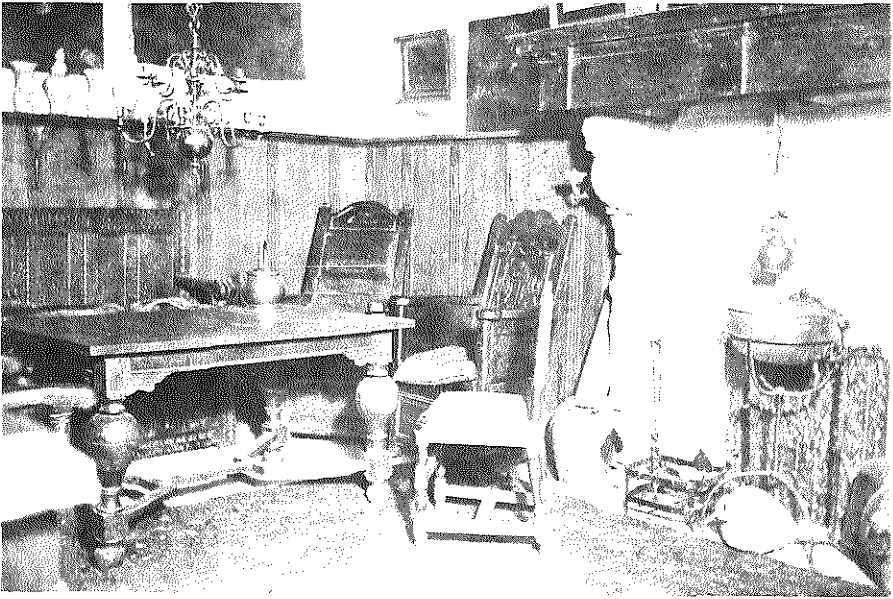
At a party of a befriended stockbroker he met his future wife Olga Aleida Hazelhoff Roelfzema (1889-1923), a law student.

She lived in the vicinity of his practice at 50 Koningslaan and soon afterwards attended his surgery with a dogbite of her hand. In 1911 he met her again in London, at the annual Anglo-Dutch chess tournament and married her in 1912. As a wedding gift his artist friends (Sluyters, Weegewijs and De Grijs) offered the young-married couple life-sized portraits.

For their honeymoon the young couple travelled by train and boat to St. Petersburg and Moscow. They both liked the unconventional things in life and were interested in the Russian language. Russia had a special attraction for chessplayers for the popularity of the game flourished under the patronage of the Tsar, who is reputed to have introduced the term "Grandmaster" (Golombek, 1976).

In St. Petersburg Esser met the chessplayer Alexander Alekhine of Moscow (1892-1946) and played several matches with him. After the Russian revolution Alekhine became a French citizen and was World Champion from 1927 to 1935. In Riga Esser's chess opponent was Aron Niemzowitsch (1886-1935), who impressed him by his unusual approach in chess.

In 1908 Esser became champion of Holland in Haarlem and was elected chairman of the Dutch Chess Association. In 1910 he had been very successful in England, and later that year in Paris once more with his victory over David Janowski (1868-1927), the Polish grandmaster, who had considerable financial backing from his Dutch patron in Paris, the rich art collector



General practitioner's living room or Museum of contemporary arts? Willemsparkweg 156, Amsterdam. ±1910

and art merchant Leonardus Salomonson, who preferred to call himself Mr. Leo Nardus.

In 1913 he was once again the winner of the first class.

Soon after his marriage, Olga became extremely unhappy in the house of her husband, which was more a museum of modern art, than a home. Esser himself was also no longer satisfied as a general practitioner. His practice was monotonous and no longer a challenge. He was eager to work in a field that demanded more dexterity and ingenuity. He wanted to combine surgery and his love for art to help the treatment of patients with congenital and traumatic deformities of the face. He was greatly impressed with Philipp Bockenheimer's³ (1875-1933) book on modern plastic surgery "Plastische Operationen", which was published in Würzburg in 1912, and by Professor Narath of Utrecht, who had taught him delicate tissue handling and precise surgical work.

After long deliberations and with the support of his wife, he decided to sell his practice in Amsterdam and to become resident to Professor Hiddo Jan Laméris (1872-1948) at the well-known University surgical clinic in Utrecht. He chose Utrecht instead of Leiden, because he was not on good terms with Professor Johannes Adrianus Korteweg (1851-1930), the successor of Professor Jan Egens van Iterson (1842-1901) in Leiden. Iterson had been a surgeon of high esteem, beloved by all his students.

Short historical review of Plastic Surgery

Reconstructive procedures had been practised for many centuries, as individual accomplishments by some surgeons. (McDowell, 1977). Plastic surgery concerned itself with the repair of defects or malformations of the body, whether present at birth or acquired as the result of disease or injury. (Cope, 1964).

The aim of plastic surgery was to restore the affected parts to a more or less normal appearance, often however supplemented by prosthetic appliances. The oldest description of a reconstructive procedure is the formation of a new nose, to be followed by the repair of a lip.

In India a form of punishment for adultery was cutting off the nose. The victims were of course anxious to undergo attempts to reform the nose, although they must have suffered a lot of pain in those pre-anaesthetic days. Rhinoplastic operations, using cheekflaps were described by Sushruta⁴ in India in 600 A.D. in his "Sushruta Samhitá". No attempts were made to reconstruct a nasal lining. This book was translated from the original Sanskrit into English in the nineteenth and twentieth century.

Pedicled forehead flaps were also used for nasal reconstructions (Lucas, 1794).

After the conquests of Alexander the Great (356-323 B.C.) commerce with India was established.

Aulus Cornelius Celsus (25 BC-40 A.D.) was the first to mention the repair of the lips and he wrote a medical book in Latin "De Medicina libri octi". In the seventh book of his famous treatise he advocated the use of advancement or sliding flaps.

In the Middle Ages the Flemish surgeon Jehan Yperman (1295-1351) gave a fully documented description of the surgical repair of harelips. He sutured the edges of the freshened borders of the cleft lip, by using a needle threaded with a twisted wax suture, reinforced with a long needle passing through the lip at some distance of the edges. This latter needle was kept in place with a figure-of-eight thread, wrapped around it (Rogers, 1964, Millard, 1976).

The figure-of-eight wraparound thread was also used by Ambroise Paré (1510-1590) of France and by many others. Father and son Antonio Branca of Catania in Sicily during the fifteenth century practised the Indian variety of rhinoplastic repair. Later Antonio Branca adopted a new technique utilizing a pedicled arm flap (Ranzani, 1442).

It has been suggested that Marco Polo (1254-1324), who spent a long time in India, brought this knowledge to Italy, but there is no proof at all (Zeiss 1863).

Gaspare Tagliacozzi (1545-1599) of Bologna published an extensive mono-

graph on what it now called the "Italian method" of nasal repair. Beautiful illustrations on his reconstructive techniques were depicted in his book "De curtorum chirurgia per insitionem libri duo" (1597). In addition to his description of the armflap-rhinoplasty he also described the surgical treatment of the cleft lip (Tagliacozzi, 1597).

There was a decline in the seventeenth and eighteenth century, following the period of Italian reconstructive surgery and these operations became the object of ridicule.

The treatment of patients suffering from cleft lips and palates, was another milestone in reconstructive surgery.

In Holland, the municipal surgeon of Amsterdam, Hendrick van Roonhuyze (1622?-1672) was renowned by his book on obstetrics and gynaecology, called "Historische en heelkonstige aanmerkingen" (Historical Observations) (1663) of which an extended second edition "Genees- en Heelkonstige Aanmerkingen" appeared in 1672.

It was translated into German in 1674 and English in 1676. (Von Haller, 1774). The second part of the book was called "Gebreekken der Vrouwen". The book was dedicated to Nicolaas Pietersz. Tulp (1593-1675), surgeon and anatomist in Amsterdam.

In this book Van Roonhuyze gave the best description in the seventeenth century for the surgical treatment of the "Hasemond" (Haremouth).

Anaesthesia did not exist in those days and it is interesting to read his precautions for performing the operation. It was advised that the child should be preoperatively awake for a period of twelve hours, to ensure that he could rest adequately following surgery.

The child could be given wine, and while in a sitting position, the poor child's head was firmly held in the hands of an assistant.

Van Roonhuyze also advocated that the operation should be quickly and accurately executed, using scissors and his specially designed bonecutting forceps, to remove quickly the offending bone of the protruding premaxilla in difficult cases of bilateral clefts. Five or six silver straight cutting needles were pierced through the bleeding wound edges, and a silk wire was wrapped around these needles, figure of eight wise. (Baumann, 1922).

The beginning of the second renaissance in reparative surgery must be credited to Joseph Constantine Carpue (1764-1846) of London, who restored the nose of an army officer in 1814, according to the Indian method using a forehead flap (Carpue, 1816). It is interesting to note that Carpue's case report was described in Holland by the municipal surgeon of Amsterdam G.D. Schröder (1761-1835) during a private lecture course on operative surgery in 1833-1834. The original lecture notes taken by one of his students can still be seen in the library of the Institute of the History of Medicine in Nijmegen. These notes contain a chapter totalling fourteen pages on "De Herstelling van verlooren Neuzen" (Repair of lost noses) which gives a adequate description of the history of this subject starting with the Brancas and Tagliacozzi in Italy and ending with a detailed and accurate report of Carpue's successful operation for the reconstruction of the lost nose. (Van Leuven, 1833). It contains no references however.

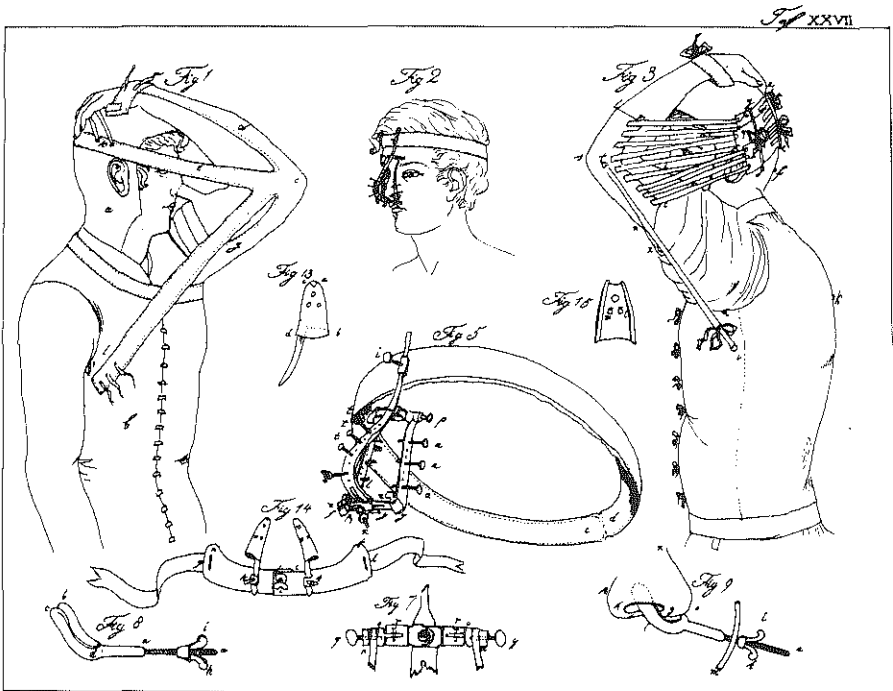
Carpue was soon to be followed by Karl Ferdinand von Graefe (1787-1840)

professor of surgery at Berlin University, who reported three cases of nasal reconstructions on war victims, using the Indian method of Sushruta, the Italian method of Tagliacozzi, and a modification of the last method, which he called the "German method" (Rogers, 1970). He introduced the word "Plastik" in his book "Rhinoplastik" in 1818, the first book on this subject since Tagliacozzi, and is regarded as the founder of modern plastic surgery. Johann Friedrich Dieffenbach (1792-1847), the successor to Von Graefe in the second surgical clinic at Berlin University, has expanded the scope of plastic surgery enormously.

He introduced the principle of transposition, and wrote on eyelidplasties or blepharoplasties. He demonstrated a lateral transposition flap for eyelid repair in Paris in 1834 to French surgeons. Moreover he described the use of relieving incisions, the covering of skin edges with mucous membranes, and cheiloplasties (Killian, 1980). In 1829 he published a book on reconstructive surgery "Chirurgische Erfahrungen, besonders über die Wiederherstellung Zerstörter Theile des menschlichen Körpers nach neue Methoden", and wrote a large section of more than 200 pages on plastic surgery in his book "Operative Chirurgie" (1845).

Bernhard von Langenbeck (1810-1887), the successor of Dieffenbach contributed much to the treatment of cleft lip and palate.

In the international literature not much attention is given to Ernst Blasius (1802-1875), professor of Surgery and Ophthalmology in Halle, Germany from 1834 to 1867.



Restoring the nose. Dieffenbach's method. (Die Operative Chirurgie, 1848)

He wrote a prize-winning three volume textbook of surgery ("Handbuch der Akiurgia") in 1830, and described plastic procedures for the repair of nasal-, lips- and eyelid defects.

Von Graefe, Dieffenbach and Von Langenbeck helped to form the basis of modern German surgery. (Bankoff, 1947).

In France, Jacques-Matthieu Delpach (1772-1832), professor of surgery at Montpellier contributed towards the development of orthopaedic surgery and also performed one of the first rhinoplasties by the Indian method in 1823. He reported on seven cases of rhinoplasties in his "Chirurgie clinique de Montpellier" (1823-1828) and commented on cheiloplasties, urethroplasties and other plastic surgical procedures. (Gnudi and Webster, 1976).

Philippe-Frédéric Blandin of Paris (1798-1849) wrote his first book on reconstructive surgery in 1836, which was translated into German in 1838. ("De l'autoplastie, ou, restauration des parties du corps, qui ont été détruites, à la faveur d'un emprunt fait à d'autres parties plus ou moins éloignées"). Blandin realised that problems in flap survival were related to the arterial bloodsupply whereas Dieffenbach thought that the problem was one of venous congestion. For this reason Dieffenbach applied leeches to the surface of suffering flaps. A so-called "French" method was added to reconstructive surgery by Michel Serre of Montpellier (1799-1849), with the advancement or sliding flap (Romieu, 1968). This was in fact the Roman method, or the technique of Celsus. A treatise on plastic surgery of the face was published by him in 1842 ("Traité de l'art de réparer les difformités de la face").

Another Frenchman, Baron Guillaume Dupuytren (1777-1835), surgeon of the Hôtel-Dieu Hospital of Paris, nicknamed "Le Brigand de l'Hôtel Dieu" for his rude manners, gained recognition for his technique of treating the contracture of the palmar fascia, that now bears his name and for his classification of burns.

Eduard Zeis (1807-1868) of Dresden, wrote a handbook on plastic surgery in 1838 ("Handbuch der plastische Chirurgie"), because he had reviewed the German translation of Blandin's book "Autoplastie, oder Wiederherstellung zerstörter Körpertheile auf Kosten anderer mehr oder minder entfernter Teile", and found it to be very superficial and moreover it gave the impression that plastic surgery was a French invention. This review gave him the impetus to write himself a much better comprehensive textbook on plastic surgery (Patterson, 1977).

Later his famous book on the history of plastic surgery was published ("Die Literatur und Geschichte der plastischen Chirurgie") in 1863, by which he became the plastic surgical bibliographer extra-ordinary (Gibson, 1976).

He took a particular interest in plastic surgery, and compiled the first complete bibliography and history of plastic and reconstructive surgery.

Zeis did not have a high opinion of the efforts of American surgeons (Zeis, 1863), but that was not fair, since John Peter Mettauer (1787-1875) of Virginia performed an operation for cleft palate in 1827, using instruments designed by himself and he described an operation for epispadias and hypospadias. Jonathan Mason Warren (1811-1867) of Boston performed an uranoplasty (closure of the hard palate) in 1843. He described the reconstruc-

tion of nasal defects, eyelidplasties, and the repair of burns of the lips and neck. In 1835 he reconstructed a nose with the Indian method, with a forehead flap. Thomas Dent Mütter (1811-1857) of Virginia described the treatment of postburn neck contractures with local flaps. Frank Hastings Hamilton (1813-1886) of Buffalo described the cross-leg flap, which he called elkoplasty (Hamilton, 1854).

Later, George Howard Monks (1853-1933) was renowned for his publications on rhinophyma and cosmetic rhinoplasties.

He also gave an description with drawings of eyelidreconstruction using a pedicled arterial flap. (Aufrecht, 1946, Freshwater, 1976).

This to mention only a few American surgeons, who certainly did contribute much to plastic surgery.

In Russia, Julius von Szymanowski (1829-1868) of Kiev published an outstanding book on operative surgery. In 1857 he wrote a thesis on nasal operations, "Adnotationes ad Rhinoplasticen". (Rogers, 1979).

Skingrafting played an increasingly important role in reconstructive surgery since 1817, and many well known names were connected to that procedure (Klasen, 1981). Men like Christian Heinrich Büniger (1782-1842), anatomist and surgeon in Marburg, Fedor Victor Krause (1856-1937) of Altona near Hamburg, and Karl Thiersch (1822-1895) of Leipzig, Louis-Xavier-Edouard-Léopold Ollier (1830-1900) of Lyons, and Jacques-Louis Reverdin (1842-1929) of Paris, John Reisburg Wolfe (1823-1904) of Glasgow and George Lawson (1831-1903) of London, were only a few of the many pioneers in the field of transplantation surgery of the skin (Büniger, 1823, Thiersch, 1874, Krause, 1893, Ollier, 1872, Reverdin, 1869, Wolfe, 1875, Lawson, 1871).

The Z-plasty is one of the most useful procedures in plastic surgery, and the first description of a Z-plasty is probably by William E. Horner (1793-1853) of the Philadelphia Hospital, Blockley. This plasty consists of the transposition of two triangular flaps. Horner described this technique in 1837, to be followed by Charles-Pierre Denonvilliers (1837-1872) of Paris in 1856. The expression Z-plasty was coined by Stewart Leroy McCurdy of the University of Pittsburgh in 1913 (Wallace, 1982).

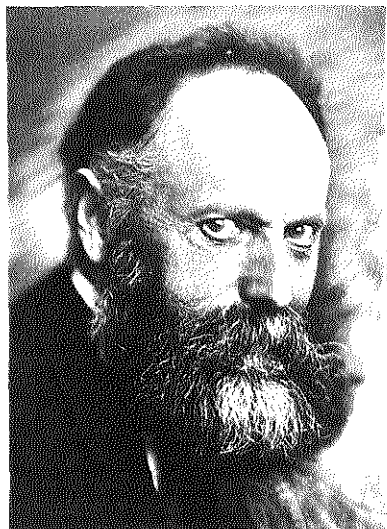
At the beginning of the twentieth century, the French school of reconstructive surgery was well known with Charles Nélaton (1851-1911) and Louis Ombrédanne (1871-1956) of Paris, and by Hippolyte Morestin (1869-1919) and Pierre Sébileau (1860-1953). In Germany Erich Lexer of Freiburg was renowned for his contributions to transplantation surgery, which will be discussed in a later chapter.

In Holland the possibilities of reparative surgery did not escape the notice of the general surgeons. There was some interest in skingrafting.

Professor Otto Lanz (1865-1935) of Amsterdam, invented the mesh graft, with a specially designed "Hautschlitzapparat" in 1907.

This colourful bearded surgeon and art collector from Kocher's school of surgery in Switzerland was described by Holland's most famous physician-author Simon Vestdijk (1898-1971) in his autobiographical novel "De laatste kans" (The last chance) in 1960.

Occasional contributions on reconstructive procedures appeared in the Dutch medical journal ("Nederlandsch Tijdschrift voor Geneeskunde") by several



Prof. Otto Lanz
Courtesy Nederlands Tijdschrift voor
Geneeskunde

surgeons and including papers by Van der Hoeven on Petrus Hendricus Krabacher (1782-1859), military surgeon of Louis Bonaparte's (King of Holland from 1806 to 1810) army on cleft lip repair in 1808, utilizing pre-surgical orthodontic treatment with external bandages for one month (Van der Hoeven, 1924).

In 1893 and 1894 A.E. Vermey (1854-1940) surgeon of Amsterdam wrote on the treatment of burns and degloving injuries, skingrafting of defects and on staphylorrhaphy and Korteweg in 1894 on secondary nerve suturing and meloplasty (1890). Reports on palatorrhaphy are found frequently (Grevers, 1894, Tilanus, 1899, VanderHoeven, 1903), often claiming that the operation is best carried without any form of anaesthesia!

Otoplasties were described by Burger (1894), the treatment of burns by Loopuyt and Narath (1903) and toe-to-finger transplants by Laméris (1909). Most of the authors preferred split skin graft for the closure of defects. Flap repairs proved too often to be unreliable in their hands, mainly because the importance of an adequate vascular pedicle in a flap was not yet fully appreciated.

The discovery of anaesthesia and antisepsis changed the range of possibilities of surgery. In pre-anaesthetic days operations were rushed through at lightning speed and under conditions of appalling difficulty.

The most hardened surgeons had to steel themselves to perform operations which they knew would cause agony to their patients and nerveracking distress to themselves (Bishop, 1960).

The quicker the surgeon the greater the surgeon.

The history of the development of anaesthesia is filled with hopes and disappointments, comedies and tragedies (Keys, 1963).

The development of local anaesthetics which played an important role in reconstructive surgery is mainly the work of Carl Koller (1857-1944) of Vienna. Koller and his friend Sigmund Freud (1856-1939) the psychiatrist

studied the physiologic aspects of cocaine in drug addicts and noticed a numbness of the tongue.

Cocainization of the eye for the production of local anaesthesia was soon adopted. William Stewart Halsted (1852-1922) at Johns Hopkins Hospital in New York introduced "conduction"-anaesthesia by injecting cocaine in the nerve trunks in 1885, which was perfected by Carl Ludwig Schleich (1859-1922). August Bier (1861-1949) of Kiel is renowned for his auto-experiment with cocaine in 1899 in order to produce spinal anaesthesia. Independently Tuffier introduced spinal anaesthesia in Paris. In 1905 procaine was developed, a synthetic local anaesthetic agent, by Alfred Einhorn, which was of great practical value especially for plastic surgery. Heinrich Friedrich Wilhelm Braun (1862-1934) introduced its clinical use. (Braun, 1905).

The introduction of anaesthesia and antisepsis enabled reconstructive surgeons to carry out procedures that had formerly been quite impossible, including lengthy operations of the head.

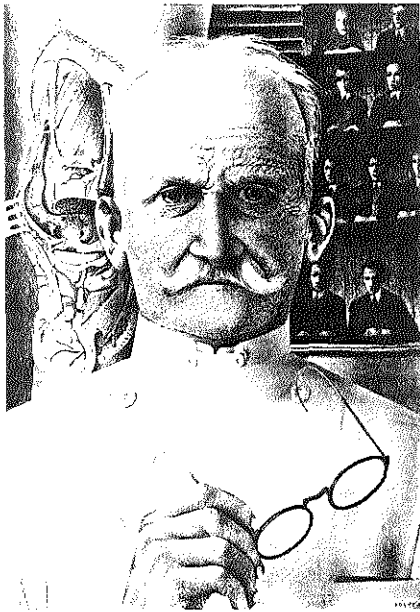
Esser's training in general surgery

Surgical training at the University clinic of Utrecht, was greatly influenced by Billroth's (1829-1894) scholars.

His school had a good reputation, and his well trained pupils held many chairs of surgery in Europe. (Bankoff, 1947, Killian, 1980, De Moulin, 1977). Three of them were successively nominated professor of surgery in Utrecht, Holland.

Friedrich Salzer (1858-1893) was appointed professor of surgery in Utrecht in 1890, but unfortunately committed suicide in 1893. He was succeeded that same year by Anton Freiherr von Eiselsberg (1860-1939), who left in 1895 for Königsberg, because the facilities in Utrecht were regarded primitive. Albert Narath (1864-1924) was his last disciple to become professor of surgery in Utrecht in 1896. He left Utrecht for Heidelberg in 1906.

After this span of fifteen years, the direct influence of Billroth in Utrecht ended with the nomination of the Dutch professor Dr. H.J. Laméris, but the Viennese tradition continued since he had been trained by von Eiselsberg in Königsberg for one year (1896-1897) and then by Narath in Utrecht. In 1900 he worked for one year in the gynaecological clinic of Alphons von Rosthorn (1857-1909) in Graz.



Prof. H.J. Laméris
Drawing by Eppo Doeve (1907-1981)

Like Esser, Laméris had to take his degree of doctor of medicine, in Ghent, Belgium, in 1902 because of the same Dutch legal requirements. A new surgical university clinic was opened in Utrecht in October 1908, situated at the Catherijnesingel, and Laméris proved to be an energetic teacher and elegant surgeon. His teachings were characterised by eloquent quotations ("An operation ought to be a symphony of the hands").

He always regarded himself as a typical Billroth scholar, and held the Viennese tradition in high esteem. (Nuboer, 1948).

As a teacher he was very strict with his residents, and the organization within the clinic was excellent.

From 1906 to his retirement in 1943, he was the dominant figure of surgery in the Netherlands.

Esser started his general surgical training in this famous clinic. He did not intend to become a general surgeon and he had accepted the training post as resident only for the purpose of acquainting himself with the basic principles of surgery. As a rule, during this period, training in general surgery lasted three years only, but Laméris demanded from his trainees a minimal period of five years. Esser considered a period of two years more than adequate for his special goal to become a plastic surgeon, a speciality which was non-existent in Holland or anywhere else.

Before entering into the practical side of surgery, he embarked on a serious theoretical study of the recommended textbooks.

Training at the university hospital followed the rigid hierarchical German style. The trainees took no active part in the operations during the first part of their surgical education. Operations were observed only and the work on the wards was time consuming.

Dr. Willem Noordenbos (1875-1954), Reader in operative surgery in Utrecht since 1908, became a good friend of Esser. Noordenbos held a perfect knowledge of anatomy, due to a four year period of training with the anatomist of Groningen University Professor Jan Willem van Wijhe⁵ (1856-1935), uncle to Esser's wife. He was also a good teacher and friendly surgeon, who excelled in the technique of local anaesthesia. His operations were watched with interest and pleasure by Esser. Noordenbos left Utrecht in 1913 to accept his nomination in Rotterdam, only too glad to move at that time, because cooperation with Laméris had been difficult due to personal differences. (Van Enst, 1954).

Esser became a friend for life of Johan Gilles Remijnse (1878-1971) who was a surgeon with an almost inborn aptitude, trained by Narath. Later he became chief surgeon in Laméris' service. He moved to the Coolsingel Hospital in Rotterdam in 1920, succeeding Noordenbos, who was then nominated professor of surgery in Amsterdam (Eerland, 1971).

In August 1913, Elisabeth Josina, first daughter of Jan and Olga Esser, was born in their large house in the Nobeldwarsstraat in Utrecht.

Soon after this happy event Esser took up a locum residency in Rotterdam, to replace an assistant on leave from the Bergweg hospital. Head of department was Derk Berend Boks (1868-1937) a surgeon trained by Von Eiselsberg.

It was much easier to gain practical surgical experience at the municipal hospitals of Rotterdam, than at the University clinic in Utrecht.

When he completed his locum tenens, Esser returned to Utrecht but afterwards he took every opportunity to spend his spare time in the large Coolsingel Hospital in Rotterdam, where Dr. Jan Loopuyt (1868-1935) had temporarily replaced the deceased surgeon Dr. W.J. van Stockum (1860-1913). Van Stockum had attracted attention with his retropubic prostatectomy in 1907, nowadays named the Van Stockum-Millin operation. (Terence John Millin, contemporary urologist in London).

The practical opportunities readily available in Rotterdam far overshadowed those in Utrecht and Esser's skill rapidly improved.

He learnt the treatment of fractures with the suspension-traction method of Van Stockum, a method originally developed by Dr. Leendert Marie Metz (1871-19..), who worked with a medical Red Cross mission during the Balkan War, in 1910. For this reason the technique had been called the Balkan-frame traction. (Boerema, 1977).

The method was improved upon by Noordenbos and Esser took this knowledge with him later to the hospitals in the Austro-Hungarian Empire in 1915.

Soon afterwards Esser dissatisfied with the slow progress of his training in Utrecht departed with his family for Paris, where there were several surgeons renowned for their technical skill in facial reconstruction who had attracted many interested foreign visitors.

Plastic and reconstructive surgery in Paris

Esser settled down in Paris in an apartment on the Quai de Valmy, near the Saint Louis Hospital. In this ancient hospital he observed operations performed by the ear-nose and throat specialist Pierre Sébileau (1860-1953), who excelled in head and neck surgery and maxillo-facial work. He was also Director of the E.N.T.-department of the Lariboisière hospital, and after 1905 head of the Anatomical Institute of the Parisian hospitals, where he created a centre for technical surgical education, based on anatomical studies (Truffert, 1953). He wrote a book on cranial surgery in 1898.

Among his scholars were Fernand Lemaître (1880-1958) and Léon Dufourmentel (1884-1957), both later to become famous for their achievements in the field of plastic surgery of the face (Aubry, 1957, Dufourmentel, 1939). Esser visited many clinics of repute during his stay in Paris, and since he suffered from mitral incompetence himself, he became very interested in the treatment of cardiac ailments and attended the lectures of the cardiac specialist, Professor Henri Vaquez (1860-1936).



Hôpital Saint-Louis Paris
Courtesy Centre Médico-technique Photothèque-Paris

But the main reason for Esser's sojourn in Paris was the presence of a surgeon from Martinique, Hippolyte Morestin (1868-1919).

Morestin was a middle-aged and moody man, who was totally dedicated to surgery and anatomy and had no particular interest outside his work. He performed his operations in the St. Louis Hospital, the military hospital Val-de-Grâce, and the Rothschild Hospital.

He was a proud and intelligent surgeon of mulatto origin, the son of a physician.

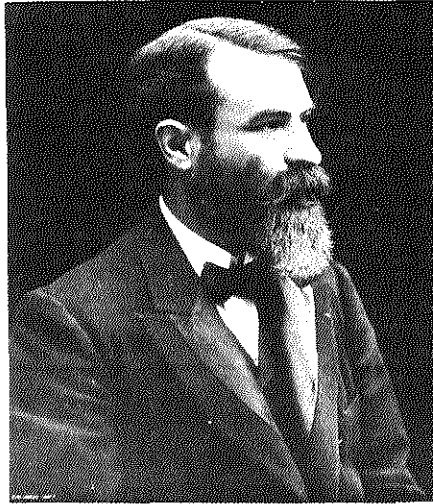
This energetic but frail surgeon of medium height and deep set dark eyes, with handsome features and a Van Dijck type of beard was also a man of high principle and moral courage, quickly aroused to anger when faced with any injustice. He was expressive and gesticulative.

The other Parisian surgeons were not enamoured with him because of his sharp and vitriolic tongue, brusque remarks and his outspoken disregard for them. He could become violently explosive in discussions and would attack furiously those who attempted to oppose him.

Due to his personal behaviour and his untimely death, Morestin never achieved a recognised university position, which he deserved because of his surgical qualities and scientific accomplishments. He was a prolific writer but his work unfortunately published only in French attracted little attention abroad. (Lalardrie, 1972). He wrote more than one hundred original articles on plastic surgery, and his contribution to plastic surgery was enormous, especially in the field of facial malformations. His articles on the surgery of head and neck cancer, Dupuytren's contracture, serial excision of large facial naevi and many techniques on facial reconstruction with wide undermining of adjoining facial soft tissue are remarkable. (Faure, 1919, 1922, Mouchet, 1919, Converse, 1968).



H. MORESTIN



Docteur P. SÉBILLEAU.
Professeur agrégé à l'École de Médecine de Paris.
Chargé de Cours de Médecine Légale, de
Cours d'Anatomie et de Médecine opératoire aux Hôpitaux.
Membre de l'Académie de Médecine.

Esser was not the only foreigner who visited this genius. A young E.N.T.-surgeon of London, Harold Delf Gillies (1882-1960) went to see him at the Val-de-Grâce hospital in 1915, and remarked on their first and only meeting: "... in the space of a single moment he could reveal the gentleness of a kitten and the savagery of a tiger"... This one meeting influenced him immensely and through it Gillies was converted to plastic surgery. (Converse, 1968, Gillies and Millard, 1957).

For six months Esser was Morestin's scholar and he watched him perform up to ten operations daily in the St. Louis Hospital. A further four months were spent with Théodore Tuffier (1857-1929) the French pioneer of thoracic, vascular and renal surgery. Tuffier had been one of the first surgeons to perform experimental surgery and he popularised spinal anaesthesia in Paris, after the introduction of this method by August Bier in 1899.

He was renowned for the surgical treatment of apical pulmonary tuberculosis by means of resection (Faure, 1929).

In the spring of 1914, war was imminent and in the Parisian hospitals notices were displayed on the walls announcing a special compulsory course for military surgeons in the St. Louis hospital.

It was not easy for Esser, as a foreigner without any military rank to be accepted for this comprehensive course to be conducted by Sébilleau but with the support of the Dutch legation in Paris, he gained a place and was in fact the only non-uniformed doctor participating. The aim of the course was to train surgeons in the shortest possible time to army standards in an up-to-date and unconventional way.

Films were shown to illustrate every operation in detail.

These operations were then practised on cadavers under the tuition of reputable surgeons until perfection was achieved.

An amazingly high surgical standard was soon achieved.

Cadaver dissections helped Esser enormously to develop several surgical techniques, which he used later in facial reconstructions during the Great War.

The summer holiday of 1914 was spent in Holland, and in the mean time Esser tried to solve the financial problems of his sister, who was a dentist in Utrecht. At that time she was divorced and had one daughter. Without her knowledge he acquired a good dental practice for her in Eindhoven in the province of Noord-Brabant, from a German dentist Dr. Stehr, who was forced to return to his native country by the impending war.

Esser was disappointed to learn that his sister was adamant in not going to Roman-Catholic Eindhoven, because of her devout Protestant belief. For a short period he practiced dentistry himself, enjoying this sudden and unexpected career, in which he was at least theoretically well trained. He liked manual precision and his "Inlay" technique (1915) was based on his experience and knowledge of dentistry.

After eight weeks a Belgian dentist took over his dental work and shortly afterwards Esser sold his practice.

On the declaration of war in 1914, France closed its borders to foreigners and it became impossible for him to return to Paris.

He wrote a letter to Tuffier, then appointed as consultant surgical specialist to the French army, offering his services, but France declined his offer, refusing all foreign doctors at that time. A similar letter to England remained unanswered.

Saltet had been Professor of Hygiene and Public Health in Amsterdam since 1896 and his wife was Austrian.

Delighted, Esser left Rotterdam for Utrecht. It was easy to persuade four loyal nurses of the University clinic to accompany him to Austria-Hungary. He was fortunate to recruit a first class theatre nurse, Maria Sondervan, and with her and three other nurses he left by train for Moravia. His training in surgery had lasted only two years!



Coolsingel Hospital Rotterdam
Operating theatre

The Great War or World War I (1914-1918)

The assassination of the heir to the Austrian throne, Archduke Franz Ferdinand (1863-1914) and his wife Sophia Chotek, by Gavrilo Princip, a Bosnian Serb, at Sarajewo in Bosnia on June 28, 1914 at 11.15 p.m., was the climax of a series of political and military crises in Europe, that led to the outbreak of the First World War in July 1914.

The Austro-Hungarian Empire suffered from complex ethnic problems, and the government was ineffective in both home and foreign affairs. Franz Joseph (1830-1916), a Habsburg monarch, was emperor of Austria (1848-1916) and king of Hungary (1867-1916). A Hungarian governor ruled Croatia-Slovenia more or less as a dictator. Bosnia and Hercegovina, belonging to the Ottoman (Turkish) Empire, was annexed by Austria-Hungary in 1908.

The Austro-Hungarian government held Serbia responsible for the assassination of Franz Joseph's nephew and presented an unacceptable ultimatum to Serbia, with the aim to provoke a war.

The political murder in Sarajewo was the occasion to deal adequately with the Serbs and enhance the prestige of Austria-Hungary in the Balkan area. Evidence showing implication of Serbia, for this double murder, was however never substantiated.

Emperor Wilhelm II (1859-1941) of Germany had allowed the Habsburg monarchy on July 5, 1914 to act against Serbia, and he had promised support if Russia should intervene in this conflict.

Serbia's answer to the Austro-Hungarian accusation was regarded as unsatisfactory, and war against Serbia was declared on July 28, 1914. Belgrade was bombarded on July 29. Russia's answer was a partial mobilization against Austria-Hungary, to be followed by a general mobilization on July, 30.

Germany warned Russia against mobilization, and declared war against her on 1 August 1914. Austria-Hungary followed the same line, and declared war against Russia on August, 5.

Russia, France and Great-Britain were united in the Triple Entente, an agreement which obliged the allied countries to support each other in the case of war of aggression. France ordered general mobilization in response of Germany's declaration of war to Russia.

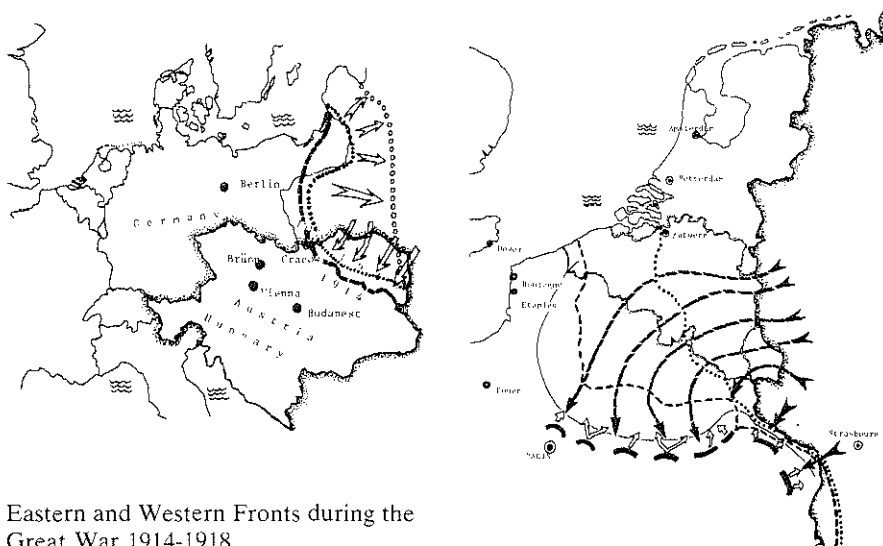
Germany sent troops into Luxembourg on August 2, and declared war against France the next day, aiming to crush the French army in a few weeks time, and to be defensive against Russia in the beginning. Germany had adopted a plan for a rapid offensive against France, to be followed by an attack on the slow Russian "steamroller".

In the night of August 3, 1914 German troops invaded Belgian territory

which provoked Great-Britain to declare war against Germany on August 4. The war escalated rapidly, and soon declarations of war followed by Montenegro, Japan and Belgium.

The war was initially not progressing very well for the Austro-Hungarians in Serbia and Galicia. Their multiracial army with its complex ethnic controversies was not very strong.

The Habsburg dynasty was eventually rescued by a strong German army, which drove the Russians out of Galicia in early 1915, and invaded Serbia later. The German forces were far superior to its Austro-Hungarian counterpart. The Habsburg navy especially was not impressive, and Trieste was their only naval base.



Eastern and Western Fronts during the Great War 1914-1918

Soon Austro-Hungary became militarily completely dependent on Germany, and in fact it became a German satellite.

The Germans had several material advantages at the onset of this war. They had a well trained and disciplined army, which possessed adequate numbers of heavy weapons, like the outstanding 5,9 inch howitzers, and their infantry had many machine guns.

Of paramount importance was their railway communication system, which was much more advanced than that in any other European country. With this system troop transportation was easily established and it made a war on two fronts possible.

Russia's manpower resources were enormous, but the leadership was corrupt and incompetent, resulting in a poor military communication system. War-industry was poorly developed, and military equipment, even rifles were short in supply.

Great-Britain still ruled the waves, but soon British supremacy of the sea was challenged by a rapidly expanding German shipbuilding industry. British

industrial power was however the greatest of all the Entente countries. Britain was especially vulnerable to the expanding German fleet and due to its isolation it could be starved in a couple of months when outside supplies were cut off.

Since Germany's oil- and coal reserves lay dangerously close to its borders in Silesia on the east and Lorraine and Westphalia in the west, an offensive war was vital to the Central Alliance, Germany and Austria-Hungary.

The French general staff was most competent, but they were outnumbered by the German forces. Superior in the French army was the famous 75 mm quick-firing field gun.

Holland remained neutral in this international conflict and Italy also declared neutrality, refusing to fulfill the Alliance with Austria, and on May, 22, 1915 even declared war on Austria!

The first clash with the armies was in Belgium and the North of France in the west, and in Galicia and East Prussia on the Eastern front. During the Galician battles the Austrian army had to retreat almost to Cracow. The Russians were pressed back by German intervention, and this campaign proved the German strength, on defeating a much larger Russian force. From January until April 1915 the Russians tried to gain possession of the Carpathian mountains and the way to the Hungarian plains under bitter winter conditions.

This battle was lost by Russia, and there were many casualties, most of them suffering from frostbite.

World War I was characterised by two phases. Until 1916 it was a mobile conventional war. Afterwards the war became more desperate. In the west lines of trenches stretched nearly from the Swiss border to the French-Belgian coast.

The Germans occupied Belgium and the North of France on the Western front.

New and more heavy weapons were introduced, like the invincible British tank in 1916, which was capable of crossing trenches, Zeppelin raids (1915) and later airplane raids on the English coast by the Germans and the introduction of gas during the Battle of Ypres in Belgium (1915).

On April 7, 1917 the United States of America entered war against Germany, already provoked by the sinking of the "Lusitania" on May 7, 1915, and proof of a planned submarine base in Mexico by the Germans. A large scale submarine war was launched by Germany with the declaration of unrestricted submarine warfare. War became total, being fought on land, at sea and in the air.

During this violent turmoil plastic surgery made enormous strides.

War surgery in Brünn

It took the Dutch team two days to reach Brünn (now Brno in Czechoslovakia) on the evening of May, 19, 1915 via Berlin. The capital of Moravia possessed 19 Reserve hospitals and 10 Red Cross Hospitals.

They were housed in the Imperial and Royal Reserve Hospital number 2, a base hospital situated at a relatively safe distance from the Eastern front, approximately 300 kilometers from Cracow.

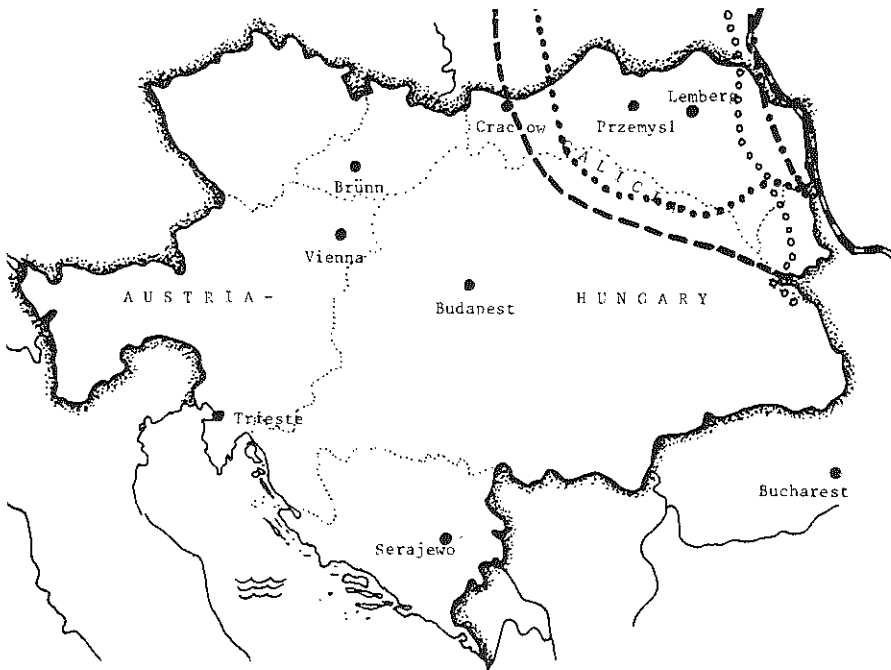
They were instructed by a letter of the War ministry to report at that hospital. (...Anstellung im Reservespitale II Brünn, Dr. Esser mit 4 Schwestern...).

This large hospital of approximately 3600 beds was housed in wooden barracks apart from the brick-built theatre block.

The responsible chief surgeon of the hospital was the overburdened Dr. Hugo Leischner (1877-1957), a former assistant of Von Eiselsberg in Vienna, who in 1913 was appointed Director of the Landeskrankenhaus in Brünn. The commander of the hospital was Colonel Dr. Eduard Starrach. (1866-1933). The medical staff consisted of twelve physicians.



Imperial and Royal Reserve Hospital Nr. 2. Brünn 1915



Map showing the distance from the Eastern front

Soon after his arrival Esser was confronted with a seriously wounded soldier, who had arrived in the hospital a few days before. Starrach asked his opinion, and a thorough examination of the unconscious soldier revealed a bullet lodged in the brain with abscess formation. Trepanation was carried out by Esser, and the commander watched the operation. Esser enjoyed the challenge of the operation and under relaxed conditions, the operation was carried out with the help of his own Dutch team.

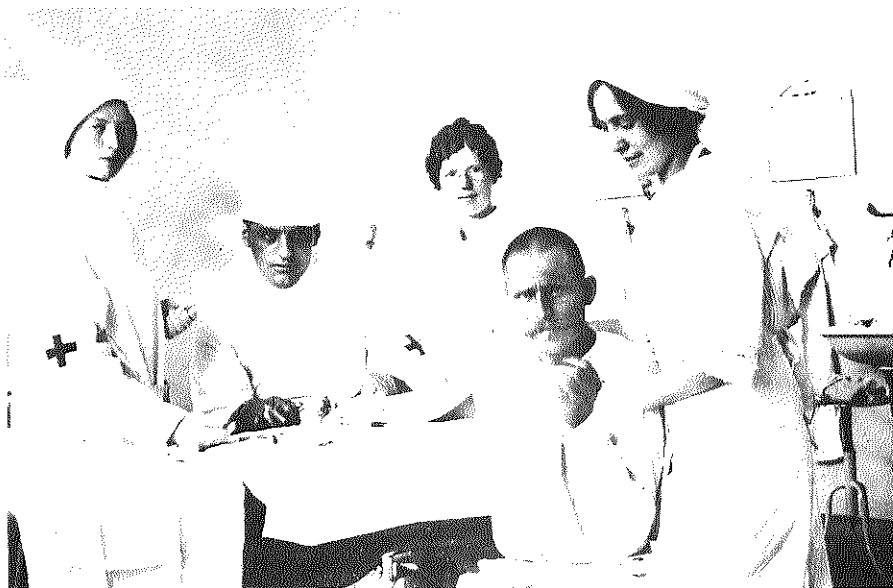
His 26-year old theatre nurse Maria Sondervan excelled under such conditions, and later she was promoted to become his first assistant.

The first surgical interventions were mainly bullet extractions, amputations and the treatment of infected wounds with abscess formation caused by shrapnel fragments. Osteomyelitis was common and trepanation of the skull was often required.

Anaesthesia in Brunn consisted of local (75%) and general anaesthesia (25%). Novocaine with adrenaline, ethylchloride freezing and cocaine was used for local anaesthesia. Aether, chloroform and ethylchloride for general anaesthesia.

By order of Commander Starrach, the promising young Dutch surgeon soon replaced Dr. Leischner.

Two of the Dutch nurses assisted in the operation theatre, the other two were in charge of two barracks consisting of fifty beds each to supervise the nursing of the post-operative patients.



Handsurgery in Brünn. 14-6-1915
Maria Sondervan assisting Esser

These were hectic times, working 16 hours daily, and close contact was kept within the Dutch community.

Within a few months an extensive experience in traumatology was gained and soon, also, in reconstructive surgery such as cheek, nose and eyelid reconstructions, nerve surgery and even operations for cleft lip and palate.

Large numbers of patients were admitted to the hospital and depending on their injuries patients were housed in different barracks.

Gradually there was an increase in patients requiring facial reconstruction. Here Esser developed the arterial flap technique, the epithelial inlay, and the rotation flap of the cheek all of them fundamental and new techniques.

These, often multistaged, plastic reconstructions attracted the attention of the local population and distinguished Red Cross ladies paid visits to his department, even watching operations.

Doctors and nurses in the hospital were equally interested and the results of reconstructive surgery on wounded soldiers were demonstrated by Esser during evening medical meetings in Brünn.

These conferences were also frequented by Red Cross officials mainly women who could not be refused, since their husbands were influential military and civilian authorities.

The popularity of Esser and plastic surgery in general was increasing. Soon he was informed by the military chief of Moravia, Lieutenant Fieldmarshal Eugen Pöschmann (1857-1939), that he was the "talk of the town".

Medical representatives from the War office, on inspection tours of the hospitals visited Esser's department with the large number of plastic surgical cases.



Staff posing in front of the statue of Kaiser Franz Joseph. Res. Hospital nr. 2 Brünn

He expressed to them his wish to operate full time on these types of patient. A better standard of patient-care could be provided with a centralization of these patients within the hospital.

An agreement was reached and by order of the Chief army surgeon of Lower-Austria and Moravia Dr. Julius Schwartz (1858-1915), and Pöschmann, all patients from the area requiring plastic surgery had to be referred to Esser's clinic for further treatment:

Militärkommandobefehl Nr. 178 of 18th October 1915:

Verwundete, welche plastische Operationen benötigen und sich in Verwundetenspitälern des Militärkommandobereiches in Mähren befinden, sind zur Ausführung dieser Operationen rechtzeitig in das Reservespital Nr. 2 in Brünn zu transferieren.

A military order issued on November 23, 1915 even stated that he could personally choose his own patients from all the hospitals in Brünn too.

In the beginning there was a strong opposition from other surgeons in the fieldhospitals, and only a few cases were referred. With some attempt at diplomacy, Esser visited nearby hospitals explaining the reasons for the military order.

He was well received by the surgeon Professor Ludwig Rydigier von Ruediger (1850-1920) at the Imperial and Royal Warhospital in Brünn. Rydigier was born in Dossoczyn in West-Prussia, and moved in 1897 to Lemberg as professor of surgery. He had been trained by Bernhard von Langenbeck. He was an active Polish nationalist, who had been previously imprisoned by the Prussian authorities for this very reason (Veltheer, 1981).



Nurses of the hospital in Brünn.
Dutch nurses on the second row on the left side

He had a great reputation in the field of abdominal surgery.

The military statements were shown to him by Esser and Rydigier complying with these orders, showed him some cases, which included amputees with poorly healed stumps. Esser suggested a padding of these stumps with bipediced visor flaps.

Rydigier accepted the proposed therapy and afterwards even produced a paper on the subject, called: "Zur Behandlung der Schussfrakturen des Oberschenkels" in 1916. Soon the method was to become known as Rydigier's method, much to Esser's annoyance.

Hospital life became extremely busy and new plastic reconstructive procedures were introduced. Due to the quality and quantity of Esser's work, the commander offered him improved accommodation, rent free and suggested to the War Ministry an increase of his salary to 30 Kronen daily.

...Dem beim Reservespital Nr. 2 in Brünn in Dienstverwendung stehenden Holländische Arzt Dr. Johann Esser wird mit Rücksicht auf chirurgischem Gebiete erzielten hervorragenden Erfolge ausnahmsweise eine Honorarerhöhung...bewilligt...

Vienna, August 25, 1915
K.u.k. Kriegsministerium

Esser declined the offer of the house, because he considered it too far away from the operating theatre, although this was within ten minutes walking distance.

The Red Cross society invited him to speak on plastic surgery. Many nurses were interested and his words fired enthusiasm and ignited a demand for

cosmetic surgery, which spread like an epidemic. First a Dutch nurse and later Austrian nurses were asking for cosmetic rhinoplasties. After a few operations Esser was to disappoint them, because there was no time or money for purely cosmetic operations in war time.

When winter was setting in, the War ministry decided to evacuate the hospital, because of its inadequate heating system and a change in the location of the Eastern front. The hospital was soon too far away from the battle fields. A new attack against Serbia had begun and it was decided to move the hospital to Belgrade.

Bulgaria had joined the central alliance and Germany supported the combined attack of Austria-Hungary and Bulgaria against Serbia, which took place in October 1915.

Esser and his Dutch team stayed in Brünn from May 1915 to December 30, 1915 and were then at the recommendation of Pöschmann transferred to Vienna to perform plastic surgery for the army, in a well equipped hospital.

Vienna

The Dutch team happily left for Vienna in January 1916. Forty patients requiring further treatment were transferred with them to Vienna, because the plastic surgical department in Brünn was closed:

Militärkommandobefehl Nr. 9, Vienna, January 13, 1916

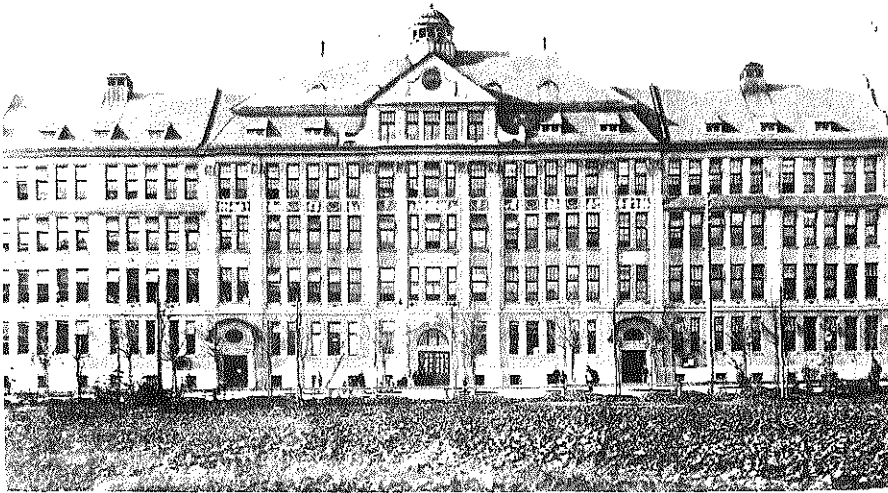
Die mit Militärkommandobefehl Nr. 178 von 1915 verfügte Abgabe Verwundeter, an welchen plastische Operationen vorzunehmen sind, aus den Spitälern in Mähren an das Reservespital Nr. 2 in Brünn, hat nicht mehr zu erfolgen.

Esser's wife arrived from Holland, and was trained as a theatre nurse by Maria Sondervan.

Esser was nominated chief-surgeon to the Imperial and Royal Reserve hospital, number 8, situated in Wien-Meidling, and shortly afterwards he extended his practice to the Reserve Hospital Nr. 17. The reserve hospital number 8 was a well built American Red Cross hospital, that had been recently evacuated by the Americans, although they had entered in the war



The Dutch team in Vienna 1916



K. u. k. Reservespital Nr. 8, Wien XII, Johann Hofmannplatz 20.

against Germany only much later, on April 6, 1917. On his arrival Esser introduced himself to the director of the first surgical university clinic of Vienna, Anton Freiherr von Eiselsberg, leading abdominal surgeon in Austria of whose fame he had heard so much in Holland. From 1901 to 1938 he was professor of surgery in Vienna, the successor of Professor Eduard Albert (1841-1900). Von Eiselsberg was at that time officially consultant surgeon to the War ministry with the rank of Admiral of the Austrian navy. (Admiralstabsarzt).

On meeting this famous man, Esser told him he was appointed by the War office as plastic surgeon to the army, to work in the Imperial and Royal reserve hospital 8:

Militärkommandobefehl Nr. 27, Vienna, February 4, 1916

Mannschaftspersonen, welche nach Verwundungen einer plastischen Operation bedürfen, können von SanAnst. im gegenseitigen Einvernehmen an das Reservespital Nr. 8 in Wien, XII, Johann Hofmannplatz, transferiert werden, wo ein in dieser Disziplin ausgebildeter Arzt eingeteilt ist.

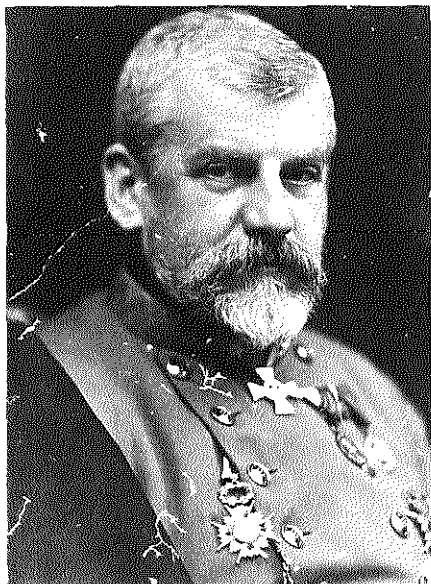
From the start Esser was on bad terms with Von Eiselsberg, who was opposed to the idea of a specialised branch of plastic surgery. He initially ordered Esser to perform general surgery only, and told him that general surgeons were perfectly capable of performing reconstructive procedures, as indeed he and Leischner had also published on plastic procedures in medical journals, like rhinoplasties, eyelidsurgery, toe-to-finger transplants and lower lip reconstructions. (Boks, 1899, Von Eiselsberg, 1902, Leischner, 1906, 1907).

In every possible way Esser was obstructed in his efforts to create a separate speciality of plastic surgery.

Von Eiselsberg proved to be a powerful and influential opponent, moreover he was a highly esteemed surgeon of world renown.

Professor Julius von Hochenegg (1859-1940), director of the second university surgical clinic of Vienna, and successor to the great Billroth and surgeon to Emperor Franz Joseph was then approached to Esser's ideals of establishing plastic surgery as an autonomous speciality. Von Hochenegg held a similar position to Von Eiselsberg, but was a ranking general in the army.

Esser introduced himself to Von Hochenegg's first resident Fritz Demmer (1884-1967), explained that the War ministry had appointed him as plastic surgeon to the army in Vienna, and described his difficulties with Von Eiselsberg.



Prof. Julius von Hochenegg



Dr. Fritz Demmer

An introduction to Von Hochenegg was then arranged, who willingly listened to Esser's ideas, and agreed that reconstructive procedures in this war were difficult and demanding, requiring special techniques. He was in favour of Esser's proposals to concentrate patients requiring this type of surgery in one hospital, and advised him to write articles on his techniques, explaining that it was asking too much of Billroth's and Albert's successor to send all plastic cases to an unknown Dutchman.

At his suggestion Demmer was to be sent to Esser's hospital as an observer of the operations on the forty patients from Brünn. Demmer intensively examined the patients, and the first part of the battle was won.

Soon afterwards Von Hochenegg offered Esser a difficult testcase, to be operated on in the University hospital.

The patient was a soldier whose lower lip and chin had been shot away. Previous attempts at reconstruction by Von Hochenegg himself had all failed.

K. u. k. RESERVE-SPITAL Nr. 8.

XII, Johann Hoffmann-Platz Nr. 20.

✚ Amerikanische Rote Kreuz-Mission. ✚

Telephon-Automat 82367.

WIEN, 9. März 1916.

Liebtester Herr Portier:

Da ich ja doch nicht weiss, wann ich Sie wieder
zu Gesicht bekommen werde, muss ich wohl
oder übel zum brieflichen Verkehr übergehen.

Meine Ordinationsstunden sind im hiesigen
Krankenhaus - Sie haben nämlich entgegen
meiner Absicht den Platz Ihrer Frauassistenten
statt zur Zeit der Morgenvisite um 8 Uhr
erst zu Mittag vorgenommen - und da die
Leute ebenfalls infolge der neuen Veranordnung
schwerer arbeiten, sind sie dadurch ganz ver-
zweifelt geworden.

Auf Grund dieses Falles muss da ich es
immer mehr eintreten, dass es wohl sein
muss, bin ich zu meinem Gedankens
geneigt Sie zu besuchen doch im Sinne
des Arztsreglements jeden Tag um 8 Uhr

Reprimanding letter of the commanding officer of the Imperial and Royal Reserve Hospital Nr. 8 in Vienna, Dr. Armin Würmfeld (1879-19??)

During discussions the operative plan was outlined and the operation was carried out by Esser and his own Dutch staff in the demonstration theatre. The reconstruction was achieved in a single operative procedure, whilst Von Hochenegg gave a running commentary to the audience. He introduced Esser to them as a capable young Dutch surgeon, who was nominated by the War ministry as plastic surgeon to the army.

The operation was successful and Von Hochenegg promised to send Esser all cases requiring plastic surgery. He also invited him to operate in the University hospital for teaching purposes.

Both University dental institutes of Vienna were visited afterwards, and here Esser demonstrated his epithelial inlay technique for grafting of defects in the oral cavity, a technique which he had developed in Brünn.

The directors of the institutes, Professor Gustav Ritter von Wunschheim (1865-1938) and Professor Rudolf Weiser (1859-1928) were interested, but pointed out that the surgeon Dr. Camillo Foramitti (1875-1954) was performing their reconstructive work.

Esser soon gained however the cooperation of Weiser and supported by Von Hochenegg and Weiser, he held now a stronger position in his battle with Von Eiselsberg, who remained adamant.

During an inspection tour, Von Eiselsberg paid a visit to Esser's department, impressively uniformed as Admiral of the Navy, followed by a consort of Naval officers. He ignored the civilian Esser completely, and instructed the military commander of the hospital to admit general surgery cases only. Relations with the military hospital authorities were deteriorating quickly due to Esser's complete lack of military attitude. He did not obey military orders, performed the obliged morning rounds in the evening, and took his theatre nurse without permission with him to other hospitals.

On March 25, 1916 he was officially transferred to the reserve hospital number 17, where he had to restrict his medical activities to reconstructive procedures of the face. Further lack of discipline caused his discharge by the War Office on June, 21, 1916.

At that time Esser was working for several months already at the surgical university clinic of Von Hochenegg, who valued his work much. Hans Pichler (1877-1949), the dental surgeon in Eiselsberg's clinic and Egon Ranzi (1875-1939), senior assistant general surgery, both later used extensively the epithelial inlay technique.

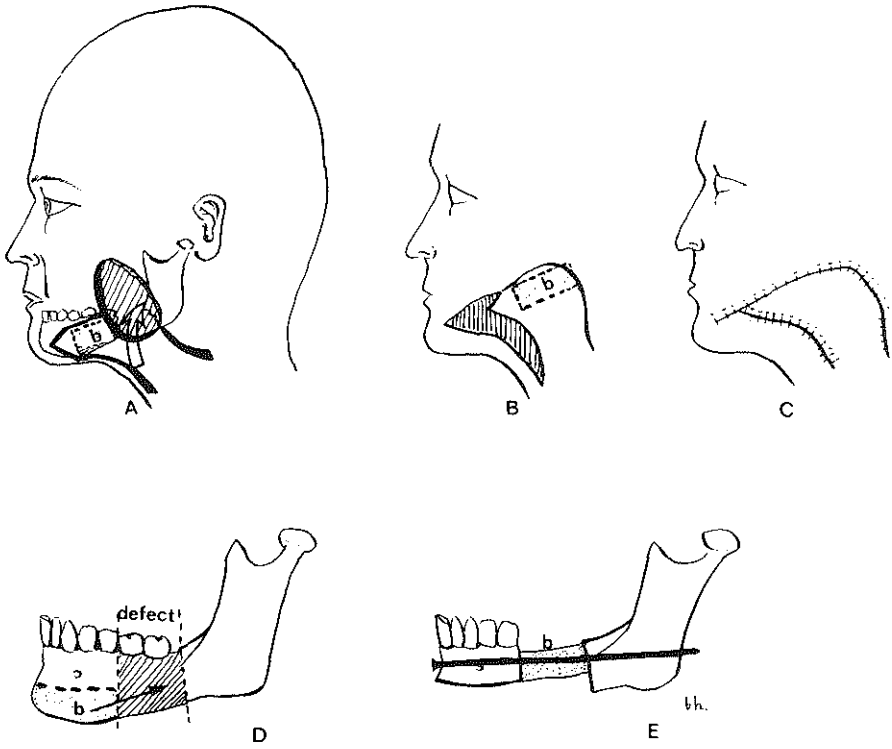
Pichler had been head of the department for maxillo-facial surgery (Station für Kieferverletzte) since September 1914. He was "Zahnarzt und Linien-schiffarzt am Kriegsdauer", and did much for the establishment of oral surgery. (Obermayer-Marnach, 1979).

Esser showed him a method of replacing missing bone in fractured mandibles with the use of bone of the adjoining area, without impairing its vascularity, the bone still connected by a musculocutaneous flap. In 1917 Esser published this method in a paper entitled "Lokale Knochenplastiken bei Unterkieferdefekten" in Germany and in the United States of America. Pichler at the same time published on this subject, without mentioning Esser: "Ueber Knochenplastik am Unterkiefer".

Ranzi, Von Eiselsberg's son-in-law, reported favourable results of the Thiersch inlay grafting technique in reconstruction of the urinary bladder after excision for carcinoma (1917).

Due to his publications in German and American journals of surgery and his lectures to the medical society of Vienna, Esser began to attract visitors, even from the Budapest area.

In Vienna however, Esser was obstructed even at meetings of the Viennese



Mandibular reconstruction.

Fixation of the bony fragment with an ordinary nail.



Photograph showing the nail in position in the chin

medical association by its President Von Eiselsberg. He allowed him only very limited time for demonstrations of his patients.

With the help of Von Hochenegg, Weiser, the Dutch legation and later Professor Heinrich Neumann (1873-1939), E.N.T.-specialist in Vienna, Esser was afterwards recognised as a plastic surgeon in Vienna.

Neumann had been very impressed by his way of reconstructing mutilated ears with cartilage grafts and epithelial inlays.

From January to July 1916 Esser operated in Vienna. Then he was invited by the E.N.T.-specialist Professor Adolf Ónodi (1857-1919) to operate in his new clinic in Budapest.

After performing operations for a few days, he returned to Vienna, and worked in Von Hochenegg's clinic until November 1916.

Esser's opinion was that he had wasted much valuable time in Vienna, and in November 1916, generally accepted as a plastic surgeon, he happily left for Budapest, where working conditions proved to be ideal for his cause; namely the organization and establishment of plastic and reconstructive surgery as a separate speciality.

Budapest (1916-1917)

In Budapest Esser was accommodated in the Reserve Hospital for Amputees. The director of this hospital was the surgeon Professor Tibor Verebely⁶ (1875-1941), who before this appointment was employed in the municipal hospital and in the St. Stephan's Hospital for Sick Children in Budapest. Verebely was extremely cooperative and kind, and invited Esser to perform plastic surgery in the university surgical clinic.

During this period a lot of reconstructive work was carried out in the E.N.T.-clinic of Ónodi, in the hospital for maxillofacial injuries and in the Révész Utca Hospital, under the directorship of Professor Lajos Bakay (1880-1959) and Verebely.

Esser could gather his patients from these five centres and from each hospital a selection of mutilated cases was quickly made.

This third period of approximately eight months in Austria-Hungary spent in Budapest was totally dedicated to plastic surgery. He no longer encountered opposition and working conditions were perfect.

The principles of plastic surgery, developed in Brünn in 1915 and Vienna in



Budapest 1916. Sitting is Mrs. Esser. Also sitting on the bed the patient with the so-called "foot-hand"

1916 were now tested in a large series and perfected, thoughts and theories materialized.

Nearly all his time, including Sundays was used to apply and develop new techniques and principles in reconstructive surgery based on the arterial supply of skinflaps and the versatility of inlay grafting.

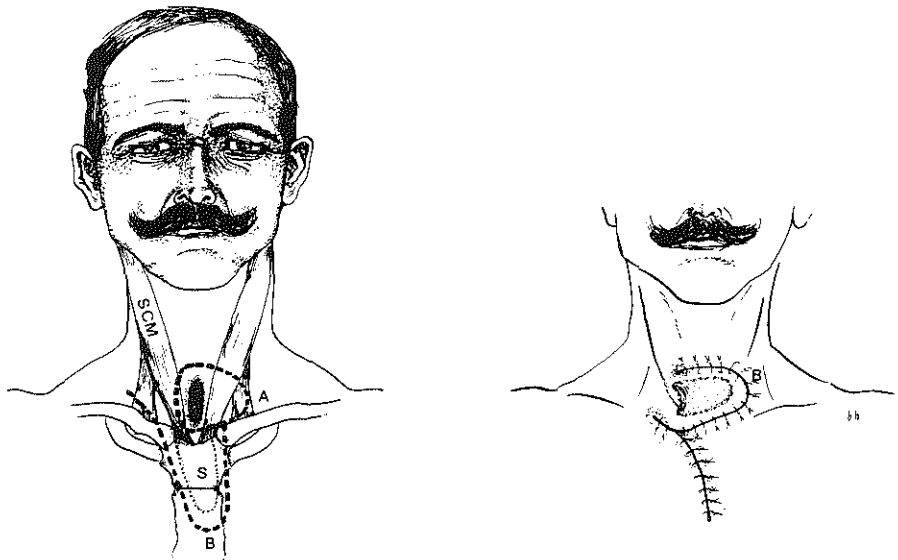
Important review articles on large series of surgical reconstructions were published in reputable medical journals.

A typical paper published at this time was based on an exceptional number of tracheal defects, which were the tragic outcome of a typhus epidemic that had occurred in the Carpathian mountains at the Eastern front.

These patients were collected and admitted to the E.N.T.-department of Ónodi. The poor victims were all suffering from chronically infected airway systems, heavily scarred tracheostomies and tracheal strictures. The first patient to be operated on by Ónodi, had died with pneumonia, because of masses of dense scar tissue which constricted the trachea. The E.N.T.-professor could not offer any help and had to abandon his surgical attempts. Esser developed an original treatment in which he introduced a composite tissue transfer, including bone, muscle, skin and subcutaneous fat, on a vascular pedicle. This method is named nowadays an osteomusculocutaneous transfer. (Green et al, 1981).

The bone graft, consisting of a split sternum, was pedicled as a cervico-thoracic flap, retaining its bloodsupply through its attachment to the sternocleidomastoid muscle. This external flap covered a lining hinged flap of local skin.

The results of this complicated technique were extremely satisfying. Unfortu-



Pedicled composite transfer of split sternum.
SCM=Sternocleidomastoid muscle

nately four patients from this group of twenty-five patients died from pneumonia.

Impressive group photographs showing the appalling preoperative condition and the postoperative improvement, were reproduced in the "Archiv für klinische Chirurgie". (Verschliessung von Larynx- und Trachealfisteln oder Defekten mittels plastischer Operation. Esser, 1917 p).

Successes were described, but so were failures and fatalities.

A patient was operated in Verebély's clinic for excision and reconstruction of a large recurrent malignant tumour of the lower part of the face. The patient was given up, as a hopeless case, who however remained alive for months in an appalling condition. A second opinion was sought of Esser by Verebély. Esser considered a palliative procedure worth while and the patient eagerly accepted this slender chance. The excision and successful reconstruction took several hours, carried out under local and regional anaesthesia with novocaine. The defect was closed with an extensive rotation flap of the cheek, neck and shoulders. Unfortunately the patient died immediately after the operation. Moments before death the pulse rate and breathing had been recorded as normal. On postmortem examination no causes were found related to the operation.

Esser described this case in his first book on the rotation flaps of the cheek in 1918 (Esser 1918 j).

In Budapest the Esser family was reunited and his four year old daughter even picked up the difficult Hungarian language with ease.

Social and professional contacts were remarkable different in Budapest. Major Dr. Istvan Zaborsky (1873-1954), a military surgeon, and his wife, an opera singer, had already been welcome visitors in Vienna during a famine period there in 1916.

Hungary controlled the food supply of the Austro-Hungarian Monarchy, and Zaborsky always brought fresh food supplies. He had invited Esser many times to visit and stay in Budapest, where his expertise was welcome. Manninger was another friendly and original surgeon, who introduced electrocauterization in cancer surgery, to prevent the spread of cancer cells. His technique was delicate and exact, humming softly to himself whilst he operated. He had become chief surgeon of the St. Margit hospital in Budapest in 1908, and since 1914 also in the St. János Hospital. He became professor of surgery eventually in 1926. In his book written in 1942 "Kampf und Sieg der Chirurgie" he gave credit to the role of Esser with the introduction of basic principles in plastic surgery, like the physiological principles in flap design, and the use of inlay grafting.

Manninger and the inventive surgeon Jenő (Eugene) Pólya (1876-1944) in St. Stephán's hospital in Budapest were renowned outside Hungary. Pólya had a reputation the world over as the leading abdominal surgeon of Hungary, and he introduced many new original methods, including his technique for gastrectomy. He also applied Esser's basic principles like the rotation of the cheek and the arterial flap many times in head and neck surgery. (Pólya, 1926). Later he was to be murdered at the hand of the antisemitic Nazi-regime.

Esser's work was recognised and much valued by Professor László Blaskovics

(1869-1938), head of the department of ophthalmology in the St. Stephán's hospital in 1905 and Director of the eye-hospital of Budapest in 1907. In 1912 he became extraordinary Professor of Ophthalmology. His appointment as Professor of Ophthalmology in Debrecen followed in 1921, and in 1928 at the university of Budapest. He himself was renowned for plastic surgical operations on the eyelids and twenty years later he was to translate Esser's book on the biological flaps into his native language. ("Arcmütétek Biológiai Karéjjal - Esser", 1938).



Prof. L. Blascovics

Josef Imre (1884-1945) a younger man in his service, had also a good reputation for accurate technique and wrote a book on eyelidplasties, when he became professor of ophthalmology in Pécs. ("Lidplastik und plastische Operationen anderer Weichteile des Gesichts", 1930).

In the Révész Utca hospital, a rehabilitation institute with 1200 beds, Esser had an unrivalled opportunity to operate on patients with unstable amputation stumps, caused mainly by frostbite. He utilized various techniques, including cross-leg flaps and cineplastic procedures, based on Giuliano Vanghetti's (1861-1940) principles.

In cineplastic operations the residual stump muscles of an amputee are used to operate a prosthetic device. Vanghetti was an Italian physician who developed this technique in 1898, in experimental work on chickens. (Kessler and Gelb, 1954).

Antonio Ceci (1852-1920) surgeon of Pisa, was the first to present a case report of a human patient, based on Vanghetti's ideas in 1905 at the National Italian surgical congress in Pisa. (Bosch Arana, 1920, Soerjanto, 1971).

Great interest was shown for this technique during the first World War, and



Rehabilitation of hand- and arm amputees

many modifications were recommended and tested. (Esser, 1917, Sauerbruch, 1918).

The cross-leg flap, originated by Frank Hastings Hamilton (1813-1886) in 1854, professor of surgery at the University of Buffalo in the United States was widely used, even in Europe by Billroth in 1874. (Stark, 1952).

Esser used slightly modified cross-leg flaps and published the results of this method in 51 patients treated in Budapest, and by invitation in Breslau, in 1917 in "Bruns Beiträge zur klinische Chirurgie". His flap design was longitudinal instead of transverse, paying attention to the vascular axis of the flap. He thought it important to prepare the patient psychologically before the operation, in order to maintain the required and fixed position for several weeks. Before being immobilized in plaster casts the patients had to practise these postures.

For the replacement of lost fingers and the thumb, toe-to-hand transfers were carried out by Esser, using Nicoladoni's technique.

Karl Nicoladoni (1847-1902) was professor of surgery in Graz from 1895-1902. His best known scholar was Erwin Payr (1871-1946), professor of surgery in Leipzig from 1911-1936. Nicoladoni was one of the first to use a tubed flap, from the thoracic area to reconstruct a thumb in 1897, more than fifty years after Dieffenbach's description in 1845 and nearly thirty years after David Prince's (1816-1889) of Jacksonville, Illinois description of a tubed flap in 1868, but long before the description of Vladimir Petrovich Filatov (1875-1956) of Odessa, Hugo Ganzer (1879-1960) of Berlin and Harold Delf Gillies of London, who popularised the use of tubed pedicled flaps after World War I. (Barsky, 1959).

Nicoladoni's technique for replacing fingers with toes was a two-stage procedure. A flap on the foot was raised at the base of the toes and the

remnant of the hand was attached to this flap for several weeks. After this period of immobilization the pedicle was divided, and further inseting took place.

Esser carried out his first hallux-to-thumb transfer in Budapest in 1916 on a sixteen year old blacksmith and produced a powerful and aesthetically good looking thumb. News of this case reached the local press in Budapest, which announced the first transplant of that kind that had ever been carried out in Hungary. Many more toe-to-hand transfers were carried out, sometimes in combination with cineplastic repairs on mutiple amputees.

Osteoplastic repairs with rib and additional skincovering were also performed.

Most of these hand reconstructions were very complicated and a patient with a socalled "foot-hand" attracted worldwide acclaim. This striking result was achieved in a soldier who had lost most of his hand, when a grenade exploded prematurely.

The hand was reconstructed by transplanting four toes " en bloc ", with the middle foot to the hand. Walking was not seriously impaired by leaving three resting points on the foot intact.

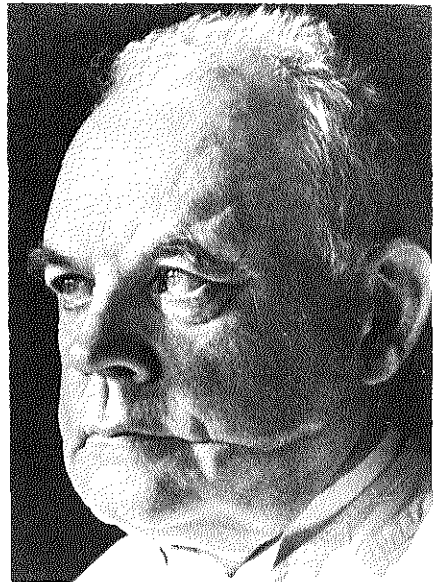
This case was referred to for more than twenty years. Reports with photographs of this exceptional case appeared in many textbooks.

Due to publications of a series about such successful operations Esser attracted the attention of German surgical leaders in Breslau, Leipzig and Berlin. During his summer holiday trip to Holland in 1917 he visited the surgical clinics of these towns.

In Breslau he visited Hermann Küttner's (1870-1932) clinic, where he was well received by Dr. Lothar Dreyer (1881-19..), since Küttner himself had been working at the front as a General-surgeon. Dreyer consulted with Esser



August Bier



Emil Krückmann



Hermann Schröder
(Courtesy Prof. Hoffmann-Axthelm)

on some difficult cases which they operated upon together during July 1917. In Leipzig he was welcomed by Erwin Payr, who was also interested in reconstructive surgery and had published work on plastic surgery of the ear, rhinoplasty, thumb reconstruction, ribgrafts and total reconstruction of the oesophagus.

Esser paid a most important visit to Berlin on his return trip from Holland to Budapest in 1917.

In the surgical university clinic of Professor Karl August Gustav Bier⁷ (1861-1949) he was welcomed by Professor Hermann Schroeder (1876-1942) of the dental department ("Zahnärztliches Institut"). He introduced Esser to Bier and to the ophthalmologist Professor Emil Krückmann (1865-1944).

Krückmann, the eye-specialist, was a sincere man, with a good sense of humour. He was a clever and sharp observer, who admired Bier very much. He had been working in the eyeclinic of Leipzig from 1895 to 1907, and since 1912 he was appointed professor of ophthalmology in Berlin.

Esser was invited by Bier, Krückmann and Schroeder to stay and work in Berlin. The decision to move to Berlin was not easy, and at first he hesitated. Working conditions were excellent in Budapest with an abundance of patients waiting for him there. He did not expect to have all these opportunities and would probably have less work in Berlin.

In the initial phase a salary was offered to him from the professors' own funds, until the official appointment was confirmed by the ministry. Bier offered Esser all plastic cases from civilian and military sources. Krückmann proposed the same arrangement for patients needing eyelid repairs and orbital reconstructions and even tried to obtain for him the title of Professor within one year.

The cooperation of Schroeder also provided him with the necessary dental appliances.

It was very hard to decline the invitation of these three great German surgeons which he accepted leaving Hungary with mixed feelings and without the Dutch nurses, including Maria Sondervan who left his service after this exciting period of two years.

Berlin (1917-1925)

Berlin had been the most important centre of surgery in Germany since the early nineteenth century.

The Charité-Hospital in Berlin was founded in 1710. Medical education with bedside teaching originated in 1727, and most of the doctors were trained for the Army. In 1810 the University of Berlin was established and many famous surgeons worked there in the surgical university clinic (Killian, 1980).

Karl Ferdinand Von Graefe was professor of surgery in the Charité-hospital⁸ or First Surgical University Clinic since 1810 and of the Second University Clinic at the Ziegelstrasse from 1810 to 1840. He became world famous for his work in this second clinic.

The Ziegelstrasse hospital flourished due to the work of Von Graefe (1820-1840), Johann Friedrich Dieffenbach (1840-1848), Bernhard von Langenbeck (1848-1882), Ernst von Bergmann (1882-1907) and since 1907 August Bier, all of whom contributed much to the development of reconstructive surgery. In 1920 a Third Surgical Clinic at the Wilhelm von Humboldt-University of Berlin was established with Professor Moritz Borchardt (1868-1935) as its Director from 1920 till 1930. All these three hospitals are nowadays situated in East Berlin.

In these famous surroundings Esser started his German career as a plastic surgeon. He lived with his family at 40 Hardenbergstrasse in Charlottenburg in Berlin. His work was fully recognised and he was officially nominated as "Fachärztlicher Beirat für plastische Chirurgie" (Consultant plastic surgeon) by the War Ministry to the Garde Korps (Garde du Corps) of the army.

For teaching purposes Bier allotted his assistants in rotation to Esser's department, in order to familiarise them with the new speciality.

There were a few surgeons in Berlin and other parts of Germany, already involved in some areas of plastic surgery at that time the most important of whom was undoubtedly Erich Lexer (1867-1937). His reputation in plastic surgery was well established before Esser even started his surgical career, but he remained a general surgeon, and plastic surgery had his special interest. Lexer was a dexterous and speedy operator who attracted many visitors on whom he made a great impression, in the same manner as Morestin in Paris. Even in his youth he had shown talent in painting and sculpture. In 1902 he was appointed extraordinary professor of surgery in Ernst von Bergmann's clinic in Berlin in the Ziegelstrasse. In 1905 Lexer moved to Königsberg (Now Kaliningrad in Russia) to be followed by his appointment to Jena, where he was professor of surgery from 1911 to 1916.

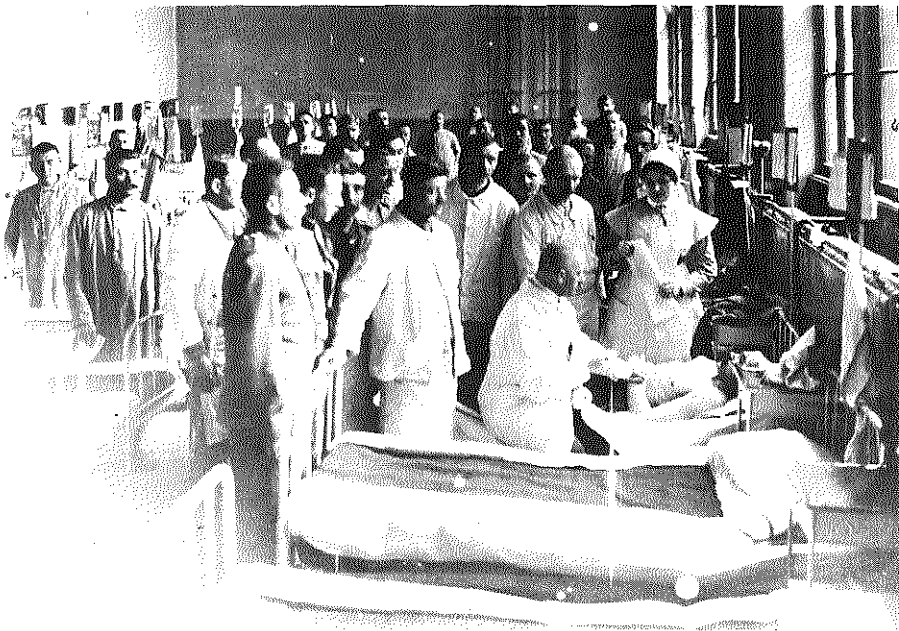
During World War I Erich Lexer was an Admiral in the German navy and he organized a centre for maxillo-facial surgery in Flanders. Later he continued

his work on the victims of trench warfare in France and Belgium at the university hospitals of Jena and Freiburg, from 1919 to 1928. Then he became professor of surgery in Munich, a city which he loved.

During the war Lexer encountered the most appalling facial wounds, and like Esser in Austria-Hungary and Gillies in France, he became interested in maxillofacial reconstructive surgery. He made general contributions to plastic surgery literature. His most famous book was the two volume textbook "Lehrbuch der Allgemeinen Chirurgie", which was published in 1904. A chapter was devoted to plastic surgery; the book was translated into many languages and reprinted as twenty editions. He also wrote a chapter on plastic surgery in Bier, Braun and Kümmell's volumes on operative surgery "Chirurgische Operationslehre". Immediately after the war he wrote a book on plastic surgery, "Wiederherstellungschirurgie" (1919).

Lexer was a remarkable man with special gifts but also many shortcomings (May, 1962). He was physically strong and abhorred weakness and at times he was extraordinary rude.

He was one of the pillars of the German surgical society, and hardly ever missed a meeting. His heated debates during meetings with the gentle, philosophical August Bier with whom he was always at loggerheads, became legendary. Plastic surgery had his vivid interest, and he was a clear scientific lecturer, on free transplantations, arthroplasties, facial reconstructions and burns. His free transplantation of the knee-joint was renowned. He introduced the "pistolgrip" temporal flap with a wide pedicle, which he eventually divided and returned to the original site, for the closure of post-excisional defects of the face.



Erich Lexer during a ward round

He was one of the great promoters of plastic surgery in Germany. In 1937 he tragically collapsed in a telephone booth and instantly died of a myocardial infarction. (Killian, 1980).

Another great name in German plastic surgery at that time was Dr. Jacques Joseph (1865-1934), who was a true pioneer in the field of cosmetic rhinoplasties. (Aufrecht, 1970). For that reason he was nicknamed "Nasen-Joseph", or Dr. Noseph, since there were two other Dr. Joseph's in Berlin: Eugen Joseph (born 1879) the urologist and Max Joseph (born 1860) the dermatologist, who wrote a handbook on cosmetics in 1912 ("Handbuch der Kosmetik"). Jacques Joseph had been an orthopaedic surgeon, but he preferred aesthetic surgery, and his main interest was cosmetic rhinoplasty.

During the war he extended his practice and also took up facial re-constructions. (Gibson, Robinson, 1976). He was regarded as bad mannered and undignified. He was secretive in revealing techniques, but his results were good. (Safian, 1970, Natvig, 1971).

In the postwar period, during the early twenties he was world renowned for his rhinoplasties, especially in America.

Many of his surgical instruments for surgery of the nose are still in use today. He conducted numerous courses and Americans especially would pay high fees to observe his operations. At the same time they would also visit Esser's department.

Joseph valued public relations and often his name appeared in the newspapers. There was uncertainty about the cause of his death in 1934, and it was believed erroneously that he was one of the victims of the Nazi-regime, but in fact he died in Berlin from a coronary artery occlusion. (Natvig, 1982).

Hugo Ganzer (1879-1960), a dentist in 1917, also achieved remarkable results in facial reconstructions. (Hoffmann-Axthelm, 1976). He practised without a proper medical licence, in a hospital for facial injuries in Berlin but was supported by the German Emperor. He had great technical ability and was one of the many claimed inventors of the tubed pedicled flap, later popularised by Gillies and Filatov. In 1918, after the abdication of the Emperor, his "protection" was taken away and his surgical career ended abruptly.

This potentially great plastic surgeon was forced to return to dentistry, spending his time filling dental cavities (Esser, 1941).

In August 1917 Esser began working in Bier's clinic and within a short time many beds were full of plastic surgical patients.

At that same time eyelid deformities and orbital reconstructions were performed in Krückmann's clinic, who assisted him with many operations. On Thursdays Krückmann invited eye-specialists from other cities for special demonstrations on selected patients. Together with Hermann Schröder of the Dental institute, facial reconstructions, requiring complicated dental appliances were carried out. Esser was also invited by Professor Fritz Williger (1866-1932) and the E.N.T.-specialist Max Halle (1873-1939) to perform facial operations at the dental school.

When he was appointed as plastic surgeon to the Army and obtained the honorary title of Doctor of medicine at the university of Berlin, he acquired his own department of 150 beds at the Reservelazarett "Technische

Hochschule"⁹, where badly mutilated soldiers were admitted for treatment. His fame was rising rapidly and the Empress herself visited his department. During this time Esser was at loggerheads with Ferdinand Sauerbruch (1875-1951) about some technical aspects of cineplasties.

Sauerbruch was a typical German surgeon. He had been assistant to Professor Johann von Mickulicz-Radecki (1850-1905) in Breslau. In 1904 he had introduced his "negative-pressure-chamber" for the prevention of collapse of the lung in thoracotomies. This unexpected invention stole the show during the German surgical congress that year and although its design later proved to be too complicated for general use, its introduction had made such an impression that he was nominated Professor of surgery in Zürich from 1910 to 1918. He then became Professor of surgery in Munich and in 1927 moved to Berlin where he worked at the Charité- and Ziegelstrasse-clinics until 1946.

Sauerbruch had also achieved spectacular results with cineplastic operations based on Vanghetti's experiments and in 1917 he wrote a monograph on this subject. He made a show out of his patients who formed a "display team" of military amputees, highly trained in complicated movements with their artificial appliances. In Esser's view, these spectacular results were due more to the superb engineering of the prostheses than the actual cineplasty as Sauerbruch used only two of the residual stump muscles.

Esser was instructed by Bier to examine the cineplastic principles in detail and assess the value of the operation. For this study he was given the opportunity to see and operate on many amputees.

In 1917 he produced a paper on cineplastic repair: "Muskelplastik bei Amputationstümpfen zwecks Steuerung und Fixierung der Prothese", in which he boldly stated that Sauerbruch was on the wrong track, utilizing only two muscles. Esser advocated the use of many more and different muscles to provide better stability and physiological use of the prosthesis. He also modified the direction of the tunnels traversing through the stump. Sauerbruch was incensed by this article and in his reply he addressed himself personally to Esser, in no less than six reprimanding pages, advising him that he must never again publish such a paper, since his experience was negligible in comparison to his own! In his autobiography this quarrel with Esser is not mentioned at all. But Sauerbruch visited Bier's clinic later to discuss the incident, which had so annoyed him.

Tactfully he was shown around by Bier and he had to admit that Esser's results in facial surgery were good. He became friendly and even offered him a post in his clinic, which Esser declined.

He advised him to dedicate himself full time to facial surgery, and not to the treatment of amputees. Subsequently at later meetings Sauerbruch was always friendly and even congratulated him on his later publications.

In 1918 Esser wrote a book on plastic surgery "Die Rotation der Wange, und allgemeine Bemerkungen bei chirurgischer Gesichtsplastik", about his well established method of cheek rotation. He dedicated this monograph to Albert Narath, who had taught him the value of precise technique and aroused his love for plastic procedures during his student years in Utrecht. Later that year Esser paid a visit to his old and disabled teacher of surgery in

DIE
ROTATION DER WANGE
UND ALLGEMEINE BEMERKUNGEN
BEI CHIRURGISCHER GESICHTSPLASTIK

VON

DR. J. F. S. ESSER

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PLASTISCHE CHIRURGIE AN DER KÖNIGLICHEN UNIVERSITÄT ZÜRICH, HAT PROF. DR. KRIEGER VON
DIESE AN DER KÖNIGLICHEN UNIVERSITÄT ZÜRICH HAT PROF. DR. KRIEGER VON

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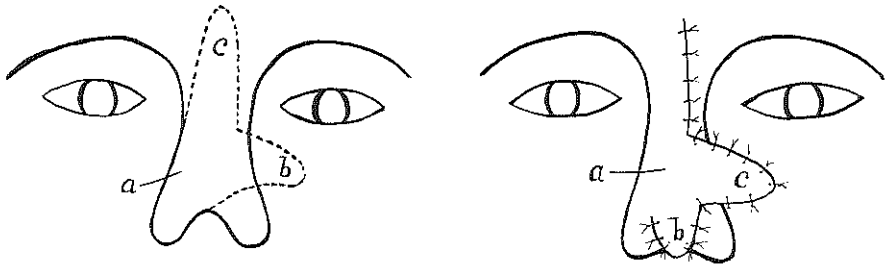


LEIPZIG
VERLAG VON F. C. W. VOGEL
1918

Esser's first monograph published in 1918

Heidelberg. The professor was proud of his former student and received him cordially and invited him to submit articles to the surgical journal "Deutsche Zeitschrift für Chirurgie" of which he was the chief editor.

Esser sent various articles to this journal which were accepted for publication. His article on the bilobed flap (Gestielte lokale Nasenplastik mit zweizippligem Lappen) in 1918 was considered relatively unimportant by himself, only intended to aid the inexperienced surgeon in the repair of nasal



Drawing of the bilobed flap

defects. To his surprise this article was highly valued and praised by Narath, which proved to him that a writer can never fully appreciate the quality of his own writings. He regarded this procedure as a small but accurate mathematical operation by which it is easy to close small nasal defects.

The same mathematically exact measures were necessary for operations for reconstructions at the corner of the mouth.

He was complimented for this last contribution by Professor Johannes Henricus Zaaijer (1876-1932) of Leiden University in 1918.

On October 8, 1918 Maarten Mac was born in Berlin, first son of Jan and Olga Esser.

Revolutionary movement in Russia and Germany

The end of World War I and the formation of the Weimar-republic.

The Tsarist regime of Nicolas II (1868-1918) collapsed during the March revolution of 1917. On April 16, the Bolshevik leader Vladimir Illych Lenin (1870-1924) arrived in Petrograd (St. Petersburg) from Switzerland, where he had lived in exile.

Three years of warfare with severe losses had caused the deterioration of discipline within the Russian army.

Alexandr Fedorovich Kerenski (1881-1970), a lawyer became minister of war on May 18, and prime minister on July, 21, 1917. Lenin, being accused of being a German agent, went into hiding in Finland, but the Bolsheviks continued their demand for immediate peace, a precondition for internal social reforms in Russia.

The rebellion of the commander in chief of the Russian army, General Lavr Georgevich Kornilov (1870-1918), who proposed a military coup d'état against the Kerenski government, was a turning point of the Russian revolution.

Lenin, supported by Lev Davidovich Trotski (1879-1940), decided this was the right time to seize power. Thus the Bolsheviks achieved during the November revolution of 1917.

In Russia the November revolution is nowadays also known as the October revolution in the old style Russian calendar.

The Bolshevik government decided to negotiate a separate peace with the Central powers, and an armistice was signed on December 15, 1917. Negotiations began at Brest-Litovsk.

The March revolution of 1917 in Russia had encouraged left wing activities in Germany and in July 1917 there was mutiny in the German navy in Kiel. The Spartacus-leader Karl Liebknecht (1871-1919) and his communist party members openly criticised the war. The mutiny was however short lived. A series of strikes in January 1918 started in Berlin and Vienna.

On August 8, 1918 the German army was defeated by the French and British forces. The Hindenburg line collapsed, during the second battle of the Marne (18 July 1918 to 12 September 1918 with the battle of St. Mihiel). Bulgaria capitulated in September, and the defeat of Turkey and Austria-Hungary was inevitable.

On November 3, 1918 mutiny in the navy in Kiel broke out again and this time the revolt spread to Berlin. Liebknecht prepared the proclamation of a communist republic and in order to anticipate him Philipp Scheidemann (1865-1939) a social democrat hurriedly proclaimed the republic, much to the dislike of his party member Friedrich Ebert (1871-1925) who became chancellor.

The Emperor Wilhelm II abdicated and escaped to Holland on November 9. A revolutionary blessing to Ebert's regime was given by the workers' and soldiers' councils (Soldatenräte) of Berlin. These councils were modelled on the Russian pattern.

On November 11, 1918 at 11 a.m. World War I came to an end.

Armistice was signed in Marshal Ferdinand Foch's (1851-1929) railway carriage in the forest of Compiègne, and a treaty was signed at Versailles on June 28, 1919.

In Germany, a date for general elections was fixed for January 19, 1919, but a counter-revolution took place on December 23, 1918 by revolutionary sailors who occupied the Chancellery and took Ebert as a prisoner, who was rescued by troops one day later. Heavy street fighting once again broke out in Berlin in January 1919, where the Spartacists had been renamed the German Communist Party. They occupied a large area of Berlin, but were defeated by Gustav Noske with his volunteer corps. Liebknecht and Rosa Luxemburg (1870-1919) were arrested and murdered, and the left wing revolution came to an end. Elections were held on January 19, 1919 and the new National Assembly met at Weimar on February 6, 1919. Ebert was elected president and Scheidemann chancellor of the Weimar-republic.

Esser was directly confronted with the revolutionary movement in Berlin, and it is interesting to note in those turbulent days that the new Government asked his advice in medical matters. He suggested to get rid of the "Soldatenräte", who obstructed daily hospital life. His own life was even threatened by the shortlived counterrevolution but shrewdly he escaped from the guards by acquiring the password. In Berlin, the citizens and also Esser, lived a dangerous, exciting and chaotic life, and his second daughter Carla was born in 1920.

It was much the same for Sauerbruch in those revolutionary days, his life had been threatened because he had treated Count Acros (Graf Anton Arco-Valley) in Munich, who had murdered the leader of the Bavarian revolutionary government, Kurt Eisner (1867-1919).

The Peace settlement was regarded in Germany as humiliating and unjust. It was considered that the German army had not lost the war, but was stabbed in the back by the Republicans, Socialists and the communist November "criminals".

Germany had to pay the huge sum of 132.000.000.000 Gold Marks as compensation for the material damage in the Allied countries during the war. To pay this amount of money, was beyond the capacity of Germany, and during the immediate postwar years the value of the mark rapidly deteriorated.

This was not only due to the exorbitantly high reparation payments, but also to the flight of German capital abroad, and the difficult position of German trade.

The culmination of the inflation came in 1923, with the occupation of the Ruhr area by French and Belgian troops, which cut off his area from the rest of Germany by economic blockade.

In November, 1923, the value of the Mark fell to 4200.000.000.000 to the

dollar! In contrast businessmen and industrialists made large profits, and landowners with mortgages gained enormously.

The extremists parties exploited the crisis, and Adolf Hitler (1889-1945) attempted his first "Putsch" in Munich on November 8, 1923, which proved to be a failure.

A slow progress towards stabilization was made in 1924, and a new Reichsmark currency was introduced with the exchange rate of 1 Reichsmark for 1.000.000.000.000 Mark. This progress continued in 1925.

In that year President Ebert died and was succeeded by Fieldmarshal Paul von Hindenburg (1874-1934).

Esser's surgical practice had continued during this period in Berlin, and Bier asked the government to grant Esser an official licence to practise privately, without prior examination, because of the extraordinary scientific value of his work. This request was granted. His many publications in German and American journals had brought him international recognition. His practice was flourishing and patients came from all over Europe to his clinic, in the Tempelhof area of Berlin.

From 1915 to 1924 Esser performed over 10.000 plastic surgical procedures, most of them based on his own ideas and inventions.

In the early twenties he began to perform cosmetic operations, like facelifts, mastopexies for ptosis correction of the female breast and abdominoplasties. He was a good technician with a remarkable technique, but his results were



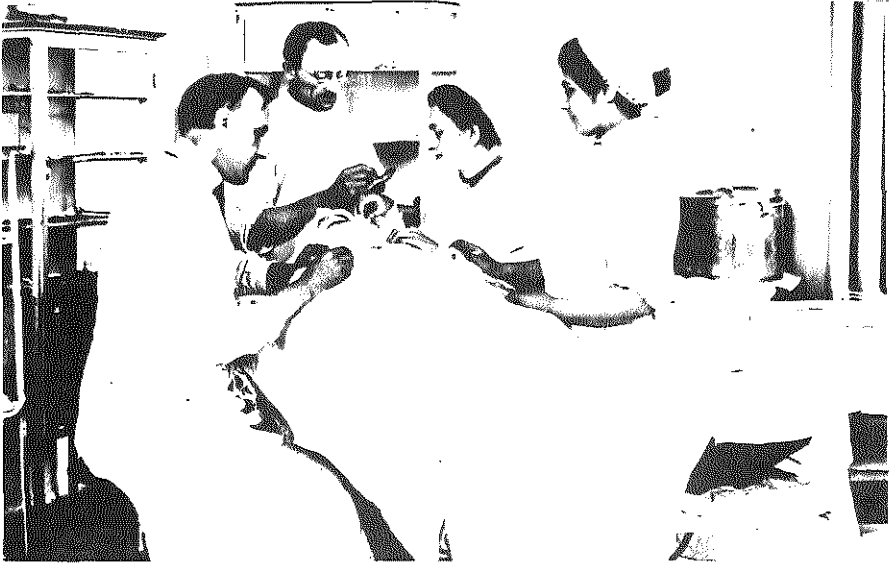
Lazarett Tempelhof 28-4-1922 Berlin

Left to right, seated: Aufricht, nurse, Esser, nurse, Zoltan Nagel and Koch.
Standing: Schmidt, nurse, Eckstein, Rosetti, nurse, Saake, nurse

cosmetically unremarkable (Rijnders, 1982). Most of his operations went through many stages.

Once he lost a nipple due to necrosis following a mammoplasty and he feared that these operations might discredit plastic surgery, if taken up by unethical colleagues. That has been suggested as the reason for his refusal to submit articles on cosmetic surgery to medical journals.

He was more interested in the field of ophthalmological plastic surgery,



Esser performing an operation with Aufricht and nurses in the Tempelhof Hospital Berlin. October 1921

extending his practice with Krückmann, with a close cooperation with the eccentric Paul Silex (1858-1929) Professor of ophthalmology in Berlin, who openly displayed in a glass showcase in his waiting room, testimonials from all the royal patients he had treated! During this period Esser wrote several papers in the ophthalmic journals on eyelid reconstruction, ptosis repair and eye socket reconstruction, (Esser, 1918l, 1919d,h,i,j, 1920b, 1921a,e.). He introduced a modified frontalis plasty for ptosis repair of the upper eyelid, and his original lidswitch-operation to repair small defects of the eyelids. He was invited to operate in Breslau, Frankfurt and Jena and for several years he would operate on Saturdays in the third University clinic of Professor Moritz Borchardt in Berlin. Here he developed the concept of a pedicled breast flap in women to cover an exposed amputation stump and at the same time performing bilateral breast reduction.

Young German doctors applied to be trained as a plastic surgeon in his clinic and Gustave Aufricht (1894-1980) was assistant to Esser from 1921 to 1922. Together they wrote a paper on ear reconstruction. For 3 months Aufricht paid Esser 100 Marks for the privilege to become his trainee, a usual arrangement in those days. (Natvig, 1982).

Aufricht became his best known scholar, and later a leading plastic surgeon in New York. (Berry, 1980, Ship, 1981).

It is interesting to read the testimonial that Esser gave him at the end of his training:

”Zeugnis”

15.Mai 1922

Herr Dr. Gustav AUFRICHT war ab Juli 1921 bei mir in meiner Abteilung für struictive Chirurgie beim Hauptversorgungsamt zu Berlin als Assistentarzt tätig.

Dr. Aufricht war geschickt, wissenschaftlich, arbeitsam wohlwollend und tüchtig. Er hat diese Periode sehr fleissig und gut ausgenützt, hat viel assistiert und auch selbständig operiert.

Er wird sich wahrscheinlich auf die Dauer in der schwierigen structiven Chirurgie gut weiter entwickeln, weil ich annehme, dass ihm die dazu notwendige Eigenschaften nicht fehlen, so gar habe ich die Erwartung, dass ich mit der Zeit stolz auf meinen mir sympathischen Schüler sein werde.

Dr. J.F.S. Esser.

Testimony

May, 15, 1922.

This is to certify that Dr. Gustav Aufricht was a member of the medical staff in my department for plastic surgery of the ”Hauptversorgungsamt” of Berlin, from July 1921 until now.

His appointment was that of a registrar.

Dr. Aufricht was an experienced, scientific, sympathetic and ardent surgeon. In this period he took all opportunities to widen his skill. He assisted in operations and operated a lot himself.

In the future he probably will become a good plastic surgeon, because he is in the possession of all the required qualities. I even expect that I will be very proud in the future of my sympathetic scholar.

Dr. J.F.S. Esser.



Zentralkomitee für das ärztliche Fortbildungswesen in Preußen.

Fortbildungskursus über

plastische Chirurgie

(Augen-, Gesichts-, Körperplastiken).

Dr. J. F. S. Esser, fachärztl. Beirat für plast. Chirurgie beim Hauptversorgungsamt.

Der theoretische Teil findet jeden Mittwoch von 6 $\frac{1}{2}$ —7 $\frac{1}{2}$ Uhr abends im Kaiserin Friedrich-Hause statt, der praktische in einem Krankenhaus bzw. einer Klinik in einer noch zu verabredenden Zeit. Beginn am 10. Januar.

Zur Teilnahme ist jeder Arzt des Kammerbezirks Berlin-Brandenburg (Ausweis erforderlich!) gegen eine Einschreibgebühr von 20 M. berechtigt. Meldungen werden im Kaiserin Friedrich-Hause, wochentäglich von 9—2 Uhr, entgegengenommen. Schriftlichen Meldungen ist unter gleichzeitiger Einsendung der Einschreibgebühr ein mit Adresse und Marke versehener Briefumschlag für die Zusendung der Teilnehmerkarten beizufügen.

W. Körte.

C. Adam.

Comprehensive course in Plastic and Reconstructive Surgery 1-1-1922 Berlin

In 1922 Esser was invited to conduct a postgraduate course on plastic surgery in Berlin at the Institute for postgraduate medicine. (Das ärztliche Fortbildungswesen in Preussen). These lectures and demonstrations of patients and operations were highly thought of and the front row was always occupied by renowned surgeons one of who was Jacques Maliniac¹⁰ (1889-1976), later to become a President of the American Society of Plastic and Reconstructive Surgery.

He remarked that Esser was an interesting and informal lecturer, philosophical in his expositions. (Maliniac, 1947).

Esser was contemplating leaving Berlin. In 1922 in a letter to a Dr. Ph.J. Schutz, assistant of the orthopaedic clinic in Munich he expressed his wish to go and work in Russia. Schutz, who wanted to become his trainee, was even invited to accompany him to Russia but there is no proof that Esser actually made the journey.

A year later, in 1923 Esser expressed a wish to emigrate to the United States, as can be seen from Dr. J. Safian's letter from New York dated May 6, 1923. He also sought the advice of a Dutch surgeon Jan Schoemaker of the

DR. JOSEPH SAFIAN
574 WEST END AVENUE
EYEBRIDGE DRIVE
NEW YORK

May 16/23
My dear Dr. Esser.

I have received your card and am glad to hear that you intend to come over. I have a person to recommend to you and I am sure I will have some one who will be glad to take your place on the return trip but you must let me know what he must do in order to arrange for the trip also the exact date of the steamer arrival in New York so that a man can be ready to sail when the steamer leaves again.

I have been doing a little work in Rhino-plastic surgery but it is rather difficult to

Safian's letter in 1923, showing Esser's intention to travel to the United States

Municipal hospital "Zuidwal" of The Hague who had good relations with the Mayo brothers in Rochester. He advised Esser in 1923 to look for possibilities in the Postgraduate Hospital in New York, because, Dr. William Mayo had written to him: "... I can not say that we should be able to give Dr. Esser the opportunity of doing actual work..."

In the midst of all these deliberations Esser's wife died from cancer in 1923, which left him very distressed and it took a long time to recover from his bereavement. She was only 34 years old and left him with three young children, the last two were born in Berlin in 1918 and 1920 respectively. A house keeper, an ex-patient, looked after them.

Due to a change of law, the promised nomination of Esser as a professor at Berlin University, supported by Krückmann, was cancelled. From that time onwards it was no longer possible for foreigners to be granted such an honour.

By speculation in property Esser had acquired a substantial fortune during the crisis years in Germany. Because of the cancellation of his professorship, the relative instability of the country, and his income-tax problems he gave up his medical career in Berlin and left Germany in 1924.

In that year one of his grateful "Rotation flap-patients" an editor, Ernst Hoffmann published a booklet about himself, called "Was Aerkunst vermag" (What Medical art can achieve). Preoperatively Hoffmann had been in a desperate condition due to a serious facial war injury. His chin had been

shot away and his tongue protruding without functioning. He illustrated his booklet with pre- and post-operative photographs and dedicated the book to Esser.

Esser abandoned his practice in order to dedicate the rest of his life to creating an international institute for plastic surgery, and to write books about his methods used over the last ten years.

In 1925 he decided to settle in France, after a short stay in Holland. The speciality of plastic surgery in Holland was not yet established, and it was impossible for him to set up a surgical practice, because his formal training in general surgery was considered to be too short by Dutch standards.

Nevertheless he invested his fortune he had amassed in Berlin, in properties and houses in Holland and France.



Rare collection of mutilated soldiers in Esser's department for plastic surgery in Berlin during the twenties

Plastic surgery on the Allied side

At the advent of World War I in 1914 the lack of experience in plastic surgery had been only too obvious.

When the United States entered the war in 1917 there was still a total ignorance of plastic surgery in the medical corps of the armed forces, and even in the civil hospitals and medical schools in that country. Appreciation of this branch of surgery as a special subject was totally lacking. (Davis, 1946).

The unexpectedly great number of maxillofacial wounds which occurred during this war created extensive problems, since no one was trained to treat these victims of trench warfare.

In England, Harold Delf Gillies became involved in the treatment of these patients purely by chance. He attracted soon the cooperation of dental surgeons.

Gillies was born in Dunedin in New Zealand. His medical training took place in Cambridge, England and in London at St. Bartholomew's Hospital. He became a fellow of the Royal College of Surgeons in 1910.

His initial interest was otorhinolaryngology and he became assistant to Sir Milsom Rees, laryngologist to the King and Queen from 1910 to 1936.

Gillies' career as consultant E.N.T.-surgeon was disrupted by the outbreak of World War I, and he was attached to a British Hospital in Rouen, France. During that time he was impressed by a German book on jaw surgery by the dental surgeon August Lindemann (1880-1970) of Düsseldorf, shown to him by an American friend a dentist Roberts.

He learned from him also about Hippolyte Morestin in Paris, who performed remarkable surgical reconstructions of the face.

Gillies visited Morestin in the military hospital Val-de-Grâce in June 1915, intrigued by these operations.

He was also influenced to take up plastic surgery by his meeting in 1915 with the mysterious and flamboyant dentist, Charles Auguste Valadier¹¹ (1873-1931), honorary Lieutenant to the British Royal Army Medical Corps. (Ivy, 1971, Gillies, 1920, Gillies and Millard, 1957, Wallace, 1982).

Valadier stimulated Gillies to perform surgery of face and jaw injuries. Valadier achieved himself good results in this difficult field. He photographed his patients preoperatively, and repaired many fresh jaw cases and he had established a special Unit for jaw injuries, near Boulogne at Wimereux.

During the initial phase of the war Gillies saw large numbers of facially wounded soldiers, for whom no specialised care was available.

On the 11th January 1916 he set up a plastic surgical unit in the military hospital at Aldershot, after considerable difficulties with the War office. His way of attracting patients to this hospital was most uncommon. He achieved this by issuing luggage labels with the Aldershot address to army doctors in France. This system worked, and soon a great number of patients with maxillofacial injuries with these labels attached to them, started to reach him.



Gillies, without any experience in the field of plastic and reconstructive surgery, surrounded himself in Aldershot with a group of dedicated dental surgeons, of whom William Kelsey Fry (1889-1963) was outstanding. Gillies proved to be an excellent organizer with a perfect feeling for public relations.

By trial and error the group started treatment.

They were supported by the general surgeon of name, Sir William Arbuthnot Lane (1856-1943) Surgeon to Guy's Hospital and Consultant-Adviser to the British Army. Lane was well known for the surgical treatment of fractures and he had made important contributions in the field of cleft palate surgery.

Due to the increase in work, a large hospital of 600 beds was set up in Sidcup, Kent in 1917. This hospital, the Queen Mary's Hospital for Face and Jaw injuries was entirely devoted to plastic surgery.

After the entry of the United States in the Great War, the hospital rapidly gained international reputation.

A substantial number of American surgeons were trained by Gillies in Sidcup, taking advantage of his experience gained in a short period of time. Soon United States army centres were set up in France, in Vichy, Paris and Bordeaux to which maxillofacial cases were sent for initial treatment, before being transferred to appointed centres in the United States.

Near Boulogne, at Étapes the Armenian born dental surgeon Varaztad Hovhannes Kazanjian (1879-1974) trained at Harvard Dental School, was in command of another centre attached to the British Expeditionary Forces, in the vicinity of Valadier's centre. (Converse, 1975, 1983; Kazanjian, 1965). After the war Gillies was joined in 1919 by Thomas Pomfret Kilner (1890-1964) who also had no experience in plastic surgery, but soon mastered his new job. With the appointment of the anaesthetist Ivan Whiteside Magill (1888-present) in 1919 anaesthetic problems in maxillofacial surgery were solved with the introduction of the intra-tracheal tube. (Randall, 1965). After demobilization Gillies and Kilner decided to practise exclusively as plastic surgeons in England.

In Prague, Czechoslovakia, František Burian (1881-1965) made the same decision. He had been chief surgeon in Temeshwar in the Eastern Austro-Hungarian Army at the outbreak of the war, and had already gained some experience in plastic surgery during the Balkan Wars in 1912. (Troshev, 1974).

In America John Staige Davis (1871-1946) of Baltimore, was probably the first professor of plastic surgery in 1919, at the Johns Hopkins University. Just before the First World War he devoted already his entire practice to plastic surgery. He developed the pinch graft technique, or small deep skin graft and was very dexterous with Z-plasties. In 1919 he wrote and published a book on plastic surgery, "Plastic surgery. Its principles and practice".

Esser's plan for an international centre of plastic and reconstructive surgery

When after the war a rough statistical estimation of casualties was made, it appeared that 20.000.000 were wounded and 8.000.000 had been killed or had died from their wounds or other diseases. (Garrison, 1922, Wolff, 1979, Cruttwell, 1982).

Head and neck injuries totalled 15% of all wounds, reaching a number of 3.000.000 head and neck cases. (Verdoorn, 1972).

With these enormous numbers in mind, Esser decided that a concentration and dissemination of the knowledge and expertise gained in the 1914-1918 war was urgently needed. Quite apart from the reconstruction of the war wounded, patients were presenting with congenital deformities, disfiguring diseases such as lupus, tuberculosis and cancer, and wounds resulting from road traffic accidents and industrial disasters.

The main problem was that there were not enough beds available in existing hospitals to treat this large number of patients, as most of them would require multiple operations and intensive rehabilitation, including physiotherapy and occupational therapy.

Badly mutilated war victims in particular became social outcasts, since very little attention was paid to their rehabilitation and return to society.

Esser's masterplan was to gather together all the wisdom and experience gained in the preceding decade in the treatment of these patients by attracting eminent plastic surgeons of all nationalities to pool their expertise and ideas and start a training centre where this work could be concentrated.

He insisted that such an international centre for "social surgery" or "structive surgery" as he preferred to call it should be given extra-territorial or neutral status not hampered or subject to any particular country's national interest, pride or laws.

In the beginning there were many sceptics. Surgeons had to be convinced of the usefulness and possibilities offered by plastic surgery, quite apart from the idea of establishing an international but "extra-territorial" institute.

These reservations are well expressed in a letter written by Professor Gerard Carel Heringa, a Histologist in Amsterdam in 1933:

...I have known Dr. Esser for a couple of years... we had a mutual interest in a subject of social medicine. Since that time I am increasingly impressed by his versatility and talents.

His idea to establish an independent and extraterritorial world institute for plastic surgery seems to be fantastic. But I think that negative criticism is not justified.

Esser's intellect and talents are so great that one has to think twice before condemning his ideas...

I can not foresee these plans being realized in the near future, but I do know that the

idea is purely humane, comparable to cancer research institutes, tuberculosis treatment centres and so on.

With Esser's convincing powers a lot more is possible than we perhaps imagine..... It is a pity that Esser is only interested in establishing this institute abroad, and has never seriously tried to get support for his ideas in Holland...

Signed Prof. Dr. G.C. Heringa
Amsterdam, June 28, 1933

It took Esser a long time and much travelling all over Europe before he got any serious interest in or response to his proposals. The search for his ideal was as agonizing as the Quest for the Holy Grail was to King Arthur's Knights of the Round Table.

France

At the end of 1925 Esser went to France, on his way to the university of Montpellier but he never got there. For three months he stayed in Strasbourg, where he was joined by his 3 children, accompanied by his housekeeper, an ex-Russian patient.

He was in Strasbourg the guest of the eye-specialist Professor Georges Weill and the surgeon Professor Stolz, of the University clinic. Esser demonstrated plastic surgical operations to Weill and Stolz on many burns with severe contractures.

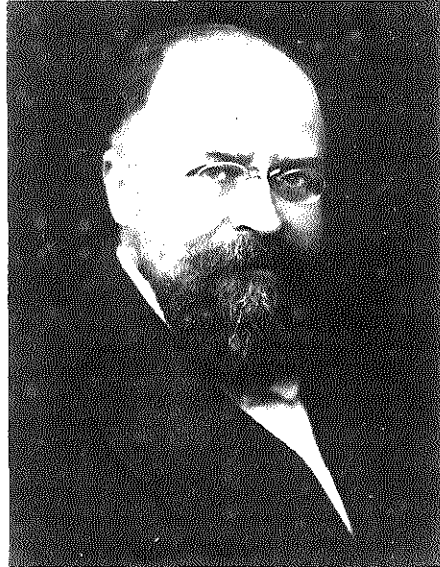
Weill introduced Esser to the Parisian eye-specialist Professor Victor Morax (1866-1935) of the Lariboisière hospital, whom he regarded as the best ophthalmologist during that period. Three months later Esser moved to Le Tréport, near Abbeville.

During the following years he became a tireless surgical traveller who with astonishing energy traversed Europe and later even South-America and the United States.

On invitation he performed complicated operations, on sometimes even hopeless cases, in various university clinics in Paris, Strasbourg, Amsterdam,



Prof. Victor Morax



Prof. Fernand Lemaitre

Leiden and London and elsewhere at the same time presenting his case for the establishment of an international institute for plastic surgery.

In Strasbourg he met his future Irish secretary Marion Ainslie, who had studied French in Grenoble. She helped him with the preparation of the first edition of his book on the arterial flaps of the face.

In Paris he worked with Fernand Lemaître (1880-1958) an E.N.T.-surgeon. Lemaître was an E.N.T.-Specialist since 1910 and became Professor at the University Clinic of Paris in 1931. Lemaître had been in charge of a centre for maxillofacial surgery at Vichy during the Great War, and had met American surgeons such as Vilray Papin Blair¹² (1871-1955) and Robert H. Ivy (1881-1974). (Aubin, 1959).

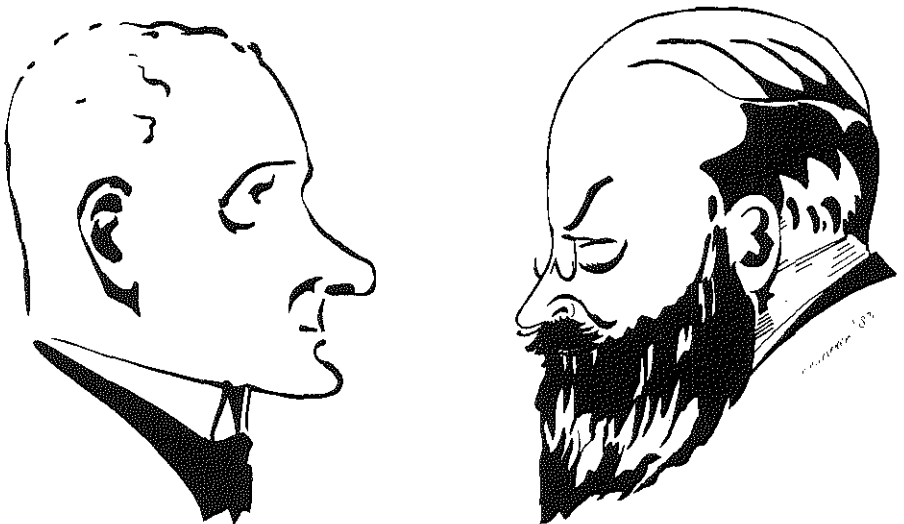
From 1925 to 1928 Lemaître organised an annual International Clinic of Oto-rhino-laryngology and Facio-Maxillary Surgery in Paris, which was always well attended.

Lemaître influenced the development of plastic surgery, by organizing these scientific meetings. Esser's daughter Elisabeth, who studied medicine in Paris, later became a trainee in Lemaître's service, and wrote there her medical thesis, concerning a study on the application of the tubed flap in maxillofacial surgery in 1938.

Victor Morax was especially interested in eye traumatology. During the war his clinic had been the military centre for ophthalmology. He was the chief editor of the "Annales d'Oculistique" for many years.

Morax was of Swiss descent and was fluent in many foreign languages. (De Lapersonne, 1935).

In Amsterdam Esser carried out operations mainly in the Roman Catholic hospital "Onze Lieve Vrouwen Gasthuis" with Dr. A. Oidtmann (1865-1940) the general surgeon, and in the Jewish Hospital "Centraal Israelitisch Ziekenhuis" with Dr. M.H. Pimentel and assisted by the dentist Dr. Hindrik van der Molen.¹³



Cartoon in a French newspaper, Esser and Lemaître

The operations performed by Esser and Van der Molen concerned mainly the epithelial or skingraft inlay technique of the buccal cavity and cleft lip and palate cases.

In Leiden the ophthalmologist Professor Jan van der Hoeve, (1878-1952) asked Esser to perform eyelid reconstructions on several occasions, and in Utrecht the gynaecologist Professor Klaas de Snoo (1877-1949) sought his advice on the repair of vesico-vaginal fistulae.

His best friend and colleague remained Remijnse of the Coolsingel-hospital in Rotterdam.

Esser was interested to meet other plastic surgeons and observe their work, and for this reason he crossed the Channel to visit and watch Gillies operating at St. Andrews Hospital at Dollis Hill near London. He was even invited to operate in London on a case of irradiation of the face.

Some criticisms of Gillies' postwar cosmetic work are still to be found in Esser's diary of 1926. He respected however his reconstructive procedures and admired his feeling for public relations.

Esser himself also performed cosmetic surgery on wealthy private patients, who had to pay a fortune to be treated. He operated on patients in Marienbad in Czechoslovakia (now Mariánské Lázně), Paris, Strasbourg and Amsterdam, demanding a remarkable high fee from these rich patients. From the poor he never requested a remuneration.

Mrs. Ainslie guided him through his poor knowledge of English grammar and idiom. His use of German grammar and style was adequate but his writing in English and French was clumsy. Esser was aware of these shortcomings, and corrections had to be carried out frequently by the various editors of American and British journals. He even wrote to the editor of the American journal "Annals of Surgery" on June, 15, 1936: ... As I am a Dutchman, I allow you to change some expressions if they are not clear or not good English... I only beg you not to change the word "structive" surgery... The word "structive" surgery was his own invention, and he regarded this word more applicable than "plastic" surgery.

The American editor respected his wish, but English editors did not.

In striking contrast to his obvious wealth Esser always travelled third class by train through Europe, because he did not want to spend too much money. He had the same attitude in daily life, eating soberly. He was very economical; did not enjoy alcoholic drinks and did not smoke.

In September 1926 he visited the Château de la Grillère near Faye-la-Vineuse in the vicinity of Richelieu in the Indre-and-Loire district in France. This castle and estate was destined to become the home of his "Institut de chirurgie structive".

The castle was bought the following year and in these surroundings a happy family life was reestablished.

Over the years all the money necessary for his goal had been collected, but soon it became obvious that the Institute could not become "independent" on French territory. It could not function under the French law with the collaboration of foreign plastic surgeons, however eminent so the castle became the "Administrative centre" only of the institute.

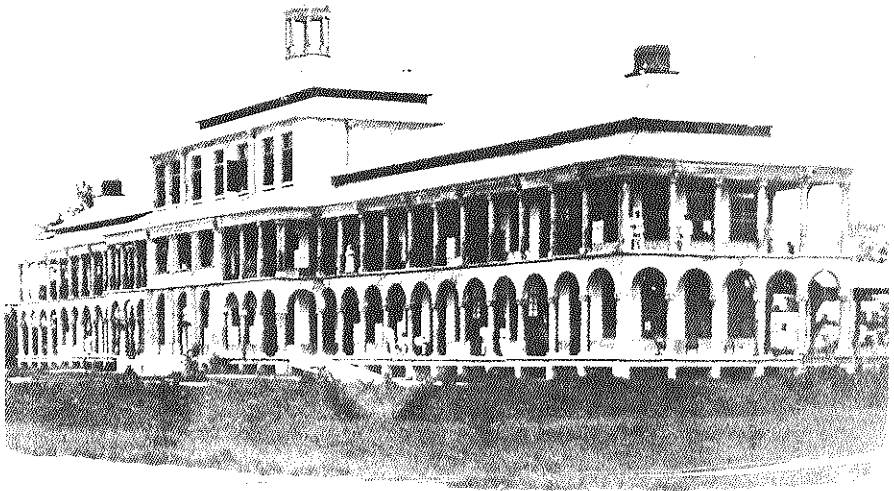
Second sea voyage to South-America

In Februari 1928 Esser sailed again to South-America, on board the French liner "Puerto-Rico".

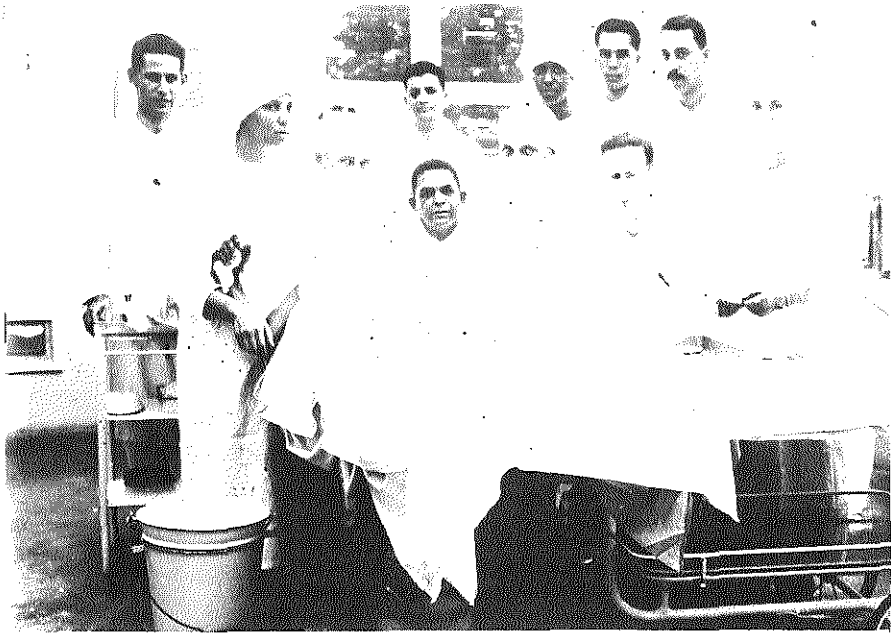
The trip was a combined mission, with two aims: to introduce modern plastic surgery to South-America and to find a suitable site for his international training and treatment centre for plastic surgery. There was a third non-medical aim: to carry out a commercial survey for the "Java en Borneo Olie en Rubber Syndicaat N.V.", of which he was a director. Esser had always shown a remarkable flair in financial transactions and during this trip he explored ways of investing his ample financial resources in tropical agricultural estates.

He paid brief visits to Guadeloupe, Martinique, and Paramaribo in Surinam (Dutch Guyana). There he performed some fifty operations in both the military and Roman Catholic hospitals, and he showed the surgeons L. Elsbach (1902-1983) and A.J. Gorter some of the possibilities and pitfalls of plastic surgery.

From March until May he operated on cases of cleft lip and palate, hypoplasia, ptosis of the upper lids, keloids and severe contractures of limbs. The



Roman Catholic Hospital St. Vincentius-Paramaribo 1928



Operation in Paramaribo, May 1928

surgeons were grateful for his practical teaching and they utilized his principles shortly afterwards themselves. As most of these procedures were multiple staged, they often had difficulty in the later stages to complete the repairs! In the evenings he lectured on plastic surgery topics, explained his views on the future of this branch of surgery, and played chess.

In May he visited neighbouring French Guyana, where he collaborated with the military doctor of the penal colony on Devil's island, Major Dr. R. Kervrann. The "Ile du Diable" was the notorious prison island of France. Later in 1930, they met again in France and the former prison doctor told him that he had the intention of specialising in plastic surgery, after he had observed Esser's operations in French Guyana. Esser operated upon ex-convicts who had tried to escape from the island and had been mutilated by shark bites. He also removed self-inflicted obscene tattoos of the face of former prisoners, whose acceptance in society was barred by their offensive features. These tattoos were excised and the defect covered with split skin grafts.

Esser became interested in five small islands near Cayenne, named "Le Père", "La Mère", the twin islands "Les Mammelles" and "Malingre", which together totalled approximately 247 acres. At that time these quaintly named islands seemed to him suitable for the establishment of his institute.

Negotiations were started with the Department of Forestry and Commerce at Saint Laurent du Maroni in French Guyana, and later with the French government for the purchase of these islands, but he later had to admit the geographical impracticability of the project.

Dealing in land and real estate was nothing new to Esser who was an accomplished negotiator and financier, owning estates and land in France and many houses in Holland and Germany.

In a long letter to the French government, sent officially through the Dutch governor of Surinam, he explained his motives.

His mission continued in the mean time and on the first of June he landed in Trinidad. The chess fanatics were delighted to learn that the ex-champion of Holland was in their midst, and Esser consented to give a simultaneous chess session next day.

He was also asked to perform operations, including cleft lip repair, the correction of hypospadias and the release of contractures of the lower extremities.

Two weeks later he was in Venezuela. In Caracas he held a conference and some still remembered the Dutch chessplayer of twenty-five years ago. He was warmly received by the chess-club representatives and delivered a lecture on plastic surgery to the medical society.

Soon afterwards he returned by boat to France and from there to Holland. During a stay in Katwijk with his sister and her daughter, in August 1928 he fell acutely ill. He had his appendix removed by his friend and surgeon Dr. J.R. de Bruine Groeneveldt of the hospital "Het Diakonessenhuis" in Leiden. In this hospital he met a very dedicated young and beautiful nurse, a deaconess, Aleida de Koning, who became his second wife in 1929.

Monaco

At the age of 52 years Esser remarried. His young bride was only 23 years. The ceremony took place at the tiny townhall of Faye-la-Vineuse in France. His wedding present was a beautiful situated castle on a mountain in the Tarn district in the south of France, named "La Rocquereine". Soon afterwards they moved to Monaco where the climate and tax laws were much more to his liking.

They kept the castle "La Grillère" as their summer residence.

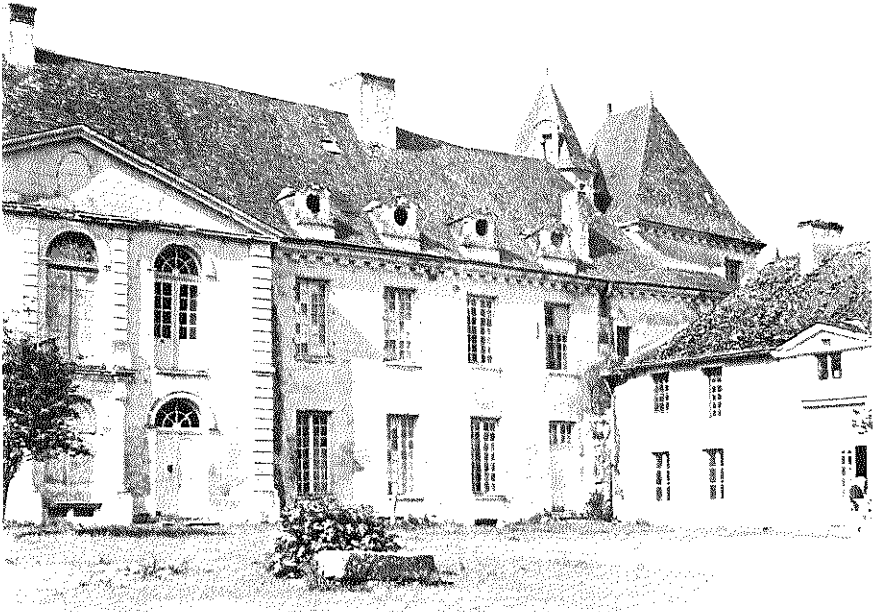
From 1930 until his death in 1946, Monaco remained his official residence. He spent little time with his family because from here he commenced a series of negotiations for an agreement to establish an institute for plastic surgery with governments of many countries. Introductions were arranged for him with the aid of Dutch legations.

He had first conceived the idea of an island for his institute during his stay in French Guyana in 1928.

Further plans were formulated during his stay in Venezuela for alternative sites in Argentina and Bolivia. The Dutch ambassador Mr. d'Artillac Brill of Caracas suggested some islands near Madeira, belonging to Portugal, with a



Esser and his wife in Monaco, 1938



Château 'La Gril-
lère' in Faye-la Vi-
neuse

better and more central position near Europe. Negotiations with Portugal started in 1929 and continued until 1935. Back in Europe alternative possibilities were investigated in San Marino (1929), Andorra (1931), Brazil (1932), Luxemburg (1934), Italy (1934,1935), Spain (1934-1936), Greece (1937) and France (1938). Nearly all these sites were clearly impractical and after a prolonged study were discarded.

The most successful negotiations and near-successes were in Italy, Spain and Greece.

Esser followed a specific plan of campaign to arouse the interest of a particular government. An introduction was arranged officially through the Dutch legations to whom he showed his impressively long lists of notable names of people who were in favour of his plans.

He offered at the same time to operate on challenging cases at the main university centres. For several months he would perform operations without any remuneration and lecture to their medical societies. In this way he obtained further letters of introduction to other universities.

In the end the ever present stumbling-block was always his insistent demand for absolute neutrality for the institute. He could have been successful in Italy and Greece if he had withdrawn this strict precondition.

Italy

In 1929 Esser visited Italy, as the guest of Dr. Gustavo Sanvenero-Rosselli (1887-1974) of the Padiglione Mutilati del Viso of Milan. He was invited by him to operate on several occasions and Sanvenero-Rosselli later sent him the pre- and postoperative photographs of these patients.

They remained good friends and in 1938, Esser's daughter Elisabeth was his trainee for a period of eight months.

Sanvenero-Rosselli arranged introductions for him to many Italian surgeons, both in Milan and in Rome, like Professor Guglielmo Bilancioni (1881-1935), a distinguished E.N.T.-surgeon in Rome and he offered his help during Esser's campaign in 1933 for the establishment of the Institute in Italy.

There was much support for Esser's plan from the Universities of Rome and Florence and for a few months he stayed in both cities. He performed operations with Bilancioni in Rome, was introduced to the influential politician and surgeon Senator Professor Rafaele Bastianelli (1862-1959), and to Professor Roberto Alessandri (1867-1948) a general surgeon and Giuseppe Ovio (1863-1957), ophthalmologist in Rome.

It was Ovio's suggestion to go to Florence, where he was cordially welcomed by Professor Lorenzo Bardelli (1868-1942), an eye-specialist with a great interest in reconstructive surgery of the eyelids and eyesocket.

In 1935 Bardelli wrote a book on this subject called: "Spunti di Chirurgia Sociale". Esser had a great admiration for his achievements in reconstructive or "social" surgery. Bardelli arranged an introduction to the surgical departments of Florence and to the Dean of this University Professor Bindo de Vecchi (1877-1936).

It was in Florence for the first time that Esser's ideas were taken seriously and extensive studies were made for the realisation of his goal.

In February 1934, Esser addressed a meeting in Florence, introduced by Bardelli, and shortly afterwards in Bologna, where he was introduced by Vittorio Putti (1880-1940), professor of orthopaedic surgery and Director of the impressive Istituto Rizzoli. (Colaço Belmonte, 1935)

This February meeting attracted the attention of Professor Arturo Manna (1886-1972) of Rome, who was interested in establishing an Italian society for plastic surgery. He did so the same year on June 10, 1934 and the society was called "Societa Italiana di Chirurgia Riparatrice - Plastica ed Estetica", he became also the founder and Director of a journal of plastic surgery "La Chirurgia Plastica", and Esser became one of the collaborators. (Fittipaldi, 1981). All these contacts augured well for the realisation of Esser's dream, but Esser, though not interested in politics, realised that he needed political

ANNO IV FASC. IV

OTTOBRE-DICEMBRE 1938-XVII

SEED. ARR. POSTALE

LA CHIRURGIA PLASTICA

RIVISTA DELLA SOCIETÀ ITALIANA DI CHIRURGIA
RIPARATRICE - PLASTICA ED ESTETICA

FONDATORE - DIRETTORE: PROF. ARTURO MANNA



DIREZIONE, AMMINISTRAZIONE: VIA NAZIONALE N° 87
ROMA

Italian Journal of Plastic Surgery

La Chirurgia Plastica

Rivista della Società Italiana di Chirurgia Plastica ed Estetica

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Avv. Prof. MAZZI RUGGERO (Roma)

support too. In his negotiations with the governments bordering the Mediterranean Sea he saw fascism swiftly growing.

In Rome Alessandri asked Esser to conduct a postgraduate course at the university with the collaboration of Ovio and Aldo Castellani (1876-19??), but law at that time forbade the creation of a Chair in "Social Surgery".

Both Alessandri of Rome and Bindo de Vecchi of Florence sent a letter to the Fascist leader of Italy Benito Mussolini (1883-1945) explaining the idea:

R. Istituto Chirurgico

Rome, le 18 Avril 1934.

Excellence,

Ce que le Professeur Esser désire, il est résumé dans les deux lettres qu'il m'a donné que je vous envoie.

Pour ma part je crois que l'enseignement de la chirurgie réparatrice sera très utile, dans un but social et individuel.

Je suis disposé à donner l'hospitalité provisoirement dans la clinique chirurgicale et de lui donner les moyens d'y opérer et d'y enseigner. La création d'une chaire officielle c'est un acte de gouvernement que V.E. jugera si il est opportun.

Je crois que dans le sens d'une école Post-Universitaire pour les médecins et chirurgiens qui désirent se spécialiser, elle serait acceptée par la Faculté, pendant que pour les étudiants il y a déjà trop d'enseignement.

Pour l'Institut à fonder, et pour sa physionomie juridique, ce n'est pas ma tâche d'exprimer mon opinion.

Surement il serait très désirable d'autant plus que dans l'idée de l'autonomie du professeur Esser il y a aussi le désir de rester toujours sous la conduite de V.E.

Je suis toujours à votre disposition.

Signature: R. Alessandri

In this letter Alessandri explained that the idea for a postgraduate school in plastic surgery was already more or less accepted by the medical faculty of Rome. It was possible for Esser to operate in his clinic on reconstructive cases, but the autonomous position of the institute was something beyond his capacity, and he left that matter to the Duce.

On March 8, 1934 at 5.00 p.m. the first meeting took place between Esser and the Duce.

Esser was well prepared for this official audience and he had studied the Duce's behaviour and activities since his "March on Rome" in 1922. The Dutch legation had officially arranged the audience with the Duce.

Mussolini resided in the Palazzo Venezia, and the visit entailed a long walk through endless corridors and enormous rooms all decorated with beautiful antique furniture, which no doubt attracted Esser's connoisseur's eye. After this long walk with footmen everywhere giving the fascist salute, Esser came to a large hall with only one man occupying it. The next hall was enormous and empty, apart from a gigantic desk at one end, with Mussolini standing behind it. This set-up was created to impress and overwhelm any visitor, but failed to have this effect on Esser, who walked quickly through the full length of the hall to the Duce's desk, showing a complete lack of protocol.

Mussolini addressed him in Italian, a language Esser did not speak. He left Esser the choice of speaking French, German or English.

A collection of clinical photographs was exhibited on the large desk, together with the long lists of notable people who were in favour of the project. Its effect was not lost on the Duce, who was amazed by the boldness of Esser and impressed by his achievements.

A second audience took place on April 14, 1934. Then Esser requested the offer of an island in the Mediterranean Sea on the basis of neutrality. This last demand was however not granted by Mussolini. A month later, on May, 9, 1934 Esser had an audience with the less powerful King of Italy, Vittorio Emmanuel III.

To reinforce his position it was decided that it was in the first instance necessary to create an official foundation of the Institute in Paris. Here Esser sought advice from international law experts on the difficult subject of extra-territoriality.

He became a member of the French Surgical Association ("l'Association Française de Chirurgie") on October 8, 1934.

There was nearly no end to Esser's activities during these years, since he travelled and performed operations all over Europe. At the same time he prepared a book on arterial flaps of the face and contributed many articles to Maurice Coelst's (1894-1963) journal "Revue de Chirurgie Plastique".

Maurice Coelst of Brussels, became a very good friend and colleague. He qualified in Brussels in 1922, had been attached to the E.N.T.-department of Sébileau in the Lariboisière-Hospital in Paris in 1925, and to Joseph's department in Berlin in 1926. (Bovy, 1964). Soon he became completely absorbed in plastic surgery, and for a long time was the only plastic surgeon in Belgium.

He was the Director and founder of the first international journal of plastic surgery in 1931. Among the long list of collaborators were Esser, Sanvenero-Rosselli, Kilner, Joseph and Lexer. There was a great interest in the journal, and at one stage the American Society of Plastic Surgery published their proceedings in this journal. This society was established in 1931 by Aufricht, Maliniac and Peer.

On the insistence of Esser the name of the journal was changed in 1935 to "Revue de Chirurgie Structive".

Coelst never obtained a University appointment and mostly worked from his own house, which was partly rebuilt as a clinic.

In 1936 he organised the first European meeting of plastic surgery in Brussels, and wrote numerous articles on nasal reconstruction and skin grafting. He later founded the Belgian Society for Plastic Surgery.

The publication of his journal ceased with the outbreak of World War II, and was never resumed (Vrebos, 1980).

Esser also looked after his commercial interests in companies and properties in France and Holland, attending auctions in the countries he passed through.

He was rarely at home and then only for short flying visits.

His young wife, who was now the mother of three daughters was often in despair in her house in Monaco.

REVUE DE CHIRURGIE PLASTIQUE

Revue Internationale de Chirurgie restauratrice, plastique et esthétique, comprenant des articles originaux dans la langue choisie par les auteurs respectifs, ainsi que des résumés détaillés en français, anglais et allemand.

International Review of restoring, plastic and esthetical surgery containing original articles in the languages chosen by the respective authors accompanied by detailed summaries in French, English and German.

Internationale Zeitschrift für wiederherstellende, plastische und ästhetische Chirurgie. Die Originalartikel erscheinen in der vom Autor gewählten Sprache mit eingehenden französischen, englischen und deutschen Zusammenfassungen.

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REVUE DE CHIRURGIE STRUCTIVE

(Ancienne Revue de Chirurgie Plastique)

Revue Internationale de Chirurgie réparatrice et plastique, comprenant des articles originaux dans la langue choisie par les auteurs respectifs, ainsi que des résumés détaillés en français, anglais et allemand.

International Review of restoring and plastic surgery containing original articles in the languages chosen by the respective authors accompanied by detailed summaries in French, English and German.

Internationale Zeitschrift für wiederherstellende und plastische Chirurgie. Die original Artikel erscheinen in der vom Autor gewählten Sprache mit eingehenden französischen, englischen und deutschen Zusammenfassungen.

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Vertical notes on the left:
 Handwritten: "Handwritten University of Illinois, Chicago"
 Vertical: "Handwritten University of Illinois, Chicago"
 Vertical: "Handwritten University of Illinois, Chicago"

List of adhesions to Esser's Institute of Plastic Surgery (U.S.A.)

In Great-Britain he gained the support of three pioneers of plastic surgery, Sir Harold Delf Gillies, Professor Thomas Pomfret Kilner and Archibald Hector McIndoe.

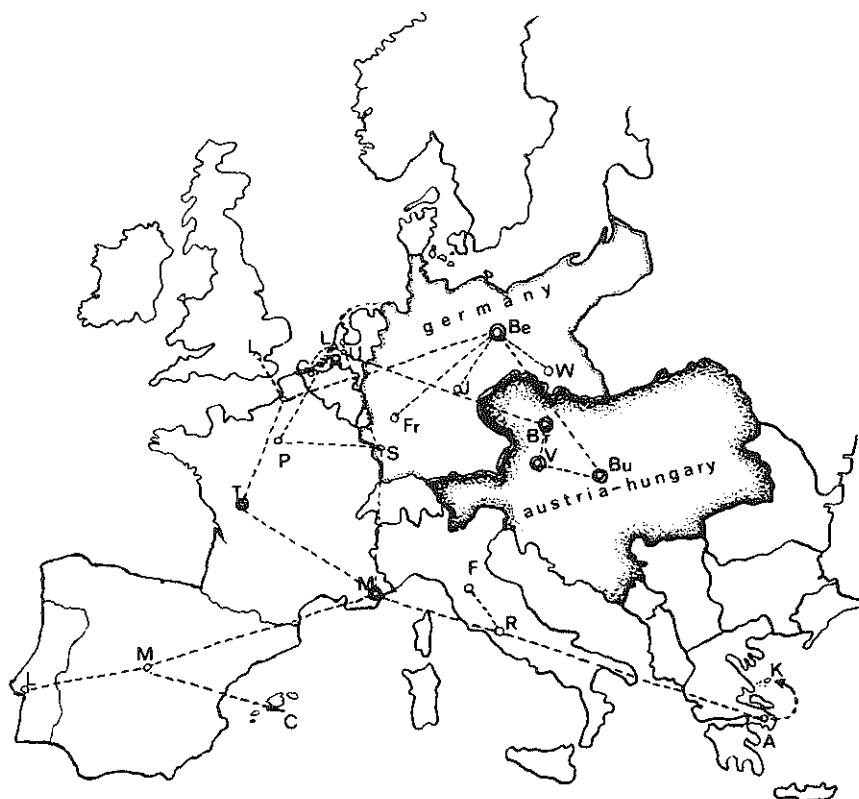
The very impressive list of signatures included the Nobelprizewinners Lord Ernest Rutherford (1871-1937), Albert Einstein (1879-1955), Pieter Zeeman (1865-1943), Ivan Pavlow (1894-1936), and also on the list the names the King of Greece and Italy.

At first there was considerable scepticism, but gradually the ideas gained more acceptance.

These activities did not go unnoticed in the newspapers. Long articles appeared on the great plans:

"... Doctor plans to found a republic of healing". "A surgical centre for all nations". "War dream on verge of realisation. Independent island where maimed will be healed" in the British newspapers. In the Dutch newspaper the heading was: "Een chirurgische vrijstaat: Gesticht op initiatief van een Nederlandsch medicus".¹⁴

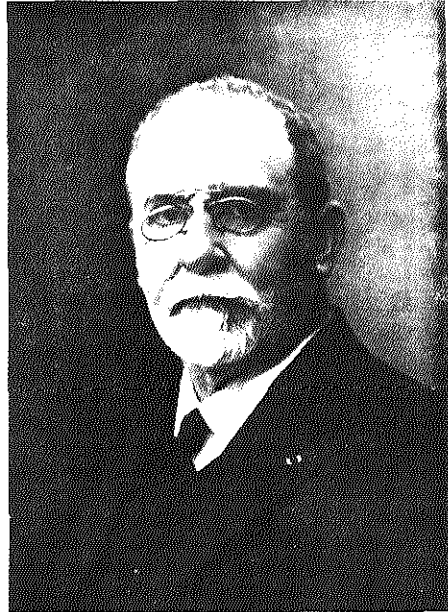
As a result of this publicity many doctors applied for appointments with the institute, especially Jewish doctors whose tragically uncertain future due to the rapid advance of fascism in Germany made them desperate to find a place of safety: to them the extraterritorial status of the proposed institute offered a temporary respite from fascist persecution.



Esser's crusade through Europe

Institut Esser de Chirurgie Structive

On November 12, 1934, the Institute was officially established at a meeting held in the International Institute for Intellectual Cooperation ('l'Institut de coopération intellectuelle') of the League of Nations at the Palais Royale in Paris, under the able chairmanship of Jean-Louis Faure (1863-1944) Surgeon to the Broca Hospital. The choice of Faure had been excellent. Faure had introduced Esser to the leading French scientists and political leaders of that time, including Gaston Doumergue (1863-1937), Philippe Pétain (1856-1951), Pierre Laval (1883-1945) and the President Albert Lebrun (1871-1950).



Jean-Louis Faure

Esser operated upon many interesting cases in the Broca Hospital with Faure who was a member of the Institute and of the Academy of Medicine of France.

Now that his Institute had been officially recognised Esser's position was much stronger. Many internationally renowned people now officially supported the recognised Institute, participating in the 'Grand Conseil'.

As Mussolini has refused to grant territorial neutrality to the proposed Institute new negotiations began in Spain where for several months Esser worked, talked and travelled. The Balearic island of Cabrera situated South of Mallorca seemed an appropriate site for his Institute, but negotiations in Spain were time consuming and the subject of 'neutrality' remained a stumbling block. The outbreak of the Spanish civil war (1936-1939) forced Esser to leave Spain, hurriedly.

Institut Esser de Chirurgie Structive
CERTIFICAT

MR.

est Membre du GRAND CONSEIL de l'« Institut Esser de Chirurgie Structive »

PARIS, le 12-11-1934.

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Art. 1 : Un Institut International de Coopération Sociale est constitué à Paris.
Le siège de l'Institut pourra toujours être transféré par simple décision du conseil d'administration. Le nom est : Institut Esser de Chirurgie Structive ».

Art. 2 : L'Institut a pour objet principal le développement le plus étendu d'une coopération sociale, surtout par la généralisation du traitement et de l'éducation sociale de mutilés et de raaisies involontaires désespérés de la société et par la solution d'autres problèmes sociaux qui ont besoin de généralisation (p. ex. l'organisation scientifique et l'instruction de la chirurgie des mutilés), etc.

Art. 3 : L'Institut est indépendant des autorités du pays dans le quel il est établi. Il correspond directement avec les autorités gouvernementales et administratives chargées, dans les différents pays, de l'examen et de la solution des questions se rattachant à son objet.

Art. 4 : Le Conseil d'Administration sera prêt à collaborer avec des institutions sociales en vue de résoudre des questions particulières, sans cependant porter en aucune manière atteinte à leur autonomie.

Art. 5 : L'autorité suprême de l'Institut appartient au Grand Conseil, élu par l'Assemblée Générale. Le Président du Grand Conseil sera en même temps Président de l'Institut et du Conseil d'Administration. Le Grand Conseil se subdivise en différents Conseils. Le Conseil d'Administration est élu parmi les membres du Grand Conseil de l'Institut.

Art. 6 : Le Conseil de l'Administration délèguera avec l'approbation du Grand Conseil au moins quatre personnes de nationalité différente qui formeront un Comité de Direction. Les fonctions du Comité de Direction, qui se réunira au moins tous les deux mois, de même que la durée du mandat de ses membres et le système de roulement, selon lequel ils seront renouvelés, seront déterminés par le Conseil d'Administration.

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Toutefois, ce Conseil peut déléguer au Directeur tout ou partie des pouvoirs appartenant, aux termes de cet article, à lui.

Art. 10 : Le Conseil d'Administration arrête le budget annuel de l'Institut.

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Le Conseil d'Administration établit un règlement financier concernant la gestion des finances de l'Institut, notamment le budget, l'affectation et l'emploi des fonds, le placement des capitaux, la comptabilité et le contrôle.

Art. 13 : Les comptes sont vérifiés au moins une fois par an par un Commissaire aux comptes, élu par le Conseil d'Administration sur la proposition du Président de l'Institut. Le rapport de celui-ci est joint au budget et aux comptes.

R. BELLARGENT,
Le Secrétaire de l'Assemblée :

L. FAURE,
Le Président de l'Assemblée :

Le Président de l'Institut Esser
de Chirurgie Structive :
I. F. S. ESSER.

Esser's passport and money had been stolen in Madrid, the island of Cabrera became a military base and so ended the Spanish adventure.

The same routine was followed in Portugal the following year. He became a "Flying Dutchman" in one sense of the word. Fritz Demmer of Vienna called him the "Apostle of Plastic Surgery" for his persuasive methods (Demmer, 1936).

In September 1935 he made a two week visit to Berlin, Budapest and Vienna, where for the last time he met his former colleagues and friends. He observed the persecution of his Jewish colleagues who could no longer work or publish their work because of the anti-semitic Nazi legislation. This convinced him once more of the necessity of total independence from any government.

It was very difficult indeed to trace Esser's movements at that time and two extracts from letters to Esser in 1935 illustrate the difficulty of corresponding with him:

"Many thanks for your card apparently sent from *Belgium*, but bearing your *Monaco* address and speaking of the success of your enterprise in *Spain*. I am delighted to hear

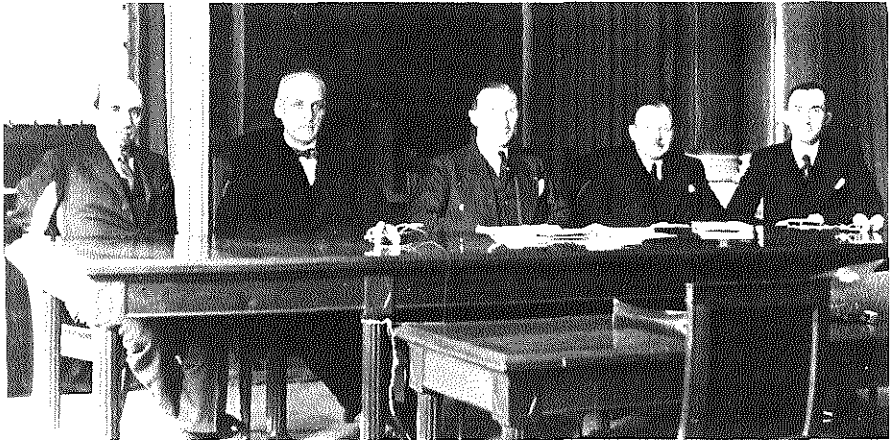
that progress is being made but I am a little confused for I thought the Centre was to have been in *Italy*".

(Kilner, May 14, 1935)

..."ich hoffe dass dieses Sie erreicht. Sie reisen eben so schnell von Land zu Land, dass man Sie nirgends brieflich erreichen kann. Eines Tages werden Sie auf der 'zwischenstaatlichen Insel' sitzen und allmählich all die Post erhalten, die Ihr Reisetempo nicht einhalten konnte. In Deutschland nennt man das nach einem bekannten Roman: 'Briefe die ihn nicht erreichten...'"

(Professor Walther Löhlein, Director of the University Ophthalmological clinic, Ziegelstrasse, Berlin. November 1935.

(...I do hope this will duly arrive. You are travelling so fast from country to country, that it is impossible to contact you by post. One day you will be living on your "independent island", and slowly the post will start to reach you, which could not catch up with your travelling speed. In Germany we say after the famous book: "Letters, he did not receive...")



Gillies Esser Coelst Kilner and Sanvenero-Rosselli
Brussels October 1936

In October 1936 Esser was elected Honorary President of the First European congress of plastic surgery in Brussels and Gillies became the Honorary Secretary. The congress was organized by Coelst in collaboration with Esser of Monaco and Cardenal of Madrid.

The Honorary President addressed the meeting and explained also his plans to the audience. Dutch interest had not been great, apart from the presence of Remijnse and Van der Hoeve.

But internationally the first European meeting proved to be a great success, and the next meetings were planned for London in 1937, Milan in 1938, and Paris and Berlin in 1939 and 1940 respectively (Colaço Belmonte, 1937, Hartmann, 1938).



First International Congress of Structive Surgery in Brussels October 1936
From left to right: Kilner, Sanvenero-Rosselli, Wardill(?) (with carnation), Esser, Gillies, Coelst, Remijnse (moustache, smoking)



Honorary President of the Congress in Brussels (1936)

Greece (1937)

From March until July 1937 Esser was in Greece, and it seemed almost certain that he would achieve his ultimate goal here.

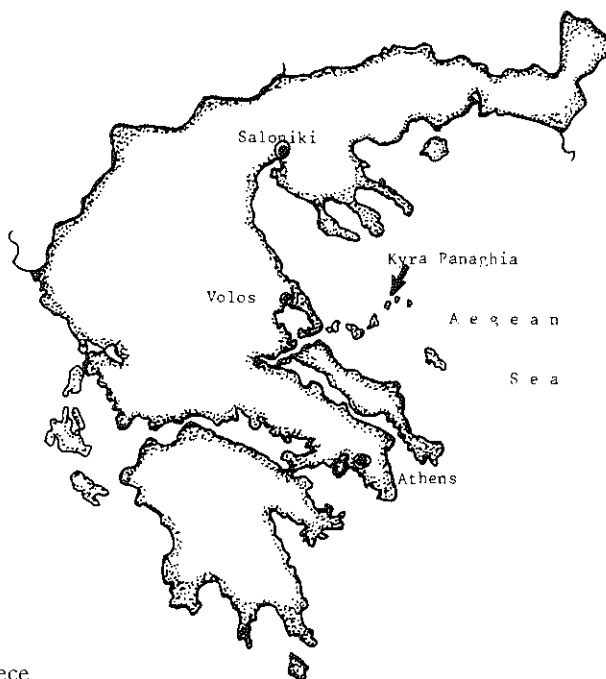
On the instigation of Albert Plesman (1889-1953) manager of the Royal Dutch Airlines (K.L.M.) whom he had met in Holland, he entered into negotiations with the Greek government.

King George II (1890-1947) of Greece was in favour of Esser's proposals.

On March 7, 1937 Esser addressed the Medical Society of Athens. He stressed the historical significance of Greece in the field of medicine from the times of Hippocrates and Asklepios, to the present day. He spoke in German and answered questions in French.

He explained his aims in building the Institute in Greece, and pointed out that the Institute, if it were to be effective it had to be independent, in the same way as the International Red Cross Organization. He also offered to demonstrate plastic surgical procedures on complicated cases.

This address was very well received by the Medical Society and the Greek



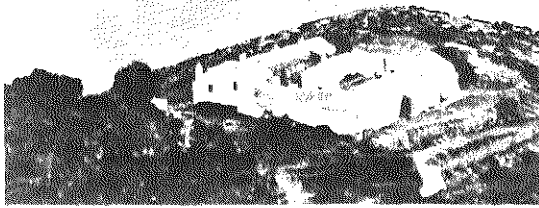
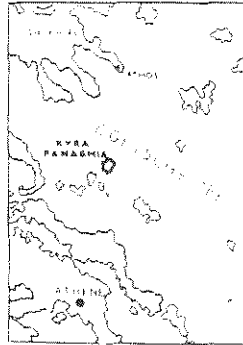
Map of Greece



EEN CHIRURGISCHE VRIJSTAAT

*Gesticht op initiatief van een
Nederlandsch medicus*

D



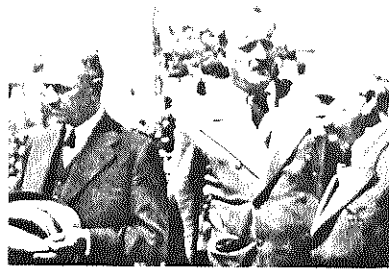
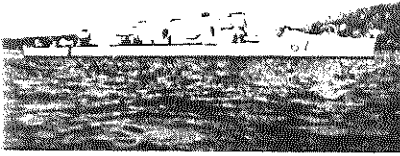
...

Exclaiming the Free State of Surgery in a weekly periodical in Holland. (Panorama)

press. For weeks the front pages of the leading Greek papers were covered with news of his activities, surgical feats and his negotiations with the government. Operations without remuneration were performed at the surgical university clinic of Professor Emmerich Kondoleon¹⁵ (1879-1939) of Athens.

Esser thought that an island in the Aegean Sea was suitable for the construction of his hospital and research centre.

The Greek government was willing to allow him the use of the isle of Kyra



The first of these islands was Panaghia, in the Northern Sporades, and a destroyer named 'Niki' was placed at his disposal, to allow him to visit the Aegean islands, with government representatives. His desire to establish a research and training centre for plastic surgery and a model sanatorium for invalids on one of these deserted islands soon became known to the world press. His insistence on neutrality and total independence proved to be the eternal stumbling-block. The Greek dictator Ioannis Metaxas (1871-1941) was of the



of the

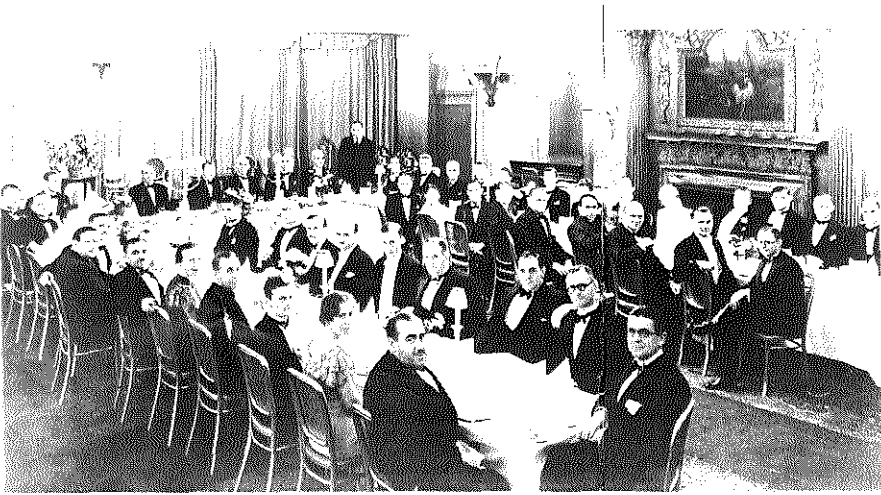


Een chirurgische Vrijstaat (continued)

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The London Congress, 1937

same opinion as Mussolini and refused to concede this point. He was willing to leave only two policemen on the islands as a formality, to safeguard Greek sovereignty, but Esser obstinately refused this offer.

The newspaper "Paris-Soir" of June 3, 1937 had already prematurely stated the official foundation of the Free State of Surgery: "L'état libre de la chirurgie est fondé".

On October 9, 1937 a second meeting with the "Grand Conseil" of the Institute was organised and Esser explained to the Counsel members that due to political tension in Greece, plans to purchase the islands had been temporarily postponed. However he had no intention to give up the ideal.

In 1938 much time was spent in preparing translations of his book on arterial or biological flaps into German by Von Hochenegg and Demmer, Italian by Alessandri, Hungarian by Blaskovics, Spanish by Cardenal and Portuguese by Borges de Souza. Remijnse translated the book from the French edition into Dutch.

In the mean time a book on the Epithelial inlay technique was in preparation and was eventually printed in Leiden, Holland, in the English language, in 1940, with the cooperation of Gillies, Kilner, Bardelli, Eastman Sheehan and Just of Innsbruck.

At the third European congress of plastic surgery in Milan, on September 25 to 27, 1938 Esser and his daughter Elisabeth read a paper on the split skin graft inlay and the bifid nose respectively. Elisabeth was at that time (1938-1939) a trainee with Sanvenero-Rosselli.

On October 20, 1938 Esser was nominated Honorary President of the Italian Society of Plastic Surgery in Rome, on the occasion of the Fourth National Congress.

He also contributed several articles in French and now more in the English

LEMBI BIOLOGICI DELLA FACCIA

DI

J. F. S. ESSER

TRADUZIONE DELL'ORIGINALE INGLESE

“BIOLOGICAL FLAPS„

CON PIU' DI 600 ILLUSTRAZIONI

DI

ROBERTO ALESSANDRI

DIRET. DELLA CLINICA CHIRURGICA DELL'UNIVERS. DI ROMA
PRESIDENTE DELLA R. ACCADEMIA MEDICA DI ROMA
HON. F. R. C. S. (ENGLAND) HON. F. A. C. S. (U. S. A.)
ASSOCIÉ ÉTRANGER DE L'ACADEMIE DE MÉDECINE DE PARIS
HON. MEMBER ACADEMY OF MEDICIN - NEW YORK, etc.

ROMA
TIPOGRAFIA IPPOLITO FARELLI
Via Tuscolana, 6, 125
1936

Arcműtétek Biológiai Karéjjal ESSER

Fordítás Francziából:

“LAMBEAUX BIOLOGIQUES, ESSER„

PAR JEAN LOUIS FAURE

Több mint 600 ábrával

Első kiadás 1936

DR. BLASKOVICS LÁSZLÓ

egyetemi orvostudós tanácsos, a Kir. M. Pálffy Páter
Füüdandószystem Személelet Klinikájának igazgatója.

EDITOR E. J. BRILL
LEIDEN (Hollandi)
1938

BIOLOGISCHE LAPPEN

VAN
ESSER

NAAR
"LAMBEAUX BIOLOGIQUES DE LA FACE", DE ESSER
PAR PROF. JEAN-LOUIS FAURE, PARIS

BEWERKT IN HET NEDERLANDSCH
MET OMSTREEKS 1000 BEELDEN
DOOR
DR. J. G. REMYNSE
Ieetmeester van het Ziekenhuis aan den Coolhof te Rotterdam

UITGEVER
E. J. BRILL - LEIDEN
1938

Biological flaps translated in Dutch

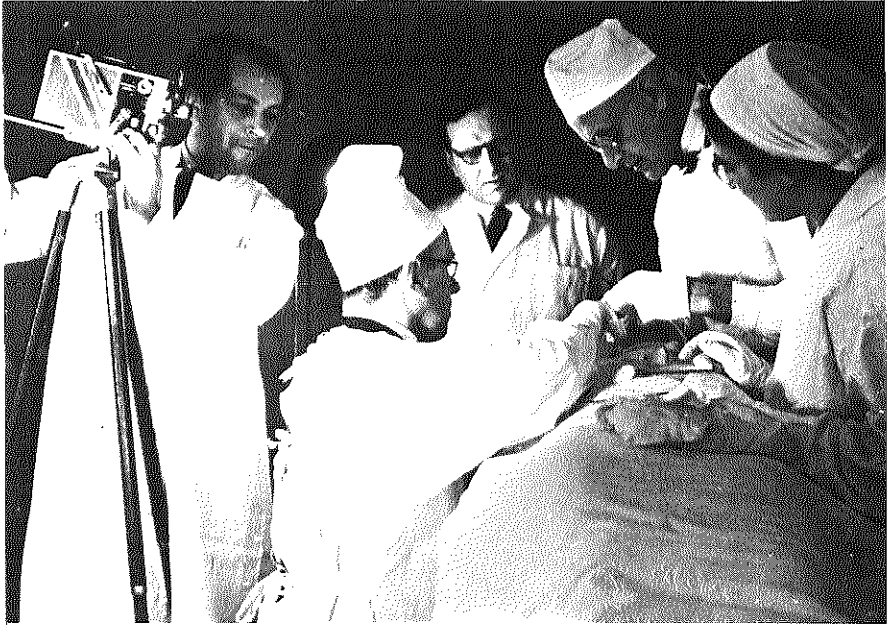
language to the Belgian Journal of Structive surgery. Papers were written in the language of the author's choice and summaries were given in German, French or English.

The American and British journals of Plastic surgery were not founded until just before Esser's death, long after the foundation of the European (Belgian) journal.

In Amsterdam, in December 1938 Esser found time to produce a film, made by Max de Haas, on cleft lip repair, intended to be a teaching aid for universities in Europe.

The German invasion of Poland in September 1939 put an end to any plans for the Institute to be established in Europe.

For the second time Esser volunteered his services to the French government, but was this time declined on the grounds of his collaboration as a civilian surgeon with the Austrians during World War I.



Film made by Max de Haas, on cleft lip and palate repair in Amsterdam in 1938.
Esser operating with the dental surgeon Van der Molen

Sojourn in the United States of America

To protect his son, a student in mathematics at the Polytechnic in Paris from the cruelties of a new war, he sent him off to the United States and joined him a few months later in New York.

Esser left Monaco in 1940 with a minimum of luggage. He tried to get support for his Institute in the United States.

He never intended to emigrate permanently and his official residence was still Monaco, where his wife and daughters remained.

Soon the second World War was a reality and the route between him and his family was blocked.

In the beginning he lived frugally, and soon in poverty in New York, since he lost his capital on the stockmarket in 1940. He took this loss stoically.

During 1940 Esser and his son travelled in an old Ford pick-up truck furnished as a camper, throughout America, visiting universities and trying to gain support for his never ending dream of his Institute.

There was a good deal of scepticism in America and the American plastic surgeons were suspicious, well aware of his business acumen and financial interests. They were also afraid of serious competition from him, but his deteriorating health made this virtually impossible.

Because of his great and lasting achievements in the field of plastic and reconstructive surgery he was made an honorary member of the American Society of Plastic and Reconstructive surgery on May, 24, 1940. On that same day he lectured on the "Principles of plastic surgery in war injuries, based on experiences in the last war".

In 1941 he was nominated honorary Fellow of the International College of Surgeons in Chicago.

With great imagination and creative ability he also spoke about his plan to build a World Plastic Surgery Centre. His address was well received, but many in the medical profession were curious and sceptical of such individualism. "One could not help but like him", concluded Maliniac (1946).

During the period 1940 to 1942 Esser addressed surgical meetings approximately ten times, at the Universities of New York, Philadelphia, Pennsylvania, Yale, New Orleans, Michigan and Chicago.

In 1941 he attended the Third International Assembly of the International College of Surgeons in Mexico City.

His financial situation was troublesome, and once he came to Dr. Lyndon Peer's (1898-1981) office in such a "shabby" attire, that a nurse mistook him for a "Workmen's compensation case". Peer was very embarrassed about this unfortunate mistake. (Rogers, 1982).



Escher in Chicago, 1941. Photographed by Max Thorek

In 1941 Escher settled down in Chicago. He performed only 6 operations in the United States, which officially was against the law.

Nevertheless he was not afraid to publish these cases in American surgical journals. He became interested in philosophy, and in September 1941 started to write his autobiography, which he unfortunately never completed.

His heart condition worsened and a progressive Dupuytren's contracture was developing, the bugbear of any surgeon.

According to his cardiologist David Goldfinger of Chicago, the heart condition had two etiological components, i.e. rheumatic disease and arteriosclerosis. In a report in 1946 he wrote that the prognosis was extremely unfavourable, not responding to the usual medication with digitalis. The electrocardiogram revealed a rapid auricular fibrillation and signs of severe myocardial damage (April 31, 1946). The long journey back to France was considered too risky.

Escher was well aware of the situation and that he could die any moment. But still he did not give up his plans for the international centre.

In 1946 he collapsed and died in front of his house in Chicago.

At the time of his death a book on "Twenty years of Constructive Surgery" which he started together with Professor Adolf Lorenz (1854-1946) of Vienna, being a compilation of the work of leading surgeons in the field of reconstructive surgery, was still unfinished and never published.

Escher was survived by his wife and six children.

Gustave Aufrecht wrote in his obituary the following words:

... He was a great man, a great pioneer representing one of the most essential surgical specialities of today.

The whole world knows and respects his name. He contributed in many fields of plastic or structive surgery important methods which are used by surgeons the world over for the benefit of countless patients.

Many of the wounded soldiers of this last world calamity benefited by his genius.

I personally, as a former assistant of Dr. Esser's, who had the good fortune to be tutored by his genius, feel a great personal loss. ... His spirit and his work will always be with us.

Gustave Aufrecht, August 6, 1946.

Max Thorek of Chicago concluded his obituary with the words:

... Much of Dr. Esser's well-deserved fame rest upon certain innovations which he made in the previously-used methods for skin and tissue grafting. Some of these ideas were considered revolutionary, yet under his hands, they proved their practicality, and have been generally accepted by plastic surgeons who have followed his lead and accomplished such seeming miracles for the mutilated and maimed of the war just ended. Best known of these are his so-called "biological flaps" in which especial attention is given to the maintenance of arterial, venous and lymphatic supply to the pedicled flap; and the "Esser-inlay" which makes use of pressure applied by a mold of the wound to prevent exudation between the graft and its bed. This mold is made of dental stent; the idea for the process derived from Dr. Esser's early experience in dental practice in Holland...

Max Thorek, November 1946.

In the Netherlands Esser was remembered by Remijnse:

... In a short span of time the general practitioner Esser became a world famous plastic surgeon... it is a pity that we can not enjoy anymore the stimulating influence of this remarkable man...

Johan Gilles Remijnse, 1947.

Notes

1. A.E.J. Holwerda was born in Gorinchem in 1845. Study of theology and Greek and Roman languages. Teacher history secondary school (H.B.S.) Schiedam 1869-1878. Thesis 1878. Since 1878 teacher secondary school Leiden (HBS). 1896 Professor in archeology and history Leiden University. Director Historical Museum Leiden 1903-1919.
2. G.Th. Ziehen, professor of psychiatry/neurology Utrecht 1900-1903. In 1903 to Halle, Germany. From 1904-1912 Berlin. Until retirement in 1930 in Wiesbaden. Dystonia musculorum deformans is called Ziehen's disease.
3. Ph. Bockenheimer obtained title of Professor in surgery in 1907 (Berlin). Interested in anthropology and travelled all over the world. Left Germany for Mexico in 1922. Esser met him in Berlin, but was not impressed (disappointed) by his achievements in plastic surgery.
4. Sushruta is no name, means "famous". Often, probably wrongly dated 600 B.C. More likely is 600 A.D. as quoted by Reinhold Müller: "...die grosse Lehrsammlung, die Sus'rutaSamhita, dürfte in ihren alten Anteilen um die Mitte des 1. nachchristl. Jahrtausends entstanden sein". "...Es müssen Verbindungen mit dem Westen bestanden haben, so dass Einflüsse aus dem Mittelmeergebiet wahrscheinlich sind". Quoted in E. Gurlt, A. Wernich, A. Hirsch (eds). *Biographisches Lexicon der hervorragenden Ärzte aller Zeiten und Völker*. 6 Vols, Munich. Urban & Schwarzenberg. 1962. Sec. ed. Vol. 5 p. 479.
5. J.W. van Wijhe was born in Duiven, Holland in 1875. Zoologist and anatomist. Interested in the development of the vertebrate skull. Convinced evolutionist. Established a modern laboratory of embryology and anatomy in Groningen in 1909.
6. T. Verebély, professor in surgery Budapest. (3rd, later 1st surgical clinic). Interested in research into the surgery of nerves and vessels, cancer and bone diseases. Published also on mammoplasties later. 1911, textbook of surgery with Vilmos Manning.
7. A. Bier was born in Helsen, Waldeck, Germany. Studied medicine in Berlin, Leipzig and Kiel. Graduated in 1886. Sailed as ship's physician twice to South-America. Thesis 1888. Assistant to the great surgeon Friedrich von Esmarch (1823-1908) in Kiel. Interested in the treatment of various conditions with artificial hyperaemia. Professor in surgery in 1895. He submitted himself courageously in 1899 to a dramatic auto-experiment with spinal anaesthesia. 1899 professor in Greifswald, similar position in Bonn in 1903. Successor of Ernst von Bergmann (1836-1907) in Berlin. 1907. Regional intravenous anaesthesia ("Bier's block") 1908. Admiral in the German Navy during World War I. Developed protective steelhelmet ("Stahlhelm") in 1915. In his later life interested in homeopathy. (First article on this subject 1925). Bier was very interested in forestry and biology. Excellent biography: A. van 't Riet: "August Bier en de homeopathie". (1978).
8. The Charité-Hospital was heavily damaged by bombing during World War II.
9. Esser performed plastic surgical operations in Berlin in many clinics as can be

witnessed from his notes in his operation-books of Berlin. It is difficult to trace the exact location of the various clinics, but an attempt has been made.

- Technische Hochschule – Reservelazarett with 150 beds. Berlin-Charlottenburg.
 - Klinik Krückmann. University ophthalmology dept.
 - Klinik Bier. University surgical dept.
 - Klinik Silex. Klinik für Augenleiden. Karlstrasse 29. Dr. Paul Silex.
 - Klinik Mühsam: Rudolf Virchow-Krankenhaus. Head of dept. Dr. Mühsam.*)
 - Zahnärztliches Institut (University of Berlin). Invalidenstrasse 87-89. Head of dept. Prof. Schröder.
 - Caecilien-Haus. Vereinslazarett Caecilienhaus. Berlinerstrasse 137. Berlin-Charlottenburg.
 - Apostel Paulus klinik. Apostel Paulusstrasse 12, Schöneberg. Also called Cecilien-sanatorium.
 - Klinik Johannisstrasse. There were several private clinics in this street. Most likely to be Johannisstrasse 10, Berlin N 24. 36 beds. Also called "Nord-Sanatorium G.m.b.H."
 - Lützwow Privatklinik.? Elisabeth Klinik (protestant community) Lützwowstrasse 24-26 ? Lützwow-Ufer-Klinik. Lützwowufer 14
 - Klinik Frohman. D. Frohmann, dentist. Kurfürstendamm 42
 - Lazarus-Krankenhaus. Founded in 1873. Bernauerstrasse 115-117.
 - St. Hedwig Krankenhaus. Grosse Hamburgerstrasse 5-11.
 - Kaiser-Wilhelms-Akademie (milit.) Invaliden/Scharnhorststrasse Berlin. (Also Garnisonlazarett in Scharnhorststrasse).
 - Bismarck Sanitat. (?) There were 30 Bismarckstreets in Berlin!
10. J. Maliniac was born in Warsaw in 1889, then part of Russia. Studied medicine in Paris. Medical officer in the Russian army during World War I. In the post-war period for a short time with Morestin in Paris and with Joseph in Berlin in 1921/1922. Met Esser in Berlin. Emigrated to the USA in 1925, and founded in 1931 the American Society of Plastic and Reconstructive Surgery (Lewin, 1976).
11. C.A. Valadier, born in Paris. studied dentistry at the Philadelphia Dental College in the USA. Dentist in Paris in 1910. Volunteered as a dentist in the British forces at outbreak of Great War. Obtained British citizenship in 1920 and was knighted. Lived and died in France.
12. V.P. Blair, head of section Oral and Plastic Surgery in the United States' Army in USA, and was appointed Chief Consultant in Maxillofacial Surgery to the American Expeditionary Forces during World War I. Like Gillies, Lexer and Esser felt the necessity of attracting dental surgeons for maxillofacial work. Collaboration with Robert Ivy. (surgical en dental training!). Later Blair was renowned for the invention of a suction box and a dermatome, to facilitate skingrafting. (1927).
13. Esser met Van der Molen in Utrecht, attending Dentz's practical course in dentistry in 1901. Van der Molen qualified as "tandmeester" in 1902. (Esser did not!) Visit to the USA afterwards. Dentist in Groningen and since 1918 Amsterdam. Appointed Head of Department of the Municipal dental clinic at the Jonas Daniel Meyerplein in Amsterdam, practised privately in the afternoon. Consultant dental surgeon to the University hospitals in Amsterdam.
14. Transl.: A surgical Free-State. Founded by a Dutch Doctor.
15. E. Kondoleon had been trained in Athens and Breslau. Professor in surgery in 1921. During World War I interested in transport of wounded soldiers. Renowned for the surgical treatment of elephantiasis of the leg.

*) Richard Mühsam, surgeon. (Prof. ärztl. Direktor Virchow Krankenhaus. Augustenburger Platz 1, Berlin N 65.

Wilhelm Mühsam, Ophthalmologist. Mosstrasse 79, Berlin W 30.

PART TWO

Specific techniques and principles of plastic and reconstructive surgery. The contributions of Dr. J.F.S. Esser.

‘Just as the names of certain pioneers in medicine and surgery will ever be associated despite all efforts of terminology reformers, with the conditions or procedures they first described, so the name of ESSER will go down to posterity linked up, in the minds of all who take an interest in reconstructive surgery, with the ‘Rotation of the cheek’ and artery pedicled flaps (biological flaps) and with that form of free skin grafting known as the epithelial inlay. He first pointed out the essential condition necessary to ascertain a perfect result of free skin transplantation and to him we owe the success of transplantations in the mouth and the orbit, and the certainty that the grafts will remain alive’.

T.P. Kilner, 1935

Esser's general observations of wound repair related to facial injuries in World War I.

During World War I the aesthetic value of facial reconstruction was held in low esteem by most of the general surgeons. They were content to simply close the facial wounds as best they could which often left the patient with appalling indurated scars. The restoration of the complex aesthetic composition of the face, was something in which the majority of surgeons were not interested and for which they were certainly not trained.

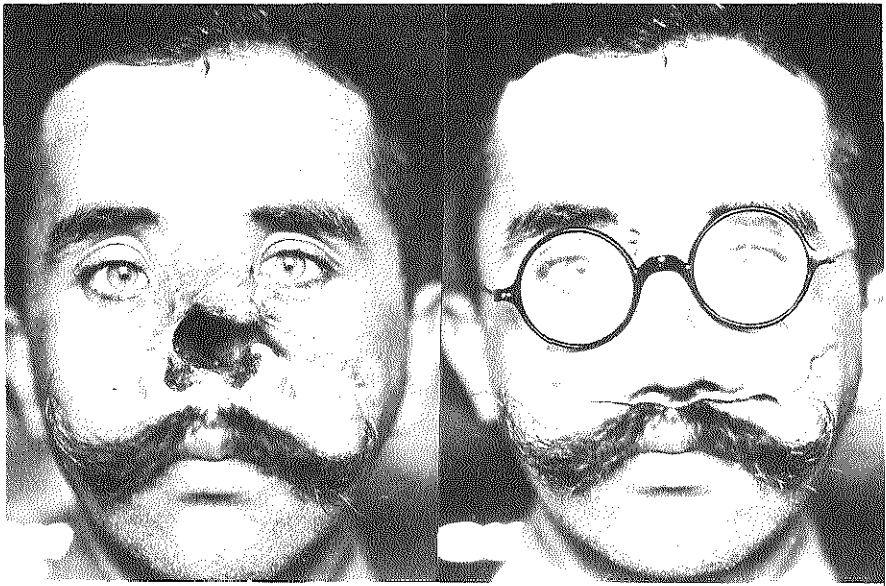
The severity of the facial injuries encountered in this war were new and the sheer number of casualties was overwhelming.

Trench warfare at close quarters meant that any head appearing above the parapet was a sitting target for the sniper and heavy artillery, shrapnel and machine-guns did the rest. The wounds were extensive and despite their naturally good supply often became infected.

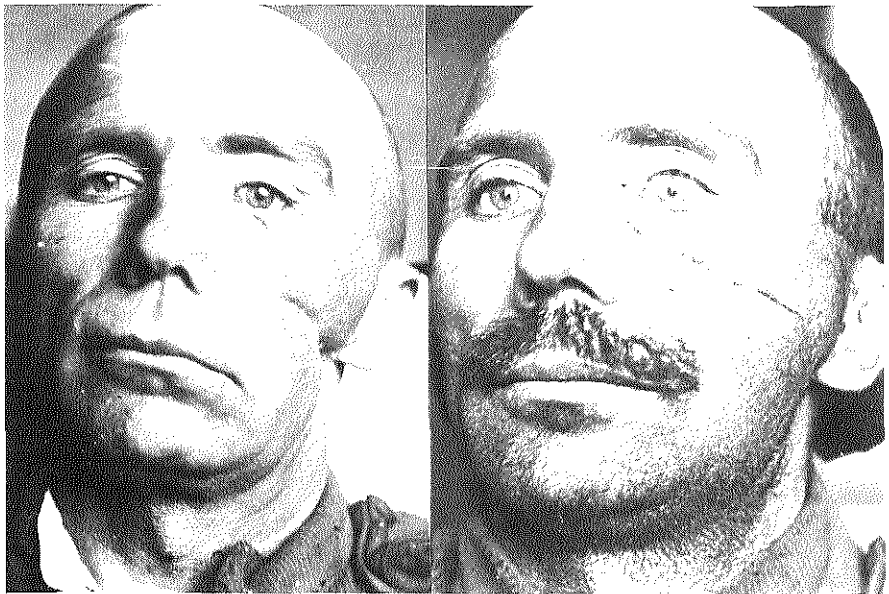
Breathing, swallowing and mastication were seriously impaired as the results of these dreadful facial urgencies.



Appalling wounds. World War I



Prosthetic appliances



"Simple" plastic reconstruction

Esser was convinced that the good arterial supply of a skin flap was of prime importance to close facial defects and to control the inflammation. Detailed knowledge of the anatomy of the vascularisation of skin and underlying tissues was crucial in the raising of these flaps.

With the introduction by him of the arterial flap, the rotation flap of the cheek, and the epithelial inlay to reconstruct the missing or scarred lining, it was possible to deal intelligently with most of the facial injuries. Cartilage and bone grafts were sometimes needed and so too were dental appliances.

The principle of a sound arterial supply to structures, including bones (e.g. pedicled bone grafts, still attached to the muscles) was valued highly and Esser disliked free skin grafts, in preference to well-vascularised local flaps.

Yet he was forced to use skin grafts extensively and admit their advantages: "... *Ich bin ein Feind von freien Transplantation, obwohl ich fast tagtäglich mehrere derselben ausführen muss*". (I am the enemy of free transplants, however I perform them many times a day). (Esser, 1922a).

It is fascinating to watch Esser's systematic approach to facial reconstructions after a very short training in general surgery, and the valuable introduction he gained in Morestin's and Sébilleau's clinics in Paris.

His choice of reconstructive surgery was influenced by Bockenheimer's book in 1912, which gave an adequate account of methods for partial reconstruction of the face with much emphasis on nasal, eyelid and lip-reconstruction. Complex reconstructions of the face were rarely encountered. Skin transplantation and local transposition flaps were described along with Joseph and Lexer's technique for rhinoplasties and free transplantation.

Bockenheimer recommended the study of anatomy, and suggested that this type of surgery should be first practised on the cadaver.

Very little attention was paid to the artery in flaps, and it has been said that Dieffenbach even recommended the division of arteries in flaps!

There were virtually no accounts of the treatment of large post-excisional defects in cancer surgery of the face.

Large skinflaps were regarded too risky; partial or total necrosis of the flap was too often encountered.



Heavily scarred facial wound

Esser made clear recommendations for facial repair. He preferred simple techniques to achieve aesthetically good results.

He avoided distant flaps and used local flaps which supplied skin with the same colour and texture. (Esser, 1917^k).

In reconstruction of the face he believed that it was the surgeon's duty to attempt to achieve as near normal an appearance as possible: "...*A potato-like formation with two outward openings is not a nose, however well healed and vascularised it may be...*" He was always struck by the fact that patients with facial injuries showed a keen interest in the results of their treatment and operations, even when they were blind "... *It is striking to see that even the roughest peasant continually begs for correction...*" (Esser, 1917^k).

He was very dissatisfied with the methods of reconstruction in use at that time which were unsatisfactory from both the aesthetic and the functional point of view.

He condemned Tagliacozzi's flap from the arm, because of the complexity of the technique, the discomfort for the patient, and the differences in colour and texture of the skin. (Esser, 1918^j). These operations served only to close a defect, but the skin was so different from the skin of the face, that these reconstructions were an obvious blemish even at a distance. He performed most of the facial reconstructions under local anaesthesia using a minimal amount but devoting much time and care to even small wounds, in order to achieve a perfect result.

Tension in the approximated skin edges was avoided at all times by the insertion of deeper dermal or subcutaneous sutures. The suture material had to be as fine as possible and preferably non-irritant. He often used monofilament metal sutures of silver, bronze, aluminium or bronze-aluminum. Atraumatic tissue handling, avoidance of skin edge compression by forceps, minimum tension in the sutures, and sparing use of the cautery were insisted upon.

Postoperatively the wounds were left exposed and no dressing was allowed over the pedicle of an arterial flap. He accepted the use of spraying the wound with calomel powder only.

His experience in the treatment of complex facial injuries, facilitated the development of cancer surgery in the head and neck.

Hitherto the surgical treatment of malignant disease of the head and neck had been radical and often no attempt was made to close the post-excisional defect. Cosmetically these operations were destructive. It was even suggested that if the wound was left open, postoperative radiation had a better cure rate.

Esser stressed the importance of a team-approach in head- and neck surgery. The ablative part of the operation had to be performed by the general surgeon and the reconstructive surgeon had to deal with the resulting defect.

A very strict regime was instituted by him in these pre-antibiotics years dedicated to asepsis, and even the cleansing of the wards had his attention.

In secondary reconstructions of the face, a start was made on improving the defect by completely excising all scar tissue. Good knowledge of the facial anatomy was important to avoid unnecessary damage to important facial structures, such as the facial nerve and the parotid duct.

The Esser-inlay

Without his knowledge of dentistry Esser would probably not have devised the technique with which his name is so closely united. (Esser, 1938^c).

He made use of Stent, a dental compound impression material developed by an English dentist, Charles Thomas Stent (1807-1885) of London.

From 1847 onwards gutta percha, the dried milky juice from the gumtree had been used by an English dentist Edwin Thomas Truman (1819-1905) to take impression, but gutta percha contracted during the cooling process and hardening took too long. Stent improved this material in 1857, enhancing plasticity by adding a glyceride of stearic, palmitic and oleic acids. Stent's compound material consisted of stearine, kauri gum, chinese talcum, titanium oxide, Bordeaux red, carmine substitute and barytes.

Skingrafting of cavities was not an entirely new procedure. Gabriel Nové-Josserand described its use in 1897 in the treatment of hypospadias and Robert Abbe (1851-1928) of New York in vaginal reconstructions, in 1898.

Gillies pointed out in 1920 that he was struck by the lack of appreciation of the need for a lining membrane for all mucous-lined cavities and held that lining was just as important as skin cover in the reconstruction of noses, the cheek, and lips. The experience gained in the First World War vindicated the significance of his observation.

Claude Martin (1843-1911) of Lyons contributed in a fascinating way to the treatment of the severely facially deformed patient. He was trained as a dental technician in Lyons and afterwards studied dentistry in Paris, later to return as a dentist to Lyons.

In 1889 he wrote a comprehensive textbook on maxillofacial prosthetics. He combined intra- and extraoral prostheses, utilizing intraoral fixation points with dentures, in this way avoiding special spectacles. (Bulbulian, 1973).

He stressed the importance of a close cooperation with a surgeon interested in maxillo-facial surgery and described the fitting of a prosthesis immediately following maxillary resection, but without the use of a skin graft inlay. Martin would have been considerable more successful if the epithelial inlay technique had been described at that time.

The Lyons school of surgery became in this way the birthplace of this type of surgery. Martin collaborated with Ollier who was one of the pioneers of skingrafting (Koch, 1968, Klasen, 1981) and whose first paper appeared in 1872. Thiersch of Leipzig published his own method on the same lines in 1874. Nowadays the split skin graft is often referred to as the Thiersch graft, but credit should be given to Ollier. Indeed some authors prefer to call these grafts the Ollier-Thiersch grafts (Converse, 1977).

Esser first described his method of skingrafting in the oral cavity in 1916 in German in Bruns' Beiträge zur klinischen Chirurgie: "Neue Wege für chirurgische Plastiken durch Heranziehung der zahnärztlichen Technik". (Esser, 1916^e).

In 1917 he published the results of the epithelial inlay in English, in the American journal Annals of Surgery: "Studies in plastic surgery of the face. Part III "The epidermic inlay", and in 1935 in French in La Presse Médicale: "Les plasties par moulage dermiques".

The method proved to be a relatively simple and safe procedure. He made a negative imprint of the cavity with a Stent mould. The skin graft was wrapped around the mould and replaced in the cavity. A hundred per cent graft take could be predicted, not only in the oral cavity, but anywhere on the body.

The Esser-inlay, utilizing a Stent was a remarkable improvement on former techniques, because of its splendid immobilisation, constant pressure and the prevention of haematoma.

ESSER INLAY

(EPITHELIAL INLAY)

FRANCE: "MOULAGE DERMIQUE."
GERMANY: "EPITHEL EINLAGE."
SPAIN: "MODELLADO DERMICO ESSER."

WITH ABOUT 1500 FIG.

BY

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1949

In 1917 Ludwig Moszkowicz, a former trainee of Robert Gersuny and working in the First Red Cross hospital in Vienna published a more or less identical technique as a single case report. (Moszkowicz, 1917).

Unlike Esser, he did not bury a Stent mould in a completely closed cavity. He inserted the skingraft in the same way as Esser did through an external skin incision and left a small drain behind.

Later he reopened the cavity from the inside too, introducing immediately a special made prosthesis in the new cavity.

Esser's publication was based on the results in 24 cases, showing the versatility of the method, not only in the oral cavity, but also in the orbit, urethra and elsewhere.

Twenty-five years after its introduction, in 1940 an impressive atlas on "Esser-inlays" was published in Leiden, Holland.

The technique had been widely adopted in Europe and America after publication of the English version in 1917 (Esser, 1917^c), which had been noted by Gillies in Great-Britain. Gillies had taken a great interest in this technique and enthusiastically extolled its advantages.

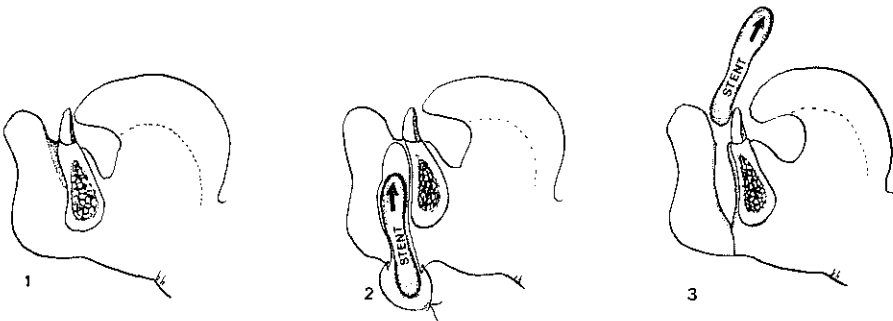
In his book "Plastic surgery of the face" in 1920, he gave full credit to Esser and stated: "The principle of the Esser-inlay marks an epoch in surgery, and the opportunities for its application are far from exhausted".

Surgical technique of the split skin graft inlay technique:

In order to clarify the technique used, a typical case is described of the application of an "Esser-inlay" in the buccal cavity.

In the case of provision of lining for a deepened sulcus by the use of an epithelial or epidermic inlay, a mould of dental compound material (Stent), wrapped round with a split skin graft, is inserted into a pocket dissected out underneath the mucosal lining of the existing shallow sulcus.

The operation is performed through a separate skin incision on the outside, in this way preventing contamination and infection. After approximately ten days the mould is removed through a second, incision on the inside of the mouth, revealing a smoothly skincovered cavity, being the extension of the former sulcus.



Epithelial or Esser Inlay

The following steps were regarded mandatory for a successful operation: The skin should be carefully prepared by removing the top layer of dead cells by dry shaving of the surface of the skin, until a pinkish tint appears. Then the skin is rubbed with alcohol and iodine to disinfect and tan the skin. Esser favoured an ordinary large razor blade, instead of the especially designed Thiersch knife, to cut the skin in the proper way. The split skin graft should consist of one large single sheet, thin and evenly cut. Adequate cooperation of an assistant was required by him in order to stretch the skin and to keep it under tension with the ulnar side of his hand. The surgeon had to stretch the other side in the same way.

To facilitate a smooth cutting of the free graft, the skin was moistened with normal saline. The mould should be readily available to receive the skin graft immediately after the cutting. Immersion of the graft in a normal saline solution was condemned by Esser.

He preferred as a donor site, the inner side of the upper arm, but accepted the inner side of the thigh if a larger sheet was required. The initial skin incision was made through healthy skin, and a pocket was dissected out immediately beneath the mucosal lining in the shallow buccal sulcus. Thus a cavity was created reaching just to the mucosa at a point where the future incision is made.

Stent's dental impression material was used for a mould. This material softens in warm water at 50 to 70° centigrade, and hardens during cooling in a short time. (Arends et al. 1975).

An experienced dentist inserts the still warm stent in the raw cavity and distends it slightly. When properly set, it is taken out and carefully covered with a single sheet of split skin graft, with the deep surface outwards. The completely covered stent is then replaced firmly in the thus created pocket, and the skin wound is sutured under appropriate tension.

Because the mould fits exactly in this pocket there is little possibility of accumulation of haematoma or secretion.

After an interval of ten to fourteen days a second incision is made through the mucosa, adjacent to the buried mould, and the latter is retrieved from its seat. A new deepened sulcus is made, smoothly lined with a skin graft. To prevent shrinkage of the newly created cavity it was recommended by Esser that the cavity be filled for some time by means of a dental appliance. Close cooperation of a dentist in the operating theatre was necessary.

At first this regime was followed religiously by Esser but later he introduced some modifications. The interval between the first and second incision varied from the beginning from 7-10 days to 10-14 days later, and he also suggested a method which was later called the "outlay-method", in 1916, for special indications only. The outlay method avoids the separate outside skin incision. For this intra-oral approach Esser followed Weiser's advice of putting a layer of iodine gauze between the stent and the graft. The results of this modification were satisfactory too.

This modification of the inlay- into an outlay-technique was claimed by Gillies and Waldron, but had been suggested by Esser himself in his first article on the subject. It was Gillies who introduced the expression "outlay",

for those cases where the mould does not enter a sac or cavity, but is applied to a surface wound.

Twenty-four cases treated by the epithelial inlay method were presented by Esser in 1916. There was only one failure, due to faulty technique.

Seven different indications were described, and Esser predicted that this number would be considerably increased. At the end of his publication he pointed out which future he had in mind.

The indications in 1916 were:

1. the enlargement of the conjunctival pocket and eye-socket reconstruction,
2. total and partial ear reconstruction,
3. enlargement of the buccal cavity and the mucous lining in the mouth,
4. repairs of the soft and hard palate,
5. the provision of lining of the pedicled flaps,
6. skingrafting of secondary defects in advance.
7. urethral reconstruction in both hypospadias and epispadias.

Soon the number of indications increased, and the most important applications were the partial intestinal reconstruction, like oesophageal and anal reconstruction. Bladder reconstruction and tear-duct reconstruction was possible with this method, and the method became extensively used for cover in fresh surface wounds.

For cineplastic repairs epithelialised tunnels were constructed with the inlay method, and they found also their application for continuous drainage of chronic abscesses.

Other indications were vaginal reconstruction, the treatment of burns contractures and syndactyly. (Esser, 1934^{c, h}, 1939^a). In nasal repairs, especially for the creation of the nostrils the Esser-inlay was advantageous. Post-excisional defects in head and neck surgery were skingrafted in this way, and also in some cases of colostomy.

Biological or artery flaps and Island flaps

"...In civilized man the face alone remains unclothed and exposed. An injury resulting in distortion of the features thus sets the unfortunate individual apart in a highly organized society where a premium is placed upon beauty and facial symmetry. Because disfigurement of the face becomes a serious social handicap, the surgical treatment of facial injuries is of special significance, as it serves to restore the inner feelings of happiness and well-being in addition to the outer appearance and function...".

Kazanjian and Converse, 1974

"With the principle of the island flap Esser demonstrated long ago, that both organs and large flaps of tissue can survive on the circulation provided by a single artery and vein".

J.W. Smith, 1966

"Axial patterned flaps, both as pedicled flaps and free flaps, have revolutionized reconstructive surgery and further examples of the genre are being eagerly sought".

B.G.H. Lamberty, 1979

Arterial and islands flaps

History

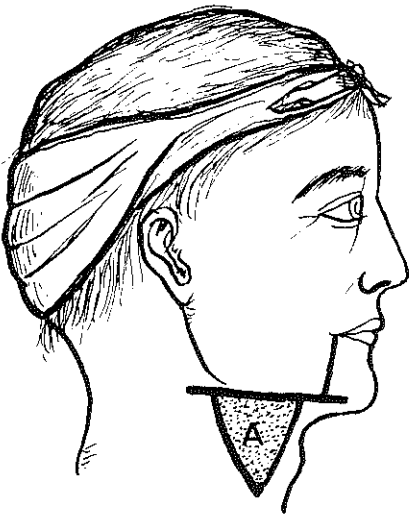
It has recently appreciated that John Wood (1825-1891) from Yorkshire an accomplished anatomist and surgeon, described an axial pattern flap in 1863, which he called the groin flap, nourished by the inferior epigastric vessels. He applied this flap to the forearm and hand of a young girl, who had sustained a severe deformity of this limb due to burns.

Later in 1864 he used the same flap in a case of ectopia vesicae, and a review of eight cases was published in 1869.

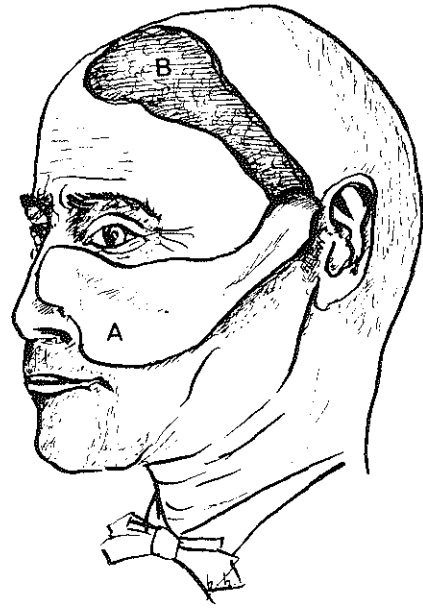
His precise study of the anatomy of inguinal hernias, gave him a broader knowledge of the vascularity of this area. (Boo-Chai, 1977).

Robert Gersuny (1844-1924) of Vienna, recorded in 1887, for the first time, an example in which he had used a subcutaneous pedicled neckflap from the submandibular region to replace a mucosal defect after excision for a recurring carcinoma of the inner side of the right cheek.

He ligated the facial artery, which caused a superficial necrosis at the tip of the flap. A report of this case was published as "Kleinere Mittheilungen" in the German Centralblatt für Chirurgie. In conclusion Gersuny wrote that a skinflap may survive on a subcutaneous pedicle only.



Subcutaneous pedicled flap by Robert Gersuny



Dunham's temporal flap

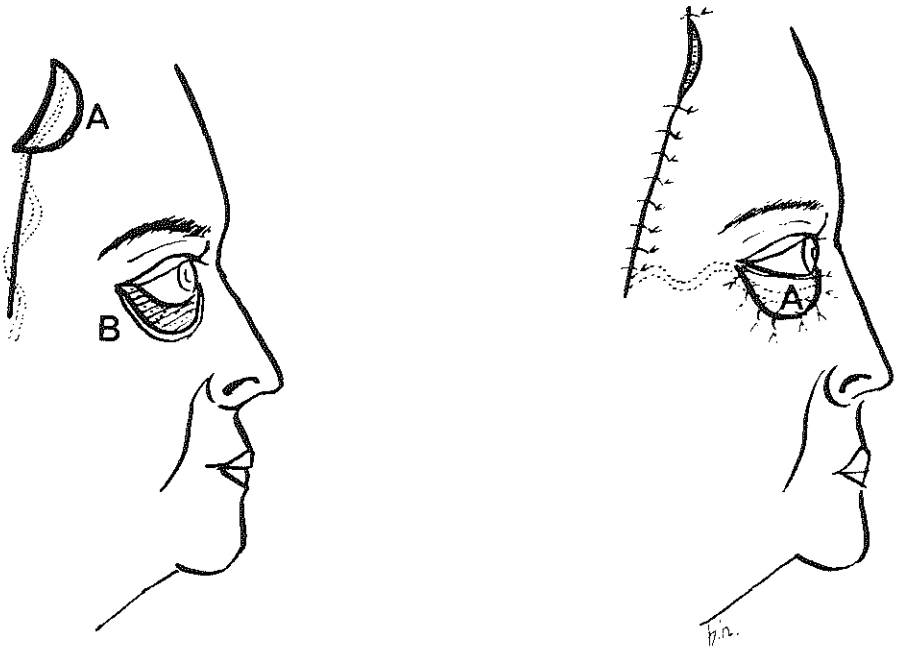
In 1893 Theodore Dunham of New York described a plastic procedure which he thought had a limited application. He covered a postexcisional defect of the left cheek of a 62-year old Russian-Pole, with a pedicled unilateral forehead flap, based on the frontal branch of the superficial temporal artery. The flap was outlined with a stick of lunar caustic in salt solution, in silver. Bij exposure to light the white line was blackened. The proper shape was achieved by cutting a piece of felt as a template for the size of the defect. The long pedicle was $2\frac{1}{2}$ centimeters wide, and carried the superficial temporal artery. This was the nutrient bridge of the flap. The operation itself was a two stage procedure. Three weeks later the pedicle was partly divided into three strips, one of which contained the vessels. The two remaining skin strips were sutured together and replaced to their original site on the temple. The nutrient vessels were covered by undermining the neighbouring skin and direct closure. The forehead defect was covered with a split skin graft.

George Howard Monks (1853-1933) of Boston, repaired in 1898, in one stage the lower eyelid, following a total excision for carcinoma. He used a hairless flap from the temporal region on a long pedicle of subcutaneous tissue containing the artery. This vascularised island flap was tunnelled into the defect. He never saw the patient again for a proper follow-up.

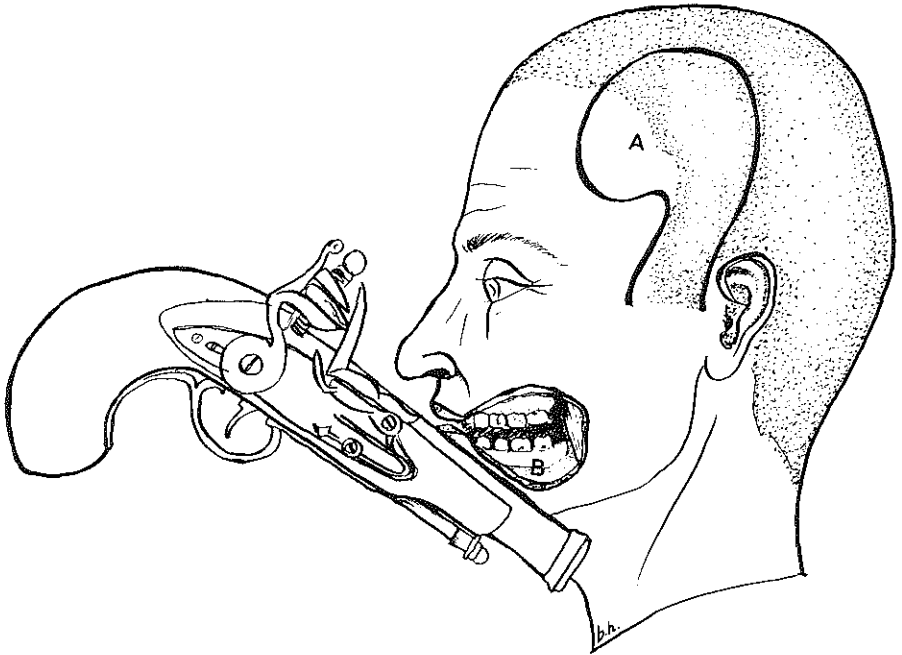
Lexer employed a pistol-grip temporal flap in 1910. This temporal flap had a very wide pedicle in the form of a pistol-grip.

Esser in 1916 described his systematical use of arterial flaps for the first time, and coined the expression "island-flap".

He was at that time not aware of previous attempts that had been made, and



Monks' island flap



Pistol-grip flap (Lexer)

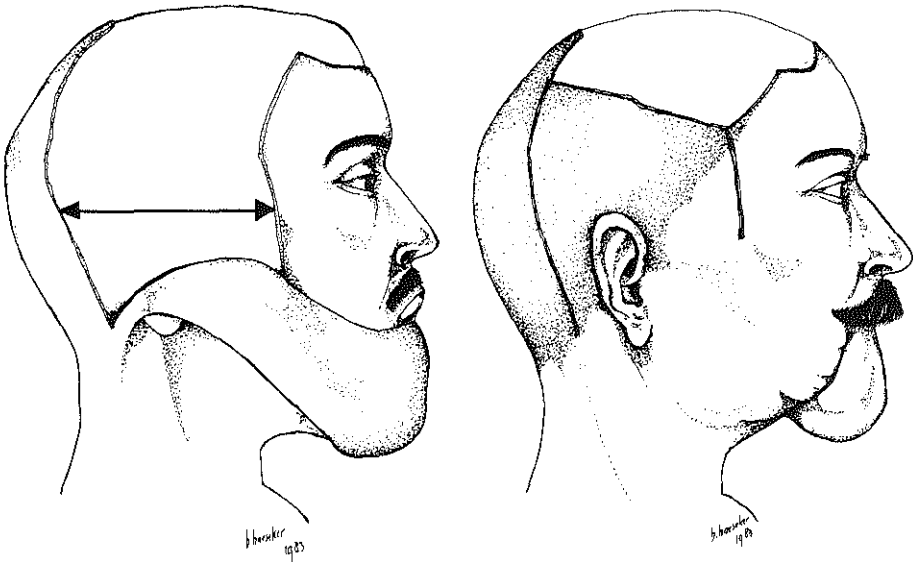
stressed the importance of including the artery as well as the veins, nerves and lymphatics in the pedicle. He preferred short pedicles, without skin-cover.

Later in 1934, when his knowledge of the subject was more advanced, he stated: "...Many years, after I introduced the above system (e.g. biological flaps), one of my assistants showed me a small publication of Monks, who described one case (with schematic drawings and no photographs) with a very long thin pedicle, without realising and developing its biological value..." (Esser, 1934^f).

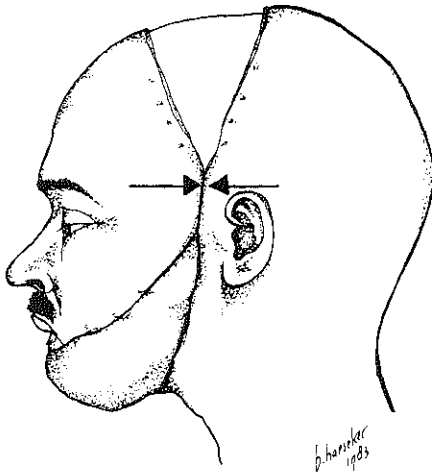
Another comment was made by Penhale and Esser in 1942: "...Gersuny and Dunham were mistakenly credited with having employed a biologic graft, each in one single case, using a somewhat similar principle. Gersuny did not mention the island flap method or the fact that the pedicle contained main arteries and nerves. It was impossible for him to have had large blood vessels in the flap that he used, because of its anatomical location, and besides a partial necrosis of the flap proved their absence. Dunham aimed in his single case, to include the artery in the pedicle. Later he returned the pedicle to its original position..." (Penhale and Esser, 1942).

Before Esser's introduction of the narrow, small pedicled arterial flaps, surgeons as a rule designed the pedicle at least as wide as one third of the length of the flap, as was the custom in random patterned flaps, that is in flaps without a known arteriovenous system. It was empirically based on their experience that larger flaps became necrotic.

Esser was convinced of the right principle, that flaps would only survive on a healthy vascular pedicle, and he lectured on this subject many times, stressing this important point. (Esser, 1922^m). During the 1922 Berlin surgical congress



Very wide based temporal flap (Lexer)



Flap with narrow base (Esser)

Lexer did not agree and stated that the use of artery flaps in the face were not necessary, because the facial skin itself has an excellent blood supply. Esser's aim in using a permanent buried pedicle, in which artery, veins, nerves and lymphatics were present, was not only to ensure a flap that was just surviving, but it had to act as a physiological entity, functioning and with intact sensation.

His knowledge of arterial flaps was not based on a few isolated cases. It was gained from his experience in Brünn, Vienna, Budapest and Berlin where from 1915 until 1925 he had treated more than 10.000 patients, many of whom had required biological flaps. A drawback of the method was, that it demanded considerable dexterity, courage and a good knowledge of anatomy.

The technique was very precise for by careless design or rough handling of the tissues, a complete flap could easily be lost.

The name "arterial-flap" is in fact misleading, since it gives the impression that the artery is the only important structure in the pedicle. In such a flap the artery can readily be palpated and it is for this reason that mistakenly the name "artery-flap" is used. Veins, lymphatic vessels and nerves are of course as essential, and that is why Esser preferred the expression "biological flaps". For a long time in America, the method was thought to be too risky. Since 1919 John Staige Davis of Baltimore, in his book on plastic surgery, had recommended a very wide pedicle, and in practice it was found that a flap should not be longer than two and half or three times the width of the pedicle.

Principles and techniques of the biological flap:

Esser defined a biological flap as a flap of skin which may contain other tissues such as muscle, fat, fascia and even bone, belonging to the territory of certain arteries and their branches, draining by the accompanying veins. The pedicle contains little more than lymphatics, bloodvessels and nerves.

The expression "Island-flaps" was coined by him in 1916 in Bruns' Beiträge zur klinische Chirurgie. (Esser, 1916^d). He reserved this name in the first instance for a special kind of arterial flap of the cheek, nourished by the facial or angular artery. In this case a skin flap was circularly incised in the form of an island, over the facial artery. The facial artery follows a much deeper course under the skin surface than for instance the temporal artery. The vascular pedicle rises from a deeper plane and it is therefore more difficult to free the artery, and besides not always necessary to do so. The pedicle is more bulky, and mobility of these flaps is less than ordinary flaps.

In fact this island cheek flap is a subcutaneous pedicled flap with a known arterial supply. These island flaps were used for the replacement of mucosal defects in the oral cavity. In reviewing articles, the year 1917 is always mentioned as the year of introduction of these flaps, because Esser's English study of 1917 attracted more attention (Esser, 1917^f, Henderson, 1982).

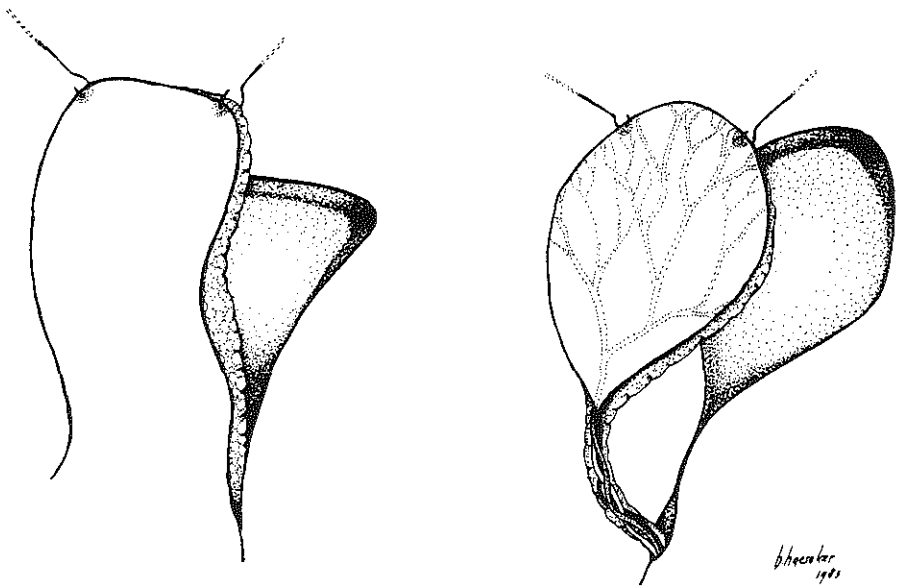
Terminology has been confusing. The expression arterial flaps and island flaps dates from 1916, and probably under the influence of Bier, who showed a keen interest in biology and also in the development of Esser's arterial flaps in his clinic, the name "biologic flap" was introduced.

In true arterial flaps, as a rule, the pedicle should be short without skin, and the diameter pencil like.

The flap itself can be small or as wide as the palm of a hand.

Arterial flaps can be unipedicled or bipedicled as in visor flaps.

On account of the thin pedicle, a rotation of the flap of 180° can be achieved without any kinking of the vessels, which did occur in wide pedicled flaps,



Schematic drawing showing the difference in width of the pedicle, between conventional flap and arterial flap

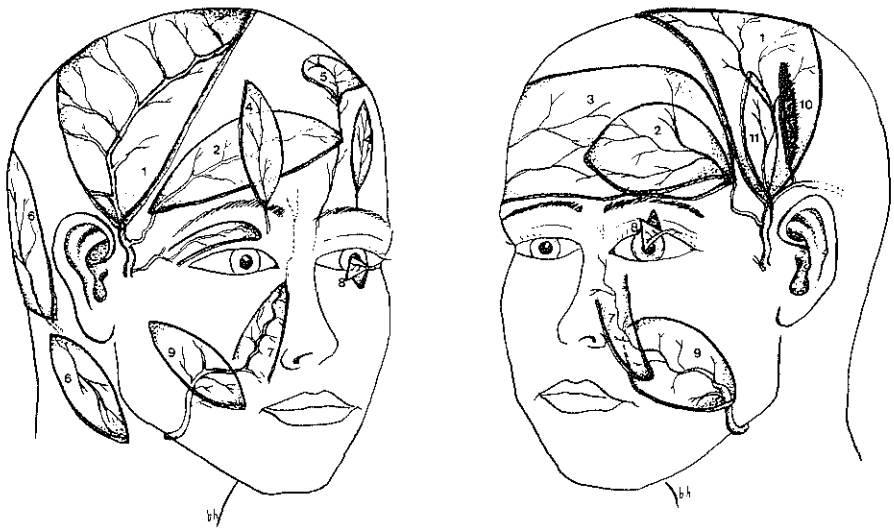
which were in use before. In extreme cases long narrow pedicles were used, but these carried a high risk, because it is necessary to ligate small arterial branches, which can cause thrombosis in the main vessels, resulting in necrosis of the flap.

The excellent vascularisation of the biological flap is essential in the process of healing of infected, burnt or even irradiated areas. (Jackson, 1975^{a, b}). Before the raising of the flap, it is mandatory to explore and establish the exact course of the artery by careful palpation. This should be done before local anaesthesia is given, and skin preparation is started and before the surgeon's hands are scrubbed. Care must be taken that the surgeon's own digital arteries are not erroneously interpreted for the nourishing artery in the pedicle. In very difficult cases it was often recommended that the examination should be deferred until the next morning, when the "senses" were most active. Esser was not afraid of sending the patients back to the ward.

The course of the artery was not marked with Bonney's (1872-1953) blue, but with tincture of iodine. (Johnson, 1975). Then a shallow incision was made in the skin over the artery, to free it from its bed. The flap itself arises gradually rather than acutely from the pedicle and is pear- or leaf shaped. The receiving area was prepared first.

Tension in the flap edges has to be avoided. The secondary defect was treated with an epithelial inlay, immobilized by a tie-over technique with metallic loop stitches. This graft could be later excised in stages.

Essential is that compressing bandages are never used over the pedicle. A lining of the flap is made in advance by means of an epithelial inlay.



Various arterial flaps of the face

Esser's classification of biological flaps according vascular territories:

I *Biological flaps of the face:*

- a. Superficial temporal artery
 - i. Frontal branch
 - ii. Parietal branch
- b. Occipital artery
- c. Supratrochlear artery
- d. Supraorbital artery
- e. Angular artery
- f. Facial artery
- g. Lateral and medial palpebral artery

II *Arterial flaps of the trunk:*

- a. Inferior epigastric artery
- b. Intercostal artery
- c. Posterior scrotal artery (Posterior scrotal branches of the internal pudendal artery).
- d. Internal mammary artery

III *Arterial flaps of the extremities:*

Esser employed arterial flaps in reconstructive surgery of defects caused by war injuries of the face, head and neck defects after excision of malignancies and skin tuberculosis, in cases of severe scarring and contractures due to burns, and to deal with the difficult sequelae of therapeutic radiation.

More detailed a few arterial flaps of the face are discussed:

- Ia. The superficial temporal artery is situated in front of the external ear and the artery is easily palpated. The *temporal flap* can be used for the repair of large defects on any part of the face. Flaps raised from the territory of the main artery are usually hairy and for this reason used in males only, for the reconstruction of defects of the lower part of the cheek, lips and chin. Flaps derived from the frontal and anterior branch are hairless and are useful for the reconstruction of eyelids, upper part of the cheek, nose and in women also for the inferior part of the cheek. (fig. 00).

For complete chin reconstruction a visor flap, either hair-bearing or hairless was often used.

Obvious scars resulting from these operations could be corrected as a minor secondary procedure.

Large flaps can be raised using this method, but also very small ones as in the case of eyebrow reconstruction, with a small long pedicled temporal flap, tunnelled under the skin to the future eyebrow. Some weeks after this flap has healed, attempts can be made to match the hirsute artery flap with the other "normal" eyebrow by simple excision or by more delicate

electrolysis of the hair roots. This method was very valuable in restoring a moustache or beard, which eventually can be shaved, leaving a skin with a decidedly masculine appearance.

It is interesting to appreciate that in the early development of large bipediced visor flaps of the scalp, Esser tubed pedicles to avoid raw edges occurring. It proved however not to be advantageous, and was soon abandoned by him. Later he was very much opposed to the tubed pedicled flap.

Flaps derived from the frontal branch of the superficial temporal artery were useful in eyelid reconstruction. The secondary defect on the forehead was usually covered with a split skin graft.

- Ib. *Occipital flaps*, based on the occipital artery were rarely used. These flaps are hairy, and are usually taken from the region behind the ear. The secondary defect is difficult to hide.

These flaps were used by Esser, in cases where the temporal artery was destroyed, for example in cheek burns due to irradiation.

- Ic. *Frontal flaps* were based on the axial pattern of the supratrochlear artery, the extension of the angular artery.

These flaps were useful in lip, nose and eyelid reconstruction.

In those cases where skeletal parts of the nose were absent, Esser made a pocket on the forehead, below the future flap, and inserted a rib cartilage graft, with or without the combination of an epithelial inlay.

Very scarred upper lips were reconstructed, with frontal flaps with a very long pedicle close to the hairline. This was employed in desperate catastrophic cases of cleft lip repair.

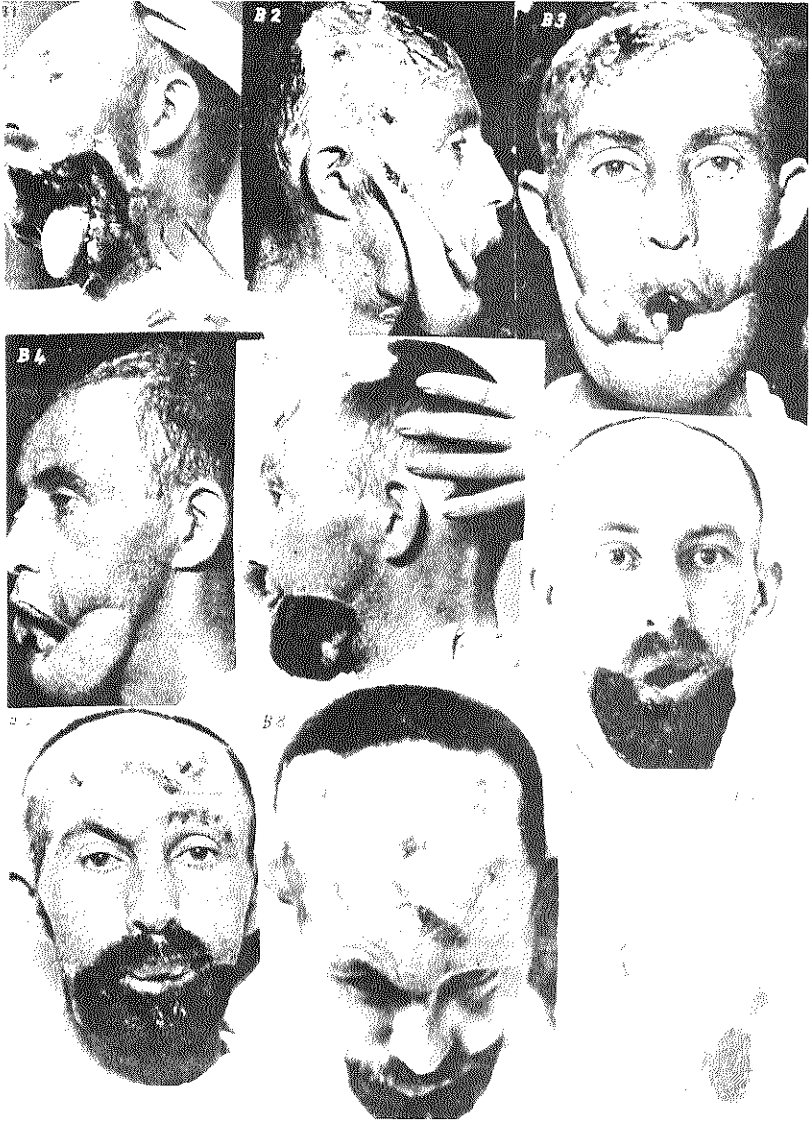
- Ie. *Angular artery flaps* or nasolabial flaps were used in various ways, superiorly and inferiorly pedicled, as a subcutaneous island flap or as a simple transposition flap. They were used for extra- and intraoral application. In the latter case they were tunnelled through the cheek into the oral cavity, in use for the closure of palatal defects, and for covering of post-excisional defects in the oral cavity.

- Ig. *The palpebral artery flap* was designed as a lid-switch procedure. A wedge was taken from the upper eyelid and rotated into the lower lid and vice versa. The blood supply was from the lateral palpebral artery.

In his book on the arterial flaps of the face, Esser announced that he would later write a book illustrating the application of arterial flaps of the trunk. Unfortunately this book was never published. In a few articles he illustrated a number of interesting arterial flaps of this area, based on the inferior epigastric vessels, the intercostal and posterior scrotal arteries. Inferior epigastric artery flaps were described by him several times for the repair of ectopia vesicae (Esser, 1918^{c, e}), and once the internal mammary artery flap (Esser, 1922^m).



Extensive facial reconstruction, operated by Esser in the University surgical clinic of Prof. Bier in Berlin. The temporal flap is tubed. Destroyed lower third of the face.



Another example of the use of a temporal flap in facial reconstruction by Esser in Bier's clinic.



Reconstructive procedures using biological flaps and a rotation cheek flap.

Rotation of the cheek

"The Esser rotation flap of the whole cheek is extremely useful, especially when a large area of the anterior cheek in the juxtanasal and juxtalabial area has been removed with the preauricular and inferior maxillar areas intact".

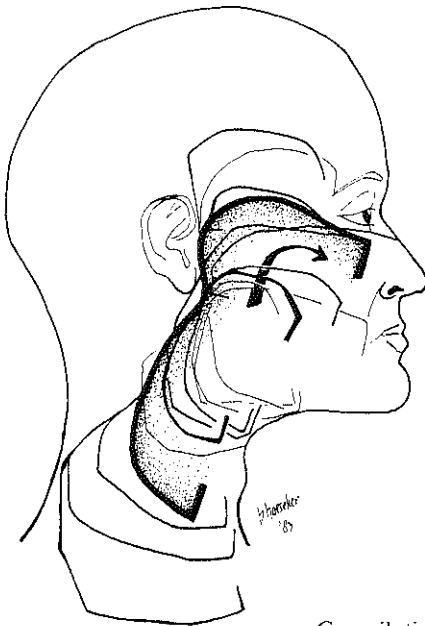
Claude Dufourmentel, 1972.

In 1918 Esser published in Berlin his first book on the rotation of the cheek and general observations in plastic surgery of the face. Originally the title of the book was planned as "Lehrbuch der praktischen plastische Chirurgie". but later he changed the title into "Die Rotation der Wange und allgemeine Bemerkungen bei chirurgischer Gesichtsplastik".

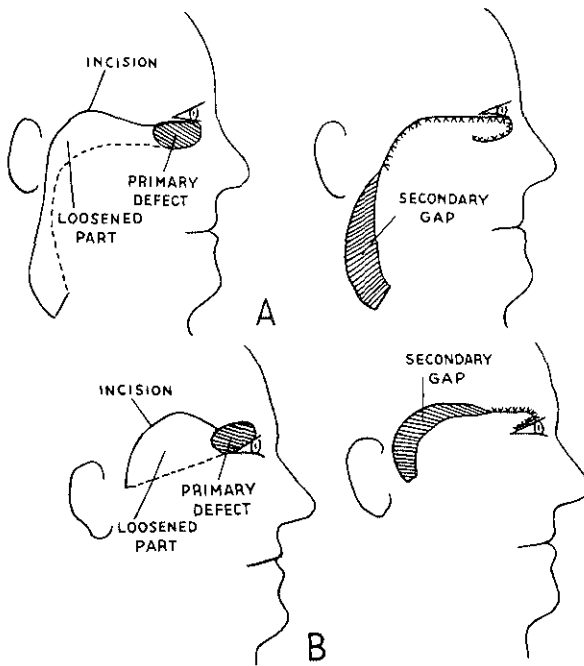
The principles of his technique in cheek rotation had already been extensively covered in a comprehensive article entitled "Prinzipien bei einfachen plastische Operationen des Gesichts bei Kriegsverletzten, mit Ersatz des Defektes aus unmittelbarer Wundnähe", in 1916, and one year later in an American journal as "General rules used in simple plastic work on Austrian war-wounded soldiers".

Facial reconstructions were regarded by Esser as important operations. They do not heroically save the patient's life, but they enable him to retain his self respect.

Difficulties in eating and drinking and saliva retention, will benefit enormously by a good facial reconstruction.



Compilation of possibilities of the rotation cheek flaps



Original drawing by Esser of the rotation flap of the cheek.

Principles and technique of the rotation of the cheek

The rotation of the cheek is a way of transferring a vast amount of facial tissue which can be rotated into the defect. The facial artery is positioned in its centre.

The surgical procedure is started with an incision near the lower eyelid region, extending to the lateral side of the face, passing in front of the external ear, continuing downwards under the ear to the neck, if required. To facilitate flap rotation often a backcut is required at right angles at the end of the incision line.

The first part of the incision may be deep, splitting even the entire cheek, but the remainder of the incision has to be more superficial. Special attention should be given to this procedure in order not to damage the parotid duct and the facial nerve.

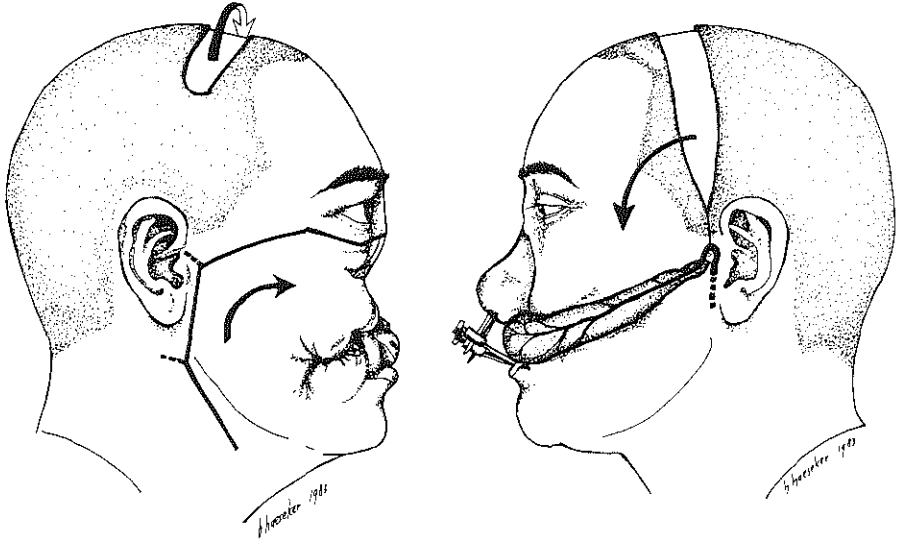
The bloodsupply of the flap is excellent and no problems with flap survival were encountered.

The cheek flap is easily mobilized and adequately fills the defect. Rarely bilateral cheek rotation flaps may be needed. The secondary defect can be quite large, and in the neck region it is sometimes closed under considerable tension, often resulting in marked hypertrophic scarring.

On a few occasions Esser encountered salivary fistulae but these tended to settle and never required surgical intervention.

The rotation cheek flap was used by Esser not only for the repair of facial war wounds, but also for defects caused by diseases like lupus, syphilis and malignancies.

Extensively he described the use of this flap for nasal-, upper and lower lip reconstructions, for eyelid and cheek defects, and sometimes for temporal defects. (Esser, 1918^c). Often a combined reconstruction was achieved, e.g. nose and upperlip reconstruction.



Reconstruction of the face with biological flap and rotation cheek flap

Specific problems of the amputee

"No man-made mechanism has reproduced or ever will reproduce any functioning semblance of the human hand. The general inadequacy of hand prostheses underlines the importance of utmost conservation whenever hand amputation is under consideration".

B.K. Rank, A.R. Wakefield and J.T. Hueston, 1973

Introduction

Unfortunately the war surgeon is inevitably confronted with patients who are victims of traumatic amputations, and the specific problems arising from this condition.

Esser as a "civilian" war surgeon was no exception, and it is not surprising that his first articles in 1916 were concerned with the treatment of amputation stumps (Esser, 1916^{b, c}, 1917^{h, o}).

From the beginning he was involved in the treatment of many primary and inadequately covered amputation stumps. Initially he used bipedicled local thigh flaps (Esser, 1916), but soon he abandoned their use due to the unfavourable results. Attempts at flap rotation in a heavily scarred area of poor circulation, often led to necrosis of part of the flap with protrusion of the bony stump.

In the early days of World War One it was still quite popular to use skin traction to cover the amputation stump. With sticky plaster one tried to achieve stump-cover by continuous pulling of the healthy skin over the exposed end. Due to the gradual traction the elastic properties of the skin altered, which ultimately created a smaller wound and eventually wound closure with scar tissue was achieved. Problems did arise however when a prosthesis was fitted.

In some cases Esser covered the stump on non-weight-bearing areas with split skin grafts, leaving them exposed. These exposed grafts were carefully treated by gentle massage with the fingertips and ointment to encourage the growth of cells and capillaries.

The method of choice was however a healthy, pedicled well vascularised flap of the local or cross-leg type.

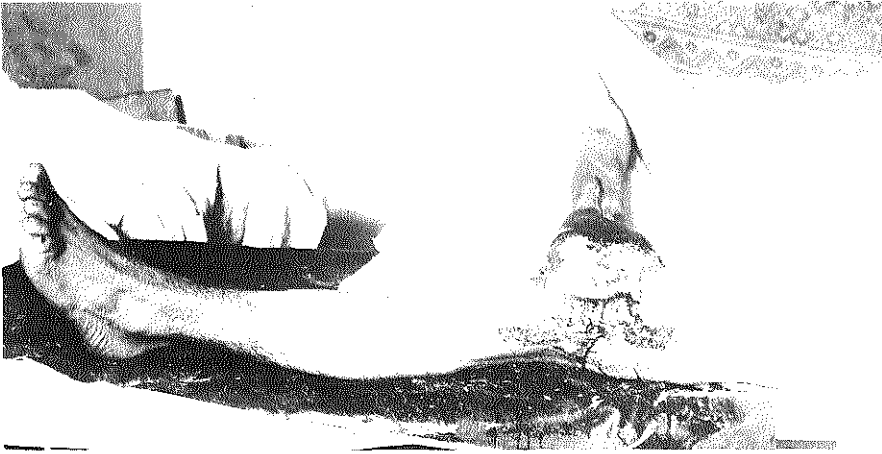
In 1917 Esser wrote a comprehensive article on the treatment of poorly healed amputation stumps as the result of frostbite. This publication was based on fifty-two cases that had been operated on in Budapest. Local flap treatment was excluded from this study, and all ulcers were treated with cross-leg flaps (Esser, 1917^o). He planned the flaps with a proximally based pedicle, in order to ensure a good axial blood supply and avoiding kinking and tension within the pedicle.

In this way fixation of the legs was possible in a comfortable position. Flap design had to be large enough to accommodate the flap at insertion without tension.

The secondary defect was often closed directly, or covered with a Thiersch graft.

For the lower leg a position was chosen more or less parallel to the other leg, which was already well documented at that time by Nélaton and Ombredanne of France in their book on autoplasties.

Immobilisation was achieved by plaster of Paris splints or so-called "Blaubinde", which were more comfortable to the patient, but had the disadvantage that it took a couple of hours to dry.



2



1

3

Cross-leg flap of the thigh.

1 preoperative view

2 flap in position

3 postoperative view

Esser's description and ideas of the technique of the cross-leg flap

Preoperative planning and leg positioning was mandatory. At operation necrotic bone had to be chiselled off and scar tissue should be radically excised. Irregular bone edges were smoothed. During operation all direct contact with the ulcer was avoided, and gloves were changed following the preparation of the defect. At this stage the proposed leg positioning was established and the flap raised with consequently closure of the secondary defect.

The edges of the flap were loosely approximated with fine interrupted silk sutures to the edge of the defect. Tension had to be absolutely absent and the pedicle was observed for evidence of kinking by an assistant. Immobilisation in a plaster of Paris splint, was a lengthy and important procedure. The pedicle was divided after two or three weeks, leaving a little surplus anticipating flap contracture at a later stage. Regular attention to the flap surface was required to ensure good circulation and to prevent pressure areas developing.

Cineplastic operations

Amputation of a limb, although often a "last-ditch"-operation, is also the beginning of a challenging period of rehabilitation, in which the surgeon and prosthetic technician have important roles to play. Both the cooperation and understanding of the patient, with special reference to his psychological adaptation are of prime importance (Kessler, 1947).

In the beginning of World War I prostheses were far from perfect and due to the pressure of work many surgeons could not spend enough time to the aftercare of the amputee.

Esser however was interested in these cases, and was opposed to Sauerbruch, who was of the opinion that patient rehabilitation following amputations was the concern of the prosthetic technician.



Cineplastic procedure of the right arm.
×=Nicoladoni-type of transfer of toe to thumb. (left hand)

Especially replacement of upper limbs called for great ingenuity from both the surgical- and technical specialist. Even so, the prosthesis is at best a very poor imitation of the hand.

In cineplasties, muscles are utilized to activate the prosthesis.

Vanghetti was probably the first to use the residual stump muscles for this purpose at the end of the nineteenth century (Vanghetti, 1898).

Sauerbruch constructed skin-lined tunnels within the upper arm through the motor muscles in a horizontal way, and achieved a gripping motion in the artificial hand (Sauerbruch, 1916).

Esser achieved the same, by inserting drains covered with split skin grafts, but also employed tubed skin flaps. In manual labourers tubed skin flaps were preferred by him, because of the wear and tear of the skingrafted tunnels (Esser, 1917^a).

Esser's tunnels were designed not horizontally, but vertically, avoiding direct contact with the pin in the tunnel and the suture line. By designing the flaps vertically he provided an axial pattern bloodsupply to the tubed flap.

He considered it essential to provide the hand amputee with the smallest possible prosthesis, not reaching proximally of the wrist. The prosthesis had to be light in weight, and both dentists and highly trained instrumentmakers were needed as constructors. As many tunnels as possible were made to hold the prosthesis in position.

The main disadvantage of all prostheses is the absence of sensation. Where sensation is present it always should be spared, because it determines the end result.

For this reason he advocated a conservative approach in amputation or reamputation.

In 1917 Esser predicted that replantation surgery was a future possibility, leading to better results. He foresaw the possibilities in the future for arterial, venous and nerve repair of small diameters (Esser, 1917^a).

For better functioning of hand prostheses several muscles were used and reinforced with tendon slings, covered with skin. Separate contraction of the various flexor tendons was achieved. Pedicled breast flaps were used for pectoral cineplasties and the pectoralis major and trapezius muscles were used to activate the upperarm prosthesis (Kessler, 1954).

Toe-to-hand transfers

The two staged pedicled toe-to-hand transfer is attributed to Nicoladoni of Graz, who used in 1898 a second toe to replace a partial loss of the thumb on the ipsilateral side. The results were published in two papers (Nicoladoni, 1900, 1903).

Von Eiselsberg reported the first successful transplantation of the second toe to replace the index finger in 1900 and Fedor Krause was the first to employ the big toe for a toe-to-thumb transfer in 1906 (Krause, 1906, Davis, 1964).

In the Netherlands a toe-to-thumb transfer from the contralateral foot was carried out by Laméris of Utrecht in 1908 in a 12 year old boy who had lost his left thumb.

A good and accurate description of the operation and the postoperative course is presented as a case-report in the Dutch Journal of Medicine (Laméris, 1909).

The lost left thumb was replaced with the second toe of the right foot. Immobilisation was achieved with a plaster of Paris splint. Two days post-operatively there was a blue discolorisation of the "new" thumb, and the patient became moderately febrile.

This condition was probably caused by venous congestion and it was relieved by the application of leeches.

Sixteen days later the pedicle was divided. On review two months later there was a strong pinch action present between finger and thumb.

Movement in the carpometacarpal joint was impaired. Sensitivity was much less, but there was a protective sensibility.

In accordance with these principles Esser carried out fourteen toe-to-hand transfers, mainly using the second toe to replace the lost thumb and occasionally the big toe.

He was the first to transplant multiple toes to replace multiple fingers. In 1916 he even transplanted four toes, incorporating a substantial part of their metatarsals to replace four fingers and their metacarpophalangeal joints.

Approximately 35 years later this procedure was repeated once again by Patrick Wensley Clarkson (1911-1969) of London and in 1966 by Kachinov and Loriér. With the advent of the incorporation of a nerve graft in 1958 the method gained considerable in value (Chandler and Clarkson, 1958, Flynn, 1966).

Esser's patient was a Hungarian soldier who accidentally had lost four fingers of his right hand, leaving only an immobile scarred thumb, by an exploding handgrenade (Esser, 1917ⁿ). All scar tissue was excised, and a curved flap was raised on the dorsum of the foot. Two centimeters distally to the line of incision, the tendons were divided. A split level incision was carried out in order to guarantee good contact between the flap of the dorsum of the foot and the remainder of the hand.

The suture lines of the various structures were not located within the same plane, which he regarded beneficial to healing. A large pedicle from the plantar side of the foot contained the vascular supply of the forefoot.

In realigning the foot to the hand stump, the periosteum of the metatarsus was sutured to the periosteum of the metacarpal bones. The extensor tendons were sutured with silk sutures, and even the tendon sheaths and surrounding tissues and fasciae were sutured with catgut. The skin was closed with bronze-aluminium stitches.

It was impossible to anastomose the nerves and vessels in these days, but an attempt at approximation was made in a meticulous way, stabilizing their positions by connecting adjacent tissue. The postoperative course was not uneventful, and during the first night, whilst trying to change his position in bed, the patient fell out of his bed, helplessly toppling over in his heavy and cumbersome shoulder-to-foot plaster of Paris splint. A superficial wound dehiscence was the result, but nevertheless healed well.

Four weeks later a first delayed division of the pedicle was performed, which was completed five days later.



FIG. 9.

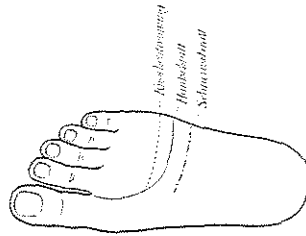


FIG. 10.

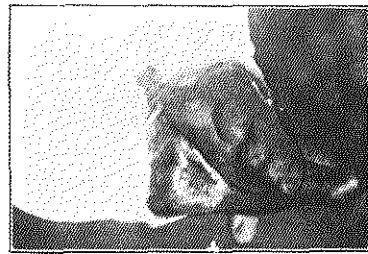
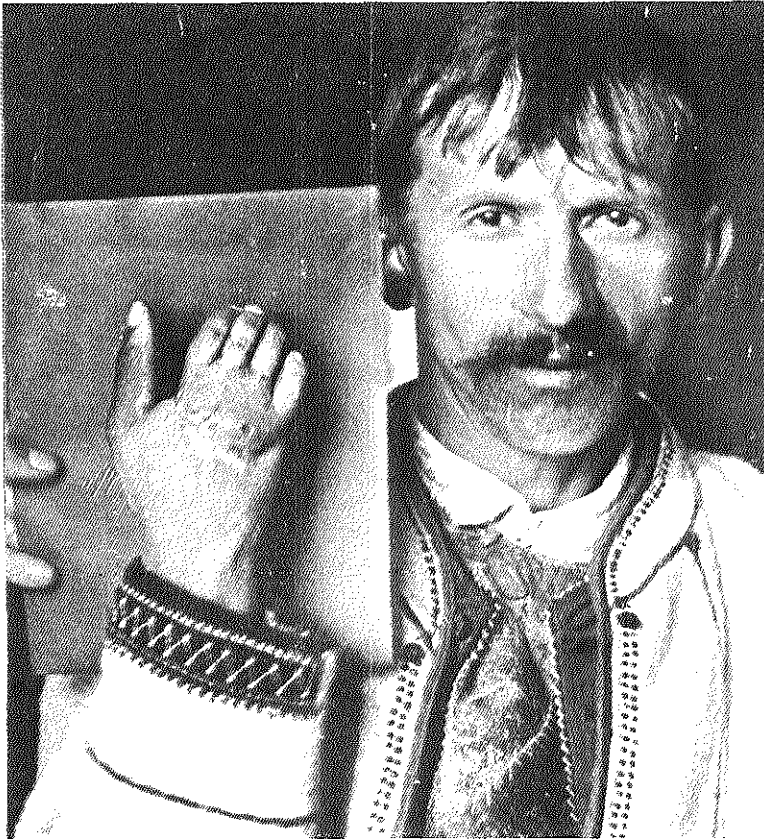


FIG. 11.



FIG. 12.

The foot-to-hand patient, pre-operative condition and hand connected to the foot.



Post-operative result

The secondary foot wound was closed with a large plantar flap, which also covered the dorsal aspect.

The final result was good, and the patient returned to his pre-war occupation as a farmer, which was the main objective of the operation. Gait was not impaired, since the big toe was left intact. Professor Pál Ranschburg (1870-19??), neurologist of Budapest, examined the patient during the many years that followed and was of the opinion that the "Man with the foot-hand" was certainly Dr. Esser's masterpiece in plastic and reconstructive surgery. The patient was reviewed twenty years later in the "Annals of Surgery" (Esser and Ranschburg, 1940^a).

The patient was proud to be a farmer again. The function of the thumb had been completely restored by the operation, and the long extensor and flexor tendons exerted some flexion and extension, but he lacked the function of the intrinsic hand muscles.

Circulation was perfect. Sensitivity to touch, examined by stroking with a fine paint brush was present nearly all over the dorsal and volar aspect of the transplanted foot. A certain, but primitive localisation of touch was present.



FIG. 1.



FIG. 3.



FIG. 2.



FIG. 4.

Thumb reconstruction, using the big toe.

Pin-pricks were localised correctly and pencil-touching had the same effect. Two-point discrimination was much less than normal, and stereognosis was not restored at all.

The most striking phenomenon was the response to temperature.

Testglasses with ice and hot water contact, resulted in an 80% correct answer.

In conclusion, 20 years after the operation, the foot-hand fulfilled all the ordinary functions of a normal hand, while walking on the remainder of the right foot presented no difficulties.

Pedicled breast flap

The use of a pedicled breast flap in women in a bizarre, but original way to cover unstable amputation stumps. The first articles on this subject were published by Esser in German periodicals (Esser, 1919^{f, l}, 1922^c) and later the subject appeared in American, British and even Spanish periodicals (Esser, 1920^c, 1937^a, 1938ⁱ).

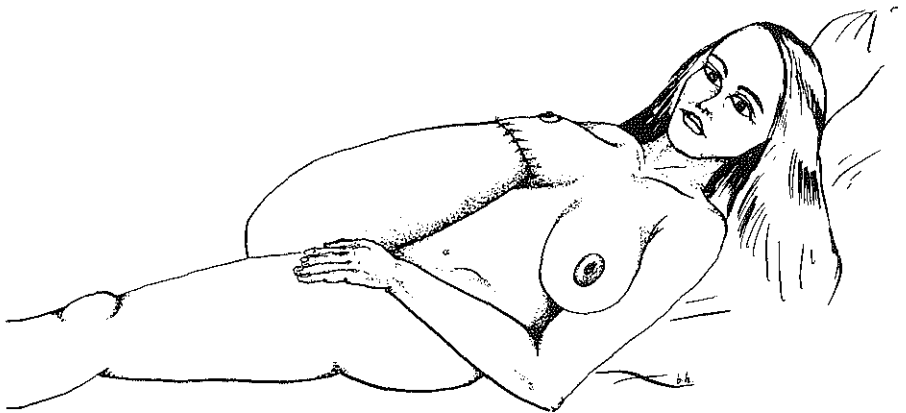
Esser explained his reasons for using this peculiar flap, in the British Medical Journal in 1938:

"... As the breasts of many women and girls, particularly in countries abroad, are inclined to be too much developed and the weight of these large glands stretches the surrounding skin, it is sometimes a great advantage to get rid of the superfluous skin, fat and gland tissue.

Having thought this over seriously, I have for some twenty years advocated the use of this skin for various purposes to supply missing portions..."

The dual purpose of the method is the necessity to supply skin for obvious surgical reasons and to perform a bilateral breast-reduction from an aesthetic point of view.

In a few cases the breast flap was carried out in order to cover hand defects



Pedicled breast flap in a woman with hypertrophic breasts, covering an unstable amputation stump of the lower leg.

and defects of the forearm. In these situations the position of the hand and arm inferior to the breast is a comfortable one.

Many operations were performed to cover unstable surfaces of amputation-stumps of the leg, even distal to the knee-joint, with bone protruding. In those cases the leg was flexed at the hip, to allow insertion of the limb in breast-tissue, either by simply burying, or by creating a pedicled breast flap. These leg-amputees had to maintain this odd position for several weeks.

In Berlin he operated on a young woman who had both legs amputated following a car accident. After healing there was protrusion of bone in one of the stumps. Professor Borchardt of the third university surgical clinic of Berlin, invited Esser to solve this problem.

The patient had given birth to a child some months after the accident and "...by coincidence the mamma afforded the necessary help. Owing to the plentiful milk secretion the mammae were highly hypertrophic, and from their excessive prominence almost invited their use..."

In this case after excision of scar tissue, the leg was buried in the breast and the skin of the breast adhered firmly around the bony stump. Some weeks after division of the pedicle there was still some secretion of milk from the stump!

In 1925 a similar case was operated in Amsterdam. Here, a 19-year old girl had suffered a below knee amputation as the tragic result of a tram accident. Previous attempts of surgical closure of the ulcerating stump had failed. A pedicled breast flap was then used to cover the defect, which healed well.

Reviewing the girl ten years later, Esser found that she was still very satisfied with the result. She had a stable knee-joint and a well fitting prosthesis.

On several occasions large neck contractures due to burns were treated in this way, even the lower third of the face could be covered with the flap. He performed this operation on a female patient in order to cover a post-excisional defect on the chin, following removal of a large haemangioma. This very grateful patient who had been plagued by feeling of gross inferiority, went out only at night, in order not to embarrass people with her appalling and monstrous face. She had become isolated and marriage was beyond her reach preoperatively. Resurfacing of the whole face in stages, was once performed with the skin of a hypertrophic breast.

Breast flaps were also employed to create tunnels through the pectoralis major muscle for pectoral cineplasties. Pins were placed through these tunnels and attached to strings.

The treatment of burns and frostbite

'A severe burn is really a systemic disease involving the skin primarily and the major organ system, including muscles and skeleton secondarily'.

E. Burke Evans, 1966

Esser's involvement with the treatment of burns was probably concerned only with the secondary treatment. His publications on burns deal mainly with the serious sequela of various burns, e.g. contractures, persisting granulating surfaces without a healing tendency and exposure of bone, stenosis of burnt cylindrical structures and so on. He wrote on the treatment of different types of burns, including flame-, chemical-, electrical and radiation burns.

The resulting secondary complications of these burns were in the hand, syndactyly and flexion- and extension contractures. For the face microstomia and ectropion of the eyelids.

In the neck severe contractures were encountered, and on the trunk severe burns led to scoliosis.

On the lower and upper extremities severe limitation of joint movement was often seen.

Chemical burns due to the accidental drinking of alkali- and strong acids, produced severe oesophageal strictures.

Radiation treatment for benign conditions such as hypertrichosis of the face in women, often resulted in severe burns, and over-exposure of the hands of medical personnel, who did not use proper protection against the serious side effects of radiation had the same effect.

Esser had also a wide experience of frostbite, caused by trench warfare in the winter in the Carpathian mountains on the Eastern front.

Fire and flame burns

The treatment of complications such as contractures, followed basic surgical principles. Tight contractures were divided, the joints stretched to their utmost limits, and all the scar tissue was excised. The secondary defect was closed with split skin grafts, followed by immobilization to minimize shrinkage and recurrent contracture.

Arterial flaps, were often used in cases of persistent postburn ulcers.

Serious hand contractures were treated by Esser by using bipediced abdominal flaps, which covered the dorsum of the hand. In fact the hand was buried in healthy, well vascularised tissue. He coined the German expression 'Einnähung', which means suturing in.

The edges of the defect were sutured into healthy tissue and were later freed. The same embedding principle was applied to degloving injuries (Esser, 1922).

In postburn syndactyly, the fingers were separated surgically, and the defects were skingrafted with the inlay method.

Extensively Esser described the treatment of various post-burn contractures such as adduction contractures of the shoulders, with skingrafting and the abduction splint, lower abdomen, thigh and perineum burn contractures and facial burns with resulting ectropion of the eye-lids, microstomia, nasal damage and destruction of the ears.

Radiation burns

In 1895 Wilhelm Conrad Röntgen (1845-1923), physicist of Würzburg, discovered the X-rays. For this invention he received the Nobel prize in 1901.

Radiotherapy was extensively used for diagnostic reasons in the treatment of fractures, as a radical cure for malignant disease and even in the management of benign conditions such as hypertrichosis and haemangiomas. Excessive radiation left an aftermath of gross defects, which were often considered to be virtually untreatable.

Esser gained considerable experience in dealing with these serious sequelae. The application of the arterial flap was of course his preferred treatment.

In 1926 he operated on the hand of a theatre nurse in Strasbourg, who had developed a carcinoma of the skin of her hand due to X-ray overexposure. The fourth and fifth finger had to be amputated, the remainder of the hand being left with a large skin defect, was covered by embedding it under an abdominal flap. One week later he operated a case of overirradiation of the chin at Gillies' clinic in London (Esser's diary, 1926, page 2).

Similar serious complications had happened to many people of the medical profession, including the reputable Dutch surgeon Jan Schoemaker from the Zuidwal Hospital in the Hague, who eventually died of this condition. Amputation of two fingers was performed too late and he died of secondary metastases (Boerema, 1977).

At the Second European Congress of Plastic Surgery in London in 1937, Esser presented a case report of a woman with X-ray burns of the face, including the mandible. As the result of too much radiation for hypertrichosis she had even lost her voice.

Persistent radiation burns were also later encountered by Esser in the United States of America.

He treated perineal ulcers, which had resisted all surgical intervention by a large biological scrotal flap, based on the posterior scrotal artery. (Esser, 1942^a).

Esser had noticed that tissues became necrotic following X-ray therapy. These areas became avascular and often developed malignant change in the scar.

The revitalising effect of a well-vascularised biological flap in these wounds was dramatic (Parkash, Ramakrishnan, 1980).

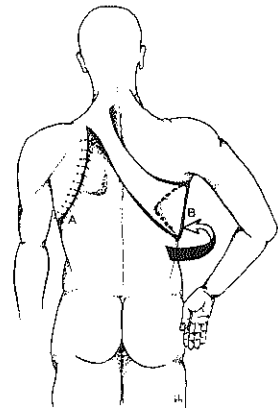
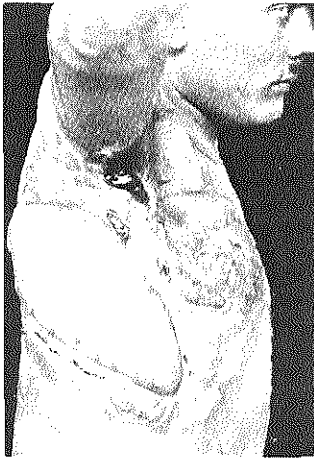
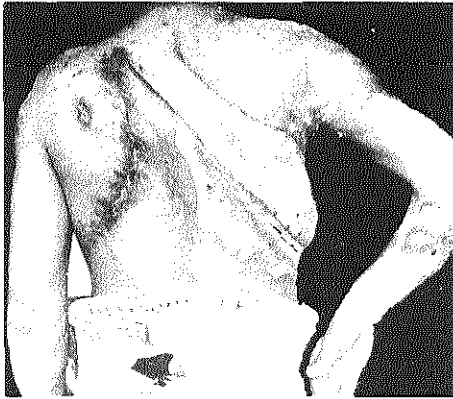
A lip and chin defect was reconstructed by him, in collaboration with the American dental surgeon K.W. Penhale that same year. Nine attempts were made in vain to reconstruct the lip and chin defect, caused by excision for carcinoma and postoperative radium therapy. The patient had contemplated suicide after so many surgical failures, but was cured in one operation with a large bipedicle biological scalp flap combined with an epithelial inlay and dental appliances (Esser, 1942^b).

The principle of providing a well vascularised flap to an indolent ulcerative area, thus providing a sound basis for healing, was Esser's experience, and he became to swear by its usefulness in such problematic cases.

Electrical burns

The treatment of a large electrical burn was described only once by Esser in 1933 in a manual labourer who was struck by a high voltage burn of undisclosed origin, which deeply burnt the right side of his trunk.

Since the patient's life was threatened by the extent of the burn, his initial treatment was conservative, and he remained in Professor Stolz's clinic in Strasbourg for many months. The burn wound had almost healed, still leaving a defect of five by eight centimeters. There was a dense mass of scar tissue, and the arm was completely locked at the shoulder joint. At operation a fifty centimetres incision into the scarred tissue was made, starting below the axilla, following the direction of the ribs, deep into the muscles. With traction on the arm, full abduction was achieved, leaving a wound fifteen centimeters wide. The wound was closed with an unusually long arterial flap



Large arterial flap of the trunk in a burns case with marked scoliosis due to severe contracture. Supposed to be an intercostal artery flap.

from the contralateral side of the back. Esser presumed that the flap belonged to the vascular territory of the intercostal vessels and their branches. Closure of the donor site was achieved under considerable tension, which at the same time relieved the marked scoliosis. Monofilament metal sutures were used and the clear illustrations in the journal show a very large and smoothly healed flap in position (Esser, 1933).

Chemical burns

The swallowing of concentrated acid or lye produced serious chemical burns of the oesophagus. In children this was usually accidental but in adults it was more often a suicide attempt (Esser, 1917⁴). Dense scarring of the oesophagus causing stenosis and inability to swallow fluids was the common result. Complicated operations were described to solve the problem. Lexer's technique of total oesophagoplasty by the introduction of a part of the jejunum presternally was an accepted, but difficult procedure. Thoracic flaps for reconstruction of the new oesophagus were also well known, but a multistaged and complicated form of reconstruction. Kirschner reconstructed the oesophagus with the stomach (Bier, Braun and Kümmell, 1923). Esser's contribution was much simpler. He reconstructed the complete oesophagus with the Thiersch-inlay technique, leaving the intestines intact (Esser, 1917⁴, Klasen, 1981).

The patients already had a Witzel's gastrostomy. A four centimeters incision was made on the thoracic skin, and by blunt dissection a tunnel was undermined peripherally and centrally, until a three centimeter diameter drain could be introduced. The drains were enveloped with skin grafts, the raw side facing outwards. This was not the orthodox inlay technique, in which a stent was made to produce an exact imprint of the cavity.

The split skin graft was glued with albumen to the rubber drain. The cavity was drained with a glass drain, which was removed ten days later. Then a new incision was made on the central side. Two months later the second stage began.

With a cystoscope the new canal was inspected, and it was found that these tunnels healed well, but a slight shrinkage of the lumen was regarded as normal.

An anastomosis was made with the remaining peripheral part of the oesophagus. Three months later an anastomosis was made with the proximal part of the new skin tube and the stomach, forming a valve, to prevent the direct action of acid from the stomach in the new skin tube, due to the lack of active peristaltic movements. The valve was created from an abdominal skin flap. In the beginning feeding was carried out by a nasogastric tube, and later spontaneous feeding was allowed. Due to gravity, food descended, but had to be helped by gentle massage to reach the stomach.

In a few cases fistulae appeared, but these could be closed by local flaps.

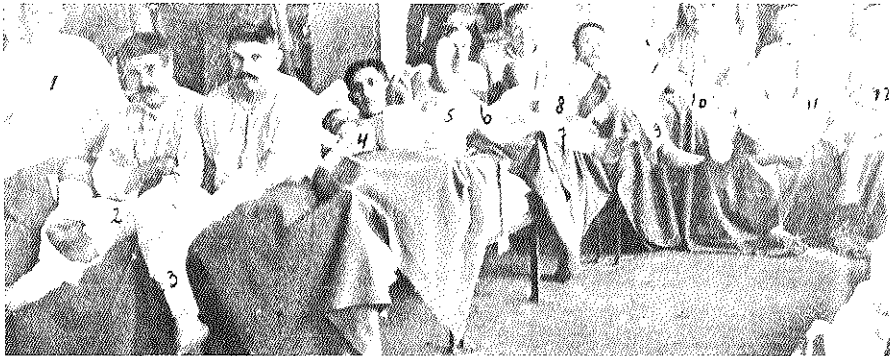
Frostbite

Frostbite is notorious for delaying healing and producing chronic ulceration surrounded by poorly nourished and dense scar tissue. During the First World War, frostbite was usually confined to the lower extremity especially the toes. Often it was necessary to resort to amputations.

Esser saw large number of patients with frostbite ulcers and those were treated with cross-leg flaps (Esser, 1917^o). This procedure provided well padded amputation stumps which did not require further shortening.

Initially the stumps were very painful, but postoperatively this symptom gradually decreased.

Esser described striking the tender areas with the clenched fist as a therapeutic measure.



"Cross-leg ward" in Budapest. (patients with frostbite-ulcers)

Plastic surgery applied to ophthalmology

“La réfection des pertes de substance créées dans les téguments de la face par l'exérèse d'épithéliomes cutanés étendus peut être réalisée par les différents procédés de greffe cutanée connus.

Dans certains cas néanmoins, il m'a semblé utile de recourir à une méthode dont l'idée revient au Dr. ESSER. Au lieu de déplacer un lambeau cutané, on se préoccupe de repérer une artère nourricière d'une certaine importance, dans l'espèce la sus-orbitaire’.

Victor Morax, 1926

Esser had a great interest in the reconstructive problems in ophthalmology and cooperated closely with many eye-specialists in Europe, during his plastic surgical practice in Hungary, Austria, Germany, France and Holland. His work was much appreciated by the ophthalmologists of these countries and later also in Italy, Greece and Spain, during his deliberations concerning the proposed Institute for plastic surgery.

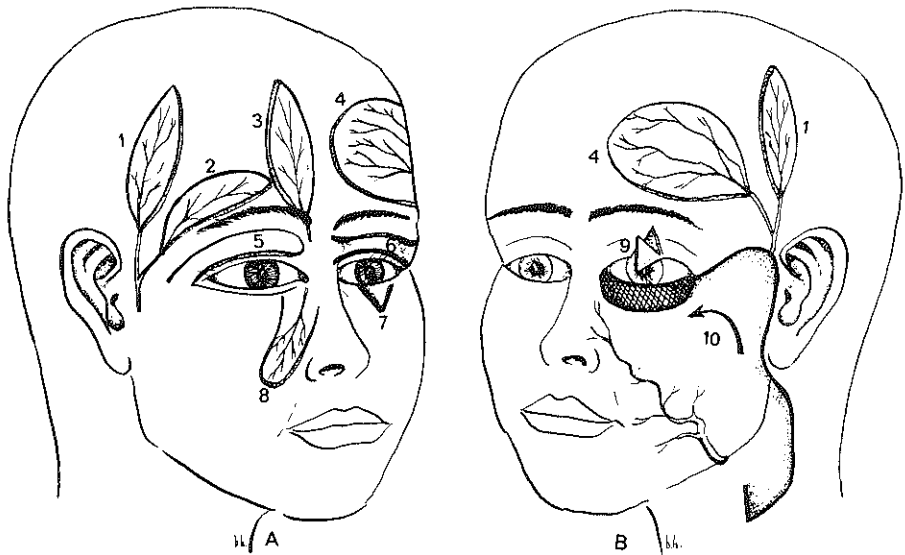
Basic techniques such as the epithelial inlay, biological flap and the rotation flap of the cheek, could all be used in the treatment of ophthalmological disorders (Van der Meulen, 1982).

He was largely involved in eyelidreconstruction, ptosis correction, eyelashes and brow reconstructions. Eye socket reconstruction and orbital floor and rim repairs with correction of deviated canthi were often multistaged procedures.

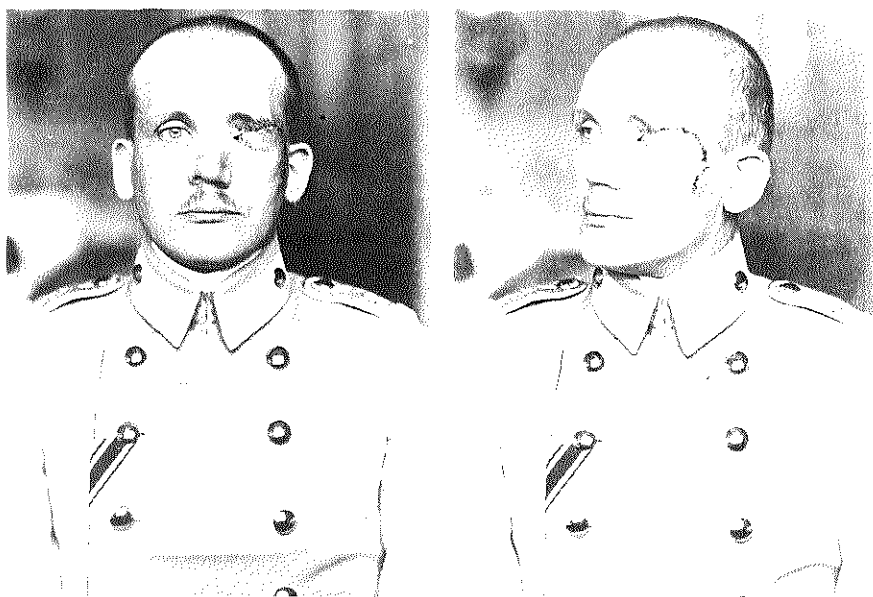
During war time, lacerations of the lower eyelid were common. The head of the soldier was a most vulnerable part of the body in trench warfare. Upper eyelid destruction by gunshotwounds were often fatal. Many procedures were followed in eyelidrepair, like the cheek rotation flap, and small arterial flaps. The lid-switch procedure, visor flaps of the upper lid, and unipedicled local flaps, were used for partial defects of the lids. Epithelial inlays were used to treat postburn ectropion.

For the correction of ptosis of the upper eyelid he employed a frontalis muscle procedure (Esser, 1917¹). A strong bundle of frontalis muscle was tunnelled and brought downwards to the upper eyelid margin.

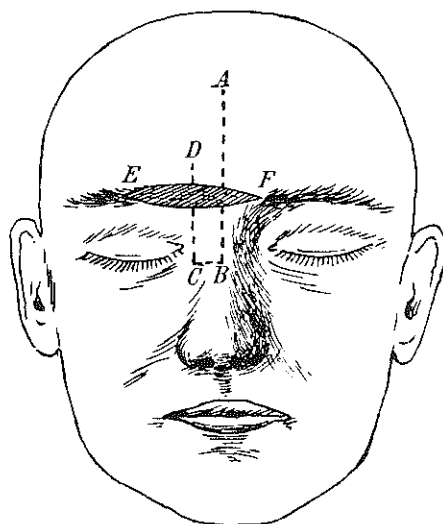
The most difficult part of the operation was the proper assessment of tension necessary. He modified this technique in 1921, and combined fascia with de-epithelialised skin with the caudal extension of the frontalis muscle, over



Various methods employed by Esser for lower eyelid reconstruction



Small rotation cheek flap for eyelid reconstruction

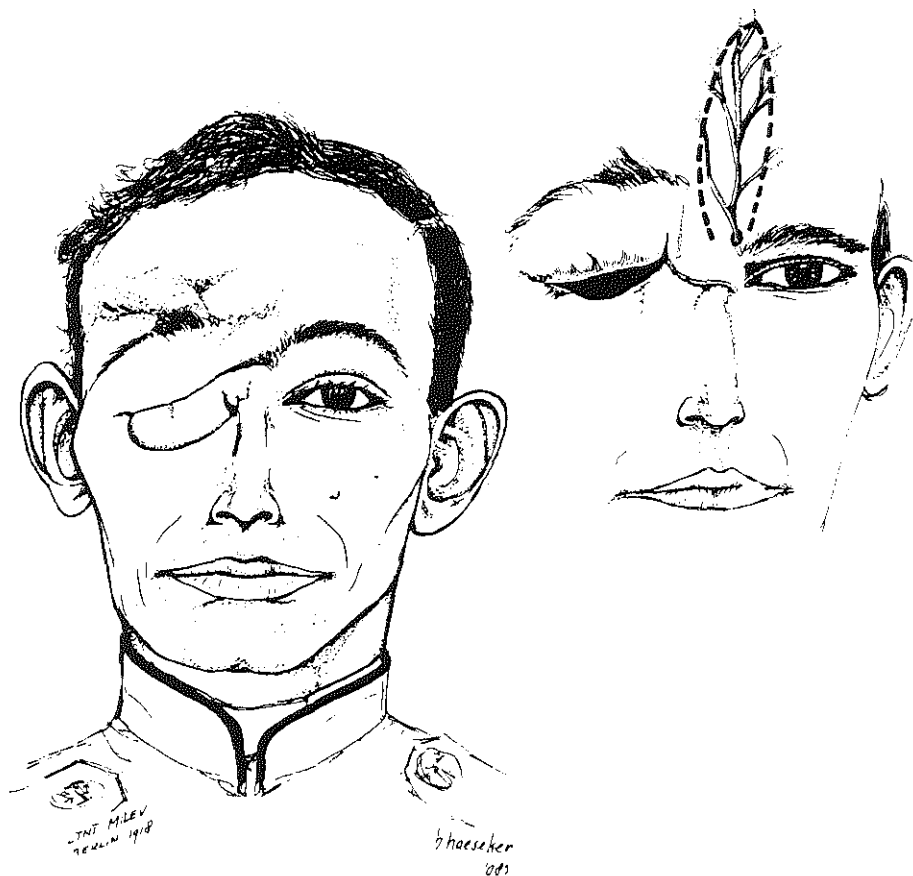


Ptosis-repair (frontalis muscle procedure)

the bridge of the nose, which is connected with the levator muscle of the upper lid (Esser, 1921^e).

A relaxation suture was placed through the lid margin to the brow, to avoid any tension on the tendinous strip.

This operation was recommended for congenital ptosis cases. Reconstruction of eyelashes was not always regarded necessary, and satisfying results were difficult to achieve, nevertheless a few of his articles deal with this subject (Esser, 1919^d).



Eyelid- and socket repair. Bulgarian poet Geo Milev. (1895-1925). He was operated 12 times by Esser in Berlin in 1918. He dedicated a poem to Esser.

PART THREE

The influence of Esser's most fundamental techniques and their impact on modern plastic and reconstructive surgery.

Introduction

A study of the history of plastic surgery is time consuming but not without practical value.

War has always played an important role in the development of reconstructive surgery, and the First World War provided an even greater impetus in which surgeons on both sides took part. (Davis, 1946, Jennings, 1971, McDowell, 1968, 1978, Stark, 1975, Verdoorn, 1972).

Historical study also shows that many so-called "original" techniques can be traced back to long-forgotten procedures. (Antia and Pandey, 1976, Chongchet, 1977, Hueston, 1961, Zimany, 1953, Shaw, 1946, 1980). However, with the help of advanced technology many of these "retrieved" techniques may lead to even newer developments.

Difficulty in tracing these techniques is often due to the linguistic problems of understanding and translating the text of the original paper. This is certainly the case with Sanskrit, Arabic and Chinese texts.

It has been often claimed that plastic surgery was performed in ancient Egypt but this is now questioned. (Goldwyn, 1982). Gnudi and Webster (1976) state in their beautiful monograph on the life and times of Tagliacozzi that the Edwin Smith and Georg Ebers papyrus (1550 B.C.) do not deal with plastic surgery at all. (Sijpestein, 1972). Yet in many contemporary historical reviews these medical papyruses are quoted as ancient plastic surgical books.

In the case of Esser's multilingual original papers, it is clear those that he wrote in German received little attention from the Anglo-Saxon surgeons, whereas the few that were written in English were readily understood.

Moreover in wartime, circulation of these journals was seriously restricted, and less read on the Allied side.

Little attention was paid to publications in French, Italian or Spanish and the Dutch language attracted no attention at all!

Esser was aware of this and yet he did not publish even one paper in his native language. The only exception was the translation into Dutch by Remijnse in 1938 of the French version of his original English edition of his book on the Arterial flaps of the face.

Impact on modern plastic surgery

Esser's principles in plastic surgery are still applicable in modern plastic surgery. There are many indications for the use of split skin graft inlays, arterial flaps, island- and rotation-cheek flaps.

In oral surgery, in particular, the Esser-inlay is still used on a wide scale for deepening of the buccal sulcus in edentulous patients.

The technique is virtually identical to Esser's first description, but avoiding the separate outside skin-incision.

No significant improvement has been achieved, since the successrate for a good graft take, was and is, approximately one hundred per cent. In eye-socket reconstruction the inlay-method is still the procedure of choice. Often

nowadays a mucous buccal transplant is used, but the principle is still more or less the same.

The recognition of the importance of the vascular pedicle to a skin flap has been the basis of modern free-flap or micro-vascular surgery. (O'Brien, 1977, Lamberty, 1979, Smith, 1966). The systematic use of arterial flaps initiated by Esser, is now widely practised.

Esser coined the expression 'island-flap' in 1916, and the search for new island flaps with a predictable and constant anatomical vascular territory continues, for the purpose of reconstruction of defects. The study of clinical anatomy of the vascular supply of the skin is becoming increasingly important to the plastic surgeon. (Corso, 1961).

The extensive use of musculocutaneous pedicled island flaps has become commonplace in modern reconstructive surgery (Ariyan, 1979^{a, b}, Mathes and Nahai, 1979, McCraw, Dibbell and Carraway, 1977).

The rotation flap of the cheek (Esser, 1918ⁱ) has found a wide application in the reconstruction of the lower eyelid and cheek defects. (Mustardé, 1966, Van der Meulen, 1982).

The bilobed flap for reconstruction of the nasal tip and alar defects, initially developed for use by the less dexterous surgeon (Esser, 1918^a) has remained a most useful method. Many recent articles are dedicated to this subject. (McGregor and Soutar, 1981).

The pedicled breast flap (Esser, 1918^h) is the only invention of Esser, which has found little application in modern plastic surgery, probably on account of the unusual and uncomfortable position of the patient, during the stage of tissue transfer. However odd positions are sometimes still used for these situations, like the ipsilateral buttock flap. (Drabyn and Avedian, 1979).

The pedicled breast flap is mentioned in Gillies and Millard's book of plastic surgery. ("The principles and art of plastic surgery", 1957).

Two illustrations show the use of the breastflap in a female patient with very large hypertrophic breasts, for the reconstruction of the face. An intermediate wrist carrier is used to transport the breastflap in stages to the face.

Breast-sharing procedures have been used for post-mastectomy reconstructions when ample breast tissue was available. These operations were however criticized for various reasons such as the risk of developing malignant changes in the transferred tissue and from an aesthetic point of view (Georgiade, 1979). Sometimes breast tissue is still used for the reconstruction of chest wall defects but myocutaneous flaps such as the latissimus dorsi, pectoralis major and rectus abdominis flaps are preferred.

These basic principles in plastic surgery are all commonly used, but the originator of these methods is often forgotten. It is important to incorporate history into the teaching programme of the junior staff members, because surgical procedures of the past are sometimes "re-invented" and published as original ideas, by ignoring and neglecting history.

Oral surgery and the Esser-inlay

During World War I, Esser originated the split skin graft inlay technique to reconstruct the buccal sulcus and the technique now described by the oral surgeons of today as a vestibuloplasty is no different from the original design. (Tideman, 1973, Starhak and Sanders, 1980). In the past there was a big demand for buccal inlays in cleft lip and palate cases. (Limberg, 1939, Rayne, 1966). Due to modern development to plastic surgery there are now fewer gross secondary deformities that require surgery.

Esser's fear of contamination of the graft by oral secretions was not justified. The modification of the "inlay" into an "outlay", popularized by Waldron and Gillies in 1920, proved to cause no graft loss, moreover the outlay method was much easier to perform.

Overcorrection was a routine measure, since some contraction of the graft was inevitable particularly on the mucosal surface of the lip.

With most skin graft-lined cavities about the head prosthetic appliances to maintain normal facial contour are essential. (Limberg, 1939; Figi and Masson, 1953). Intra-oral grafts were important in dealing with the repair of tissue loss within the mouth, especially in post-excisional cases where primary closure or flap cover was not feasible. Nowadays most extensive intra-oral defects are closed with myocutaneous pectoralis major island flaps and similar flaps. (Ariyan, 1979, Theogaraj et al., 1980).

In cases of longstanding edentulous patients, where the alveolar processes have completely been absorbed, the Esser-inlay or vestibuloplasty will establish a new sulcus which will assure a firm attachment of the denture to the residual bony framework. (Mc Cullaugh Mayer, Swanker, 1950).

This is nowadays the most important indication for the Esser-inlay in oral surgery.

Post-nasal inlays for the effects of lupus dishface deformities were used by Esser and the correction of the facial profile was maintained with a specially constructed dental appliance, which required its permanent presence. Ragnell (1958) aware of these shortcomings, introduced the use of free bone autografts as a method of building up the facial contour in cases where skin and mucosa were adequate but skeletal and cartilaginous support was missing. The bone grafts were taken from the ilium.

Longacre (1968) improved dish-face deformities with serial split-rib onlay grafting.

Le Fort's osteotomies were a later development (Gillies and Harrison, 1951). The danger in this technique in damaging the optic nerve and the possibility of intracranial penetration was at first glance, thought to be too great.

The principles of modern craniofacial surgery through a combined intracranial and extracranial approach was initiated by Paul Tessier of Paris. (Tessier, 1967).

The influence of the arterial flap

Biological and island flaps are mentioned in most textbooks of plastic surgery (Barsky, 1964, Converse, 1977. Grabb and Smith, 1973).

The method was initially not very popular, because of the difficult and precise technique of preparing the fragile thin pedicle, containing only the vessels, lymphatics and the nerve. (Kernahan, Littlewood, 1961). The ability of flaps of substantial dimensions to survive on this small neurovascular pedicle is a sound principle which has found a wide field of application today, and it is the most important contribution of Esser to reconstructive surgery. The risk of damaging the nutrient vessels of the flap has been diminished by de-epithelialising the pedicle. An advantage of this modification is the preservation of the subdermal plexus which aids venous drainage. (Kernahan and Littlewood, 1961).

Originally the course of the feeding artery was determined by careful palpation. Arteriography and the Doppler probe (Christian Doppler 1803-1853, Austrian physicist, who discovered the Doppler effect) are more recent tools to ascertain its course.

The intravenous injection of fluorescein is very helpful in predicting the viability of extended arterial flaps. (McCraw, Myers, Shanklin, 1977). After utilising the method of the arterial flap for more than twenty years, Esser was surprised to learn, after his arrival in the United States, that this method was not employed in America. Plastic surgeons felt erroneously that the technique was too hazardous. (Penhale and Esser, 1942).

The efficacy of the island flap principle was acknowledged but the fear of inadvertently damaging the vascular supply hovered over many American clinics. (Millard, 1980).

In 1889 Carl Manchot published in Leipzig a detailed monograph of the arterial anatomy of the skin which was not noted by many plastic surgical pioneers. (Manchot, 1889). Nevertheless the book was cited by Jacques Joseph in relation with his mammary artery pectoral flap (Gibson and Robinson, 1976). Manchot's treatise was unearthed in 1969 by Stuart H. Milton of Oxford. Milton had studied the vascularity of pedicled flaps clinically and experimentally. He concluded that the skin of the pedicle played no role in flap nutrition and could be dispensed with completely, which was precisely what Esser had advocated since 1917. Thus Esser's views were experimentally verified some 50 years later! The world attention had been orientated on Gillies' tubed flap for more than forty years, and this tradition had largely ignored the arterial contributions of the skin, presuming a random arteriolar distribution. Flap design had been based on principles of geometric convenience. (Milton, 1969).

Cutaneous circulatory anatomy became central to flap research and clinical application in the 1970's and local vascular pedicled flaps became the method of choice for the treatment of tissue defects. It is interesting to note that Milton revealed also some details about Esser's psychological behaviour: "...One surgeon stands alone in this field – J.F.S. Esser. The history of plastic surgery might well have been very different if his personality had not overshadowed his talents..." (Milton, 1971).

McGregor and Morgan drew attention to the precise vascular supply of flaps based on the inherent arteriovenous system.

A single pedicled flap which has an anatomically recognised arteriovenous

system running along its axis has been called the "Axial pattern Flap". (McGregor and Morgan, 1973, McGregor and Jackson, 1972, Smith, 1972, 1973). A flap without an axial arteriovenous system is called a "Random pattern Flap". Axial pattern flaps include many flaps of the head and neck and trunk, such as the deltopectoral flap (Bakamjian, 1965), the hypogastric flap (Wood, 1863, Esser, 1916, Shaw and Payne, 1946) and the groin flap (McGregor and Jackson, 1972). (Jackson, 1976). As a result of the continuing search for axial systems more new flaps are discovered such as the supra-clavicular flap (Lamberty, 1979) and the scapular flap (Barwick, Goodkind and Serafin, 1982, Hamilton and Morrison, 1982, Mayou, Whitby and Jones, 1982).

In subcutaneous pedicled island flaps (Esser, 1916, Barron and Emmett, 1965, Herbert and de Geus, 1975, Herbert and Harrison, 1975) the "axial element" is reduced to subcutaneous tissue.

Esser's original island flap was in fact a subcutaneous pedicled island flap of the cheek. Barron and Emmett (1965) showed in an extensive study that this principle of the subcutaneous pedicle is applicable all about the face, regardless of the nutrient vessels. The pedicle must be wide and tension on the flap must be avoided.

During the development of these flaps the nomenclature has been confusing. Classification is essential for communication.

Categorization of terms can produce a vocabulary which brings order out of confusion. (Kahn, 1971).

All flaps with a narrow pedicle containing the vascular supply only, are nowadays called "island flaps". The word "biological flap" has been disappeared completely since 1954 (McCash), and even arterial flaps are hardly mentioned. Axial pattern flaps have become commonplace.

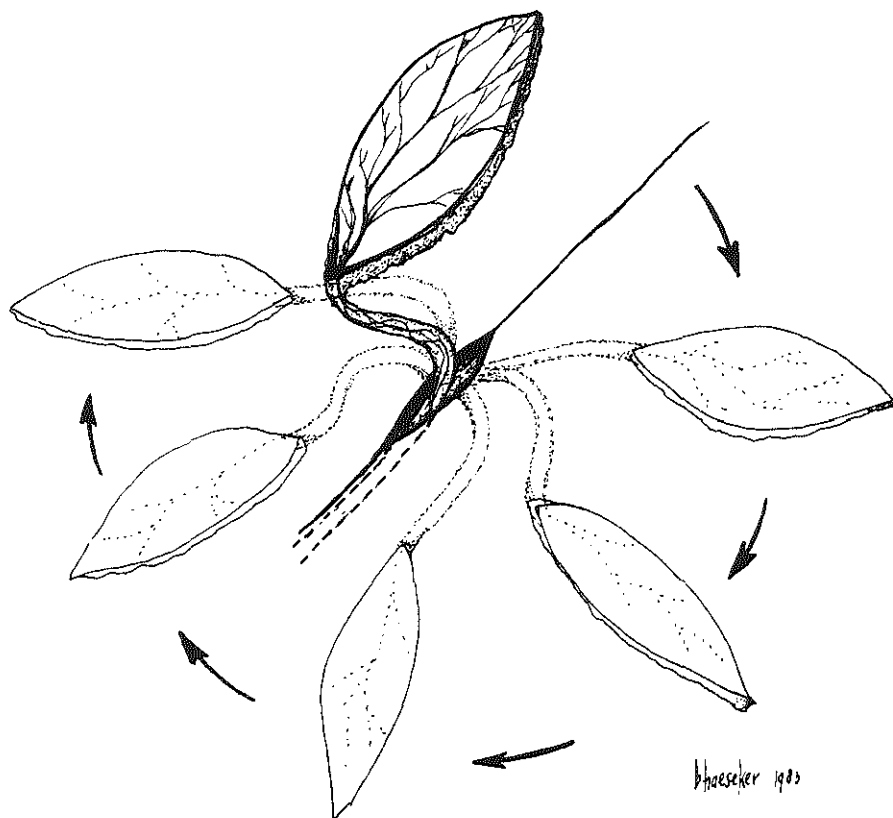
Compound tissue transfers such as osteomuscular flaps were described by Esser like the split mandible osteomusculocutaneous transfer for mandibular defects and the split sternum muscle pedicled flap for tracheal defects. This principle is still followed in the surgery of the head and neck. A split sternum pectoralis major osteomusculocutaneous transfer as a one staged-procedure for the correction of mandibular defects and the description of a transfer of the sternoclavicular joint on a muscle pedicle for temperomandibular arthroplasty follows still the same lines (Esser, 1917^{b, p}, Green et al, 1981, Siemssen, 1978, 1982).

With the introduction of the operation microscope in reconstructive surgery, the risk of damaging nutrient vessels has been significantly reduced. (Daniel and Williams, 1973).

With Esser's method of the pedicled arterial flap, the transfer of composite tissue was limited by the length of the supplying vessels. Microsurgery has lifted this barrier. (Daniel and Taylor, 1973).

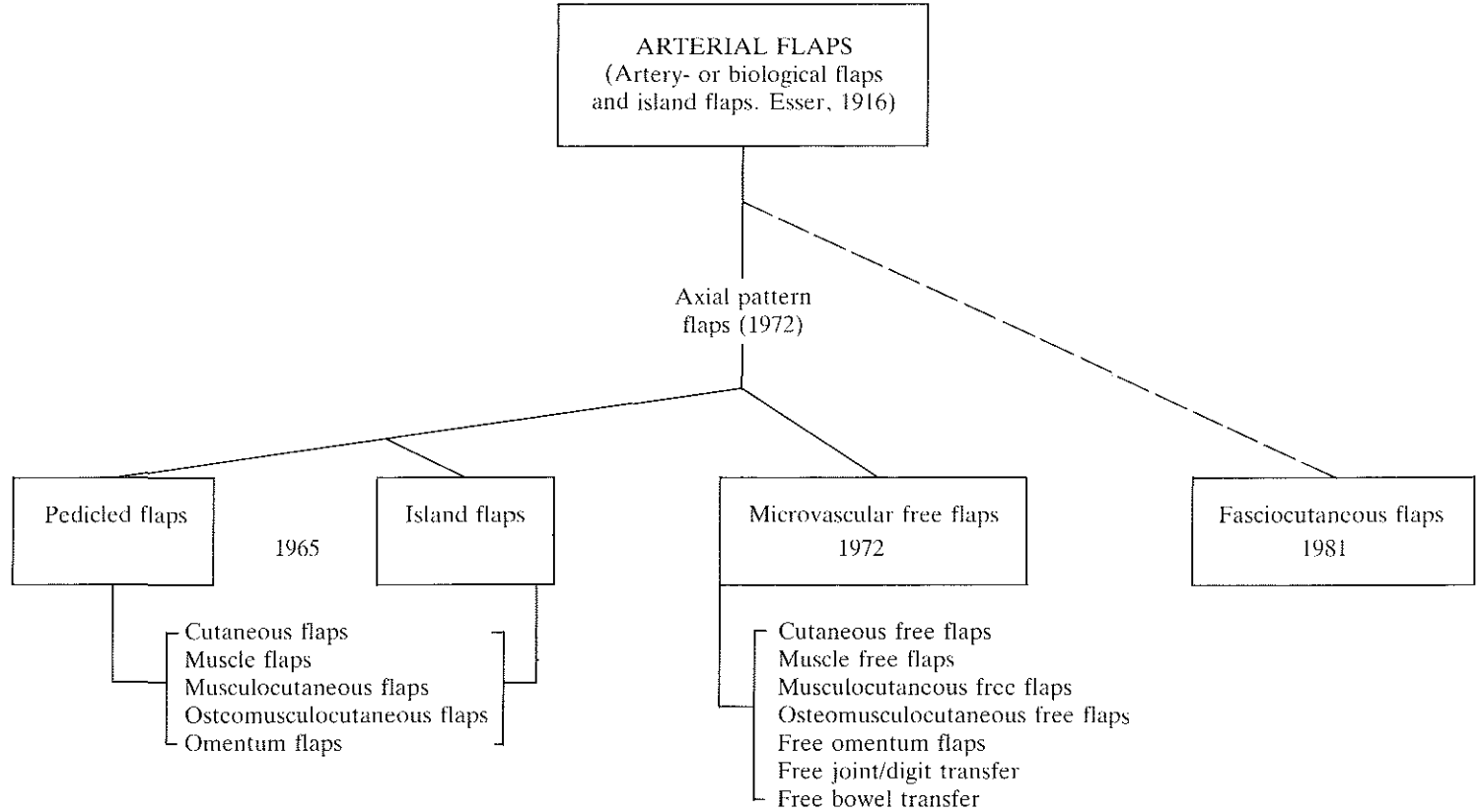
O'Brien defines the microvascular free flap as a tissue transfer, in one operation, of a composite segment of skin and subcutaneous tissue, to a distant site, using microvascular surgery. He named this onestaged microvascular tissue transfer in 1973 a "free flap". (O'Brien, 1973, 1977).

With this technique the pedicle is purposely divided and a vascular anastomosis of the vessels of the transplant is made to vessels with a similar diameter at the site of need. (Smith, 1966, Daniel and Terzis, 1977).



Range of movement of the arterial flap

During the last decade there has been a sharp increase in the demand of microsurgical techniques in reconstructive surgery, both in freeflap surgery and in replantation surgery. (Buncke, 1966, 1973^{a, b}). The last technique has replaced Nicoladoni's pedicled toe-to-hand operation completely, which was practised effectively by Esser on many occasions. With the introduction of a nerve graft to the toe-to-hand transplant, utilizing the pedicled technique, the method had already been considerably improved (Chandler and Clarkson, 1958).



175 Schematic representation of the influence of the arterial flap on plastic surgery.

The rotation flap of the cheek in eyelid repairs

The application of the rotation flap of the cheek is now more or less confined to eyelid reconstructions and to the repair of cheek tissue defects.

The flap is usually infero-medially based, but Kaplan and Goldwyn (1978) showed the versatility of a laterally based cheek flap for covering of defects following excision of cancer of the head and neck.

Mustardé (1966, 1968, 1971) fully utilized and popularised the rotation flap in reconstructive surgery of the lower eyelid.

For the upper eyelid reconstruction he incorporates Esser's lid switch procedure (Esser, 1919¹), derived from the lower lid. With the rotation of the whole cheek adequate tissue is easily provided for the lower lid. For reinforcement of the lower lid, a chondromucosal septal graft is introduced, as an imitation of the tarsal plate, but this principle is not accepted by everyone. (Van der Meulen, 1982).

It has been recommended to insert a buried stitch at the lateral side of the eye, near the lateral canthal ligaments, to the periosteum of the orbit in order to remove the weight of the cheek flap. This prevents a future drooping of the reconstructed lower eyelid.

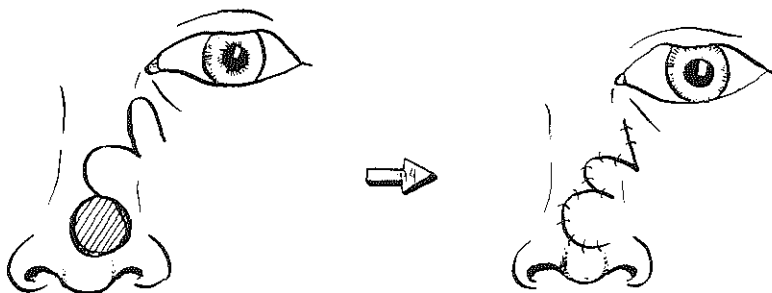
McGregor (1973) advised the addition of a Z-plasty in the lateral part of the flap, and Van der Meulen (1982) described the use of a second Z-plasty at the medial part of the flap, near the inner canthus.

The bilobed flap

The bilobed flap was used for the first time by Esser, on November, 13, 1916, on a six year old child, with a nasal tip and columella defect, in Budapest. The method was forgotten for a long time, and retrieved by Zimany in 1953, who was at first surprised that this method had not been described before.

Aufrecht brought to his attention a publication of his old teacher in Germany, Esser, who had produced a paper on this subject.

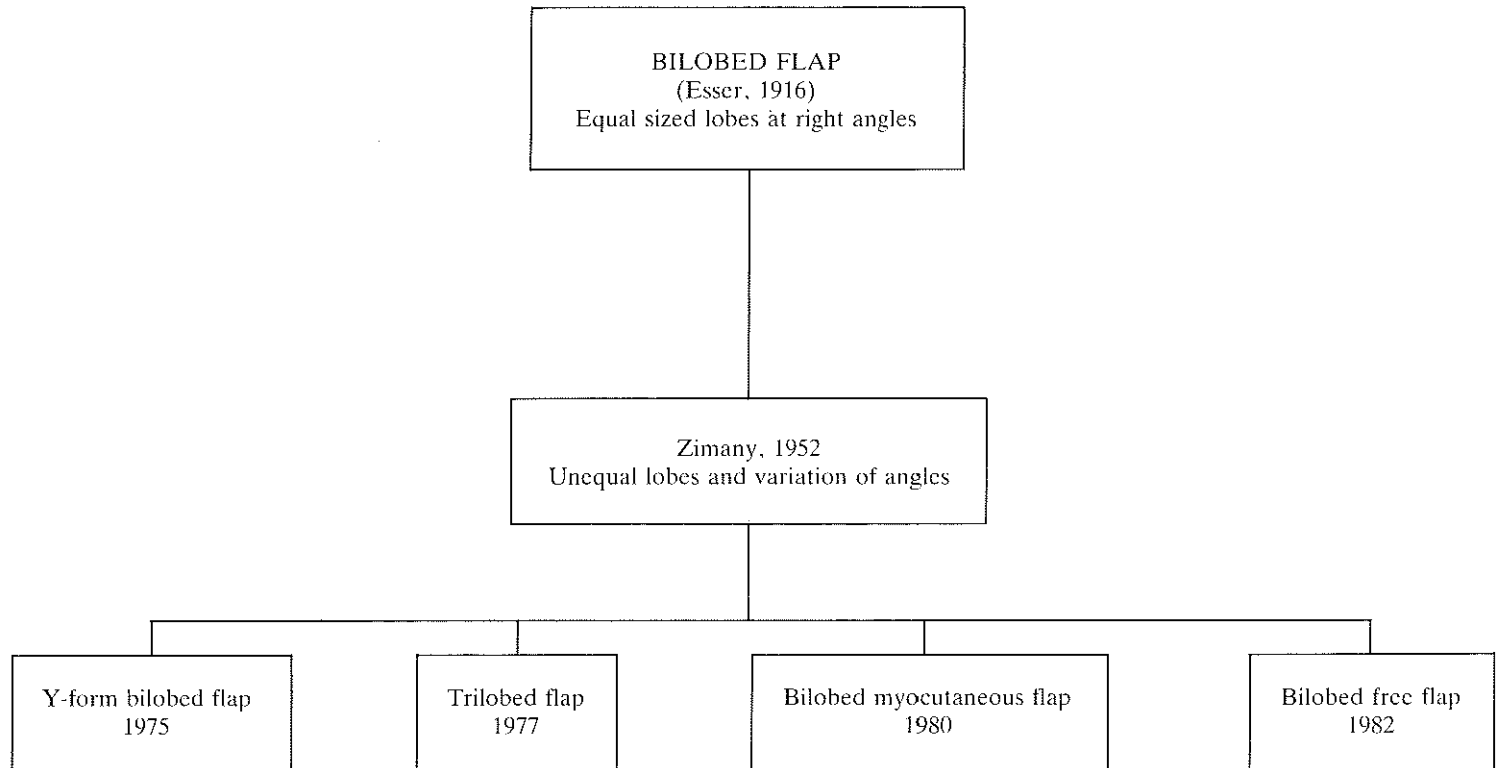
In Esser's original contribution on the bilobed flap, both flaps were equal in size and the angle of tissue transfer had to be ninety degrees. Many authors have reported on the favourable results and the great flexibility of the



Modern bilobed flap

Postnummer (Nummer des Zusammenhangsprotokolls)	Unterabteilung	Charge	Name	Krankheit	Datum und Art des operativen Eingriffes	Erfolg	Anmerkung
111	Neurologie	300	Murray, Ernest Herrmann Herrmann	Neurologie	13. Nov. '16	Beste	
112	Neurologie	300	Murray, Ernest Herrmann	Neurologie	13. Nov. '16	Beste	
113	Neurologie	300	Murray, Ernest Herrmann	Neurologie	13. Nov. '16	Beste	
114	Neurologie	300	Murray, Ernest Herrmann	Neurologie	13. Nov. '16	Beste	
115	Neurologie	300	Murray, Ernest Herrmann	Neurologie	13. Nov. '16	Beste	
116	Neurologie	300	Murray, Ernest Herrmann	Neurologie	13. Nov. '16	Beste	
117	Neurologie	300	Murray, Ernest Herrmann	Neurologie	13. Nov. '16	Beste	
118	Neurologie	300	Murray, Ernest Herrmann	Neurologie	13. Nov. '16	Beste	
119	Neurologie	300	Murray, Ernest Herrmann	Neurologie	13. Nov. '16	Beste	
120	Neurologie	300	Murray, Ernest Herrmann	Neurologie	13. Nov. '16	Beste	
121	Neurologie	300	Murray, Ernest Herrmann	Neurologie	13. Nov. '16	Beste	
122	Neurologie	300	Murray, Ernest Herrmann	Neurologie	13. Nov. '16	Beste	
123	Neurologie	300	Murray, Ernest Herrmann	Neurologie	13. Nov. '16	Beste	
124	Neurologie	300	Murray, Ernest Herrmann	Neurologie	13. Nov. '16	Beste	
125	Neurologie	300	Murray, Ernest Herrmann	Neurologie	13. Nov. '16	Beste	
126	Neurologie	300	Murray, Ernest Herrmann	Neurologie	13. Nov. '16	Beste	
127	Neurologie	300	Murray, Ernest Herrmann	Neurologie	13. Nov. '16	Beste	
128	Neurologie	300	Murray, Ernest Herrmann	Neurologie	13. Nov. '16	Beste	
129	Neurologie	300	Murray, Ernest Herrmann	Neurologie	13. Nov. '16	Beste	
130	Neurologie	300	Murray, Ernest Herrmann	Neurologie	13. Nov. '16	Beste	

Esser's operation notes. 13 November 1916. First description and rough sketch of the bilobed flap



Development of the bilobed flap since its first description.

bilobed flap. (Morgan and Samiiian, 1973). McGregor and Soutar (1981) conclude that the bilobed flap is a most useful method of reconstruction in the repair of defects of the nasal tip and sides and several modifications have been described such as the Y-form bilobed flap (Vilar-Sancho, 1975).

Following the development of musculocutaneous flaps, the application of a bilobed myocutaneous flap has been described (Maruyama, Nakajima and Kodaira, 1980), consisting of a gluteus maximus musculocutaneous flap and a tensor fasciae latae flap, for the closure of a perineal defect, and more recently a bilobed free flap, consisting of a scapular flap and a latissimus dorsi flap has reported. (Mayou, Whitby and Jones, 1982).

Harashina, Maruyama and Kitamura (1977) developed a trilobed flap, and a recent publication follows the same line. (Ohtsuka, Miki and Shioya, 1982). The advantages of a trilobed flap are questionable, since the bilobed flap usually suffices.

Esser's most valuable contribution to plastic surgery is without doubt the recognition of the significance of the vascular supply to skin flaps. Our technical mastery of vascular anastomosis and appreciation of vascular anatomy opens up a whole new vista in reconstructive surgery. Plastic surgeons of today are forced to go back to the dissecting room and study extensively vascular anatomy in order to improve flap transfer. This appreciation lead already in various countries to the establishments of Associations of Clinical Anatomists.

At present no flap is randomly planned. (Daniel and Kerrigan, 1979).

Summary and conclusions

This thesis consists of three parts. The first part is devoted to the history of plastic surgery between 1910 and 1940, centred around a biography of the Dutch surgeon Johannes F.S. Esser.

The second part deals with a description and analysis of the techniques introduced by him, and the third part with the influence of these techniques on modern plastic and reconstructive surgery.

The biography commences with the struggle for independence of the Belgians and its influence on Jan Esser's grandfather. Attention is given to his early youth and primary school period in Leiden and his increasing reputation as an international chess player during his secondary school and student period. A short review is given of the development of chess during this time. Esser commenced his medical studies in Leiden and sat the examination for theoretical dentistry there too. Practical dentistry was then only taught in Utrecht necessitating his move to that town. Before long, more time was spent in chess than in dentistry. He graduated in Leiden in 1903 and obtained the degree of doctor in medicine by sitting a public examination in Ghent, Belgium.

Esser's medical activities are described, first as a ship's surgeon in 1904, then as a country doctor in Polsbroek and finally as a general practitioner in Amsterdam. Here he became an eager collector of antiques and paintings and once again he took up chess, winning the Dutch championship in 1908. His commercial talents were exploited in frequent visits to auctions and the Stock-exchange. He was attracted by public sales all his life and real estate transactions would bring grist to his mill.

In 1912 Esser abandoned general practice in order to specialize in plastic surgery, a specialty that up to then, was non-existent.

A short historical review illustrates the Dutch contribution to plastic surgery at that time.

In 1913 we find Esser as a trainee with Laméris in general surgery in Utrecht, and during his holidays he worked as a locum tenens in Rotterdam.

Esser's restless nature was not well suited to such a restrictive apprenticeship which he considered too long and unnecessary.

That same year he left for Paris with his family, where Morestin and Sébilleau had attracted his interest with their reconstructive surgery of the face.

The outbreak of the Great War during a holiday in Holland prevented his return to Paris and he remained at Noordenbos' clinic in Rotterdam until 1915.

In May of that year he was appointed as a civilian surgeon to the Austrian-Hungarian War ministry. Early developments in the First World War are outlined, which shed light on his posting to Brünn and his transfer to Vienna where he soon ran into serious difficulties with his military superiors. This stormy period in Vienna gave way to a pleasant and fruitful sojourn in Budapest.

A stream of articles flowed from his pen and caught the interest of several surgeons in Berlin, resulting in an invitation from Bier, Krückmann and Schröder to work there. It was here that in 1918 his first book, a monograph on cheek rotation flaps appeared.

He remained in Berlin until 1925, when he moved to Strasbourg in France and shortly thereafter to Monaco. The not inconsiderable fortune that he had amassed in Berlin was invested in real estate in Holland and France.

His surgical activities now extended to practically the whole of Europe as he strove to realise his dream of an independent international institute for plastic surgery. The juridical, political and financial problems surrounding the establishment of such an institute are sketched. His political approaches were not free from opportunism and his shrewd real estate investments were used to finance the project.

In 1928 these activities took him on a part business, part medical journey to South America.

In the thirties he occupied himself with the writing of books on plastic surgery, based largely on his war experiences and at the same time he contributed freely to the newly established journals of plastic surgery.

The outbreak of the Second World War in 1939 and the stringent requirements of absolute neutrality proved at the last moment to be the stumbling block to the realisation of his goal.

One year later he left Europe for America. In the years that followed he devoted his time to philosophy and an autobiography which remained unfinished at the time of his death in Chicago in 1946.

The second part of the thesis deals with the principles which Esser introduced to plastic surgery, notable amongst which was the remarkable Esser-inlay. This idea, new to the British and Germans was published in both languages which helped propagate the technique. Of particular importance was his systematic employment of arterial flaps and his realisation of the significance of a feeding system of vessels to flaps of all kinds. Unfortunately these ideas were regarded by many as too difficult and too risky and they were not widely adopted. The last part of this section deals with important other techniques such as the cheek rotation flap, bilobed flap and the pedicled toe-to-thumb reconstructions.

The third and final section explores the influence of Esser's ideas on modern plastic surgery. The Esser-inlay, for example is still used by oral surgeons in vestibuloplasties for edentulous patients. The concept of the arterial flap continues to occupy the limelight, increasingly so since 1970, and has led to the development of many island flaps, myocutaneous-axial pattern – and recently free flaps.

With the introduction of the operating microscope in the sixties the fear and risk of accidental damage to nutrient vessels has all but been eliminated. Finally the steadily increasing interest in clinical anatomy, which Esser always stressed, continues to lead to the discovery of new flaps with their own blood supply.

At the end of the third section a complete bibliography of Essers publications is given.

The most important conclusions of this investigation are:

1. The introduction of the arterial flap and island flap and the recognition of the importance of a vascular pedicle has been the basis for many new flaps in modern plastic and reconstructive surgery.
2. The skin graft-inlay technique has been of great importance during both World Wars. It is a relatively simple and safe procedure to reconstruct extensive facial injuries. The Esser-inlay is still used by the oral surgeons in vestibuloplasties.
3. The rotation flap of the cheek is now confined to eyelid reconstructions and to the repair of cheek tissue defects.
4. The bilobed flap is a most useful method of reconstruction in the repair of defects of the nasal tip and sides.
5. Esser did not establish a recognizable school in plastic surgery, because he travelled too much and stayed too short in many University clinics all over Europe; which halted the development of the arterial flap during a long period.
6. The reasons for Esser's relative obscurity in his own native country are: He was not a fully trained general surgeon. He did not publish in Dutch and his personality overshadowed his talents.

Samenvatting en conclusies

Dit proefschrift bestaat uit drie delen. Het eerste deel is gewijd aan de historie der plastische chirurgie, gedurende de periode 1910 tot 1940, verweven met een biografie van de Nederlander Johannes F.S. Esser.

Het tweede deel bestaat uit een beschrijving en analyse van de voornaamste door hem geïntroduceerde technieken, en het derde deel beschrijft de invloed daarvan op de huidige plastische en reconstructieve chirurgie.

Het biografische deel begint met een beschrijving van de onafhankelijkheidsstrijd der Belgen, en de invloed die deze strijd heeft op het leven van Jan Esser's grootvader. Aandacht wordt geschonken aan de jeugd- en lagere schoolperiode te Leiden, en aan zijn groeiende reputatie als internationaal schaker gedurende de middelbare schooltijd en studiejaren.

De ontwikkeling van het schaakspel wordt gedurende deze periode kort geschetst.

Esser studeerde geneeskunde te Leiden, alwaar hij ook het theoretisch examen tandheelkunde heeft afgelegd. De praktische tandheelkunde werd alleen te Utrecht gedoceerd, hetgeen een verhuizing noodzakelijk maakte. Spoedig nam het schaken meer tijd in beslag dan de studie tandheelkunde. In 1903 studeerde Esser af in Leiden, en werd hij bevorderd tot doctor in de geneeskunde door het afleggen van een openbaar examen te Gent, in België. Vervolgens wordt Esser's carrière als arts geschetst, aanvangend als scheepsarts in 1904, gevolgd door een periode als plattelandsarts te Polsbroek en huisarts te Amsterdam. In deze laatste plaats begon het schaken en het verzamelen van kunst en antiek een steeds belangrijker plaats in te nemen in zijn leven.

Dit leidde tot het schaakkampioenschap van Nederland in 1908. Het zakelijk inzicht werd handig uitgebuut op zijn frequente beurs- en veilingbezoeken. Openbare veilingen bleven gedurende zijn hele leven een grote aantrekkingskracht op hem uitoefenen, en de handel in onroerend goed leverde hem geen windeieren op.

In 1912 besloot Esser zijn bloeiende huisartsenpraktijk vaarwel te zeggen, om zich te gaan specialiseren in een nog niet bestaand vak, de plastische chirurgie.

Een kort historisch overzicht laat zien, hoe de plastische chirurgie zich ontwikkelde, en wat de Nederlandse bijdrage tot op dat ogenblik was.

Gedurende het jaar 1913 volgde hij een opleiding in de algemene heelkunde voor een korte periode bij Laméris in Utrecht, tevens maakte hij kennis met de opleiding te Rotterdam tijdens de vakanties. De onrustige Esser vond

echter de voorbereidingstijd te lang en deels overbodig, en vertrok datzelfde jaar met zijn gezin naar Parijs, alwaar Morestin en Sébilleau reeds de aandacht hadden getrokken met de reconstructieve chirurgie van het gelaat.

Als gevolg van het uitbreken van de Eerste Wereldoorlog, gedurende zijn vakantie te Nederland, was hij gedwongen in Nederland te blijven. Tot 1915 verbleef hij in de kliniek van Noordenbos te Rotterdam.

In mei 1915 volgde zijn benoeming als burger-chirurg in dienst van het Oostenrijks-Hongaarse ministerie van Oorlog.

Aandacht wordt geschonken aan de vroege ontwikkelingen in de Eerste Wereldoorlog, die de plaatsing van Esser te Brünn verklaren.

Hierna wordt zijn verblijf te Wenen beschreven, en worden zijn moeilijkheden met zijn militaire superieuren geschetst. Deze stormachtige Weense periode wordt gevolgd door een aangenaam en vruchtbaar verblijf te Budapest.

Een stroom van artikelen van Essers hand trok de aandacht der Berlijnse chirurgen en in 1917 volgde zijn uitnodiging naar Berlijn te komen op verzoek van Bier, Krückmann en Schröder.

Hier verscheen in 1918 zijn eerste boek, een monografie over de rotatielap van de wang.

Ook na de oorlog, tot 1925 verbleef hij in Berlijn. Daarna vestigde hij zich metterwoon in Frankrijk, aanvankelijk te Straatsburg, en later in Monaco. Een niet onaanzienlijk kapitaal werd geïnvesteerd in Nederland en Frankrijk.

Essers arbeidsterrein was nu vrijwel uitgebreid tot geheel Europa, in een streven tot de verwezenlijking te komen van zijn droombeeld: de stichting van een internationaal onafhankelijk instituut voor plastische chirurgie. De juridische, politieke en financiële moeilijkheden van het oprichten van een dergelijk instituut worden uiteengezet. Zijn politieke aanpak is niet vrij van opportunisme. Zijn materiële welvaart dankt Esser voornamelijk aan zijn omvangrijke handel in onroerend goed.

In 1928 volgde een deels zakelijke, deels medische reis naar Zuid-Amerika. In de jaren dertig hield hij zich bezig met het schrijven van diverse leerboeken over basistechnieken der plastische chirurgie, gebaseerd op zijn ervaringen uit de Eerste Wereldoorlog. Tevens publiceerde hij frequent in de recent opgerichte plastische chirurgische tijdschriften.

Het uitbreken van de Tweede Wereldoorlog en het zeer star vasthouden aan de eis van absolute neutraliteit, verhinderen de feitelijke oprichting van zijn instituut op het laatste moment.

In 1940 wijkt hij bij het uitbreken van de Tweede Wereldoorlog uit naar de Verenigde Staten. Deze periode kenmerkt zich door een toewijding aan de filosofie en aan zijn autobiografie.

Zijn autobiografie is bij zijn dood te Chicago in 1946 nog niet voltooid.

Het tweede deel van dit proefschrift gaat uitvoerig in op de principes die Esser heeft geïntroduceerd in de plastische chirurgie waarvan de Esser-inlay in de oorlogsjaren baanbrekend is geweest, zowel aan Duitse als aan Britse zijde. Het publiceren in twee talen is van groot belang geweest voor de verspreiding ervan.

Het systematisch toepassen van de arteriële lap en het onderkennen van de waarde van een zelfstandig bloedvatensysteem voor huid- en samengestelde lappen, is van grote betekenis geweest. Een belemmering voor verspreiding op grote schaal was, dat deze techniek door velen als te moeilijk en te riskant werd bestempeld.

Aan de meest belangrijke andere technieken, zoals de rotatielap van de wang, de bilobed flap en de gesteelde teen-duim-reconstructies wordt vervolgens een beschrijving gewijd.

Het derde deel van het boek behandelt de invloed van Essers ideeën op de huidige plastische chirurgie.

De Esser-inlay vindt thans nog steeds toepassing in de kaakchirurgie bij vestibuloplastieken bij tandeloze patiënten. De arteriële lap staat nog steeds in het middelpunt der belangstelling, vooral sinds 1970, en heeft aanleiding gegeven tot een diversiteit van eilandlappen, zoals de myocutane lappen, axiale lappen en de meest-geavanceerde gerevasculariseerde lap of vrije lap. Het risico van vaatbeschadiging bij het vrijprepareren kon later geheel worden ondervangen door de introductie van de operatiemicroscoop in de plastische chirurgie in de jaren zestig.

De nog steeds toenemende belangstelling voor de klinische anatomie, altijd hoog geschat door Esser, leidt tot voortdurende beschrijvingen van nieuwe lappen met een eigen vaatstelsel.

Aan het einde van het derde deel wordt een complete bibliografie van Essers publicaties gegeven.

De conclusies die wij uit het proefschrift mogen trekken zijn de volgende:

1. De introductie van de arteriële lap en de eilandlap, is een stimulans geweest voor het denken in de plastische chirurgie. Vele nieuwe lappen zijn geënt op dit principe, en vinden ruime toepassing in de hedendaagse reconstructieve chirurgie. Voor een belangrijk deel hebben moderne vasculair gesteelde lappen, zoals de myocutane eilandlap, de inlay-techniek verdrongen; onder anderen is dit het geval bij de reconstructieve chirurgie in het hoofd-hals gebied.
2. De skinraft-inlay techniek is van grote betekenis geweest in de Eerste en Tweede Wereldoorlog, zij heeft een uitgebreide reconstructie van gelaatsverminderingen op relatief eenvoudige wijze mogelijk gemaakt. Vooral in de kaakchirurgie heeft deze techniek haar waarde, ook na de oorlog, behouden.
3. De rotatielap van de wang heeft zich een belangrijke plaats verworven bij de reconstructieve chirurgie der oogleden en wangdefecten.
4. De bilobed flap is een zeer praktisch hulpmiddel voor de sluiting van kleine nasale defecten.
5. Door het frequent heen en weer reizen tussen diverse universiteitssteden, is Esser er niet in geslaagd een eigen school in de plastische chirurgie te stichten. Dit heeft de verdere ontwikkeling van de arteriële lap waarschijnlijk langdurig geblokkeerd.
6. Esser was waarschijnlijk weinig bekend in eigen land, door het ontbreken van een voltooide opleiding in de algemene heelkunde, waardoor het hem

onmogelijk was zich als zelfstandig specialist in Nederland te vestigen. Het ontbreken van enige Nederlandse publicatie heeft hier stellig ook toe bijgedragen, evenals zijn persoonlijkheidsstructuur, gekenmerkt door individualisme, sterke zelfovertuiging en ontbreken van souplesse.

Zusammenfassung und Schlussfolgerungen

Diese Doktorarbeit besteht aus drei Teilen. Der erste Teil behandelt die Geschichte der plastischen Chirurgie während des Zeitabschnittes von 1910 bis 1940, verwoben mit der Biographie des Niederländers Johannes F.S. Esser.

Der zweite Teil besteht aus einer Beschreibung und Analyse der wichtigsten von ihm eingeführten Methoden, und der dritte Teil beschreibt deren Einfluss auf die moderne plastische und Wiederherstellungs-Chirurgie.

Der biographische Teil beginnt mit einer Beschreibung des Unabhängigkeitskampfes der Belgier, und dem Einfluss dieses Kampfes auf das Leben von Jan Essers Grossvater.

Die Jugend und Volksschulzeit in Leiden werden erwähnt und seine wachsende Anerkennung als internationaler Schachspieler während der Mittelschule und Studienjahre. Die Entwicklung des Schachspieles in dieser Zeit wird kurz beschrieben. Esser studierte Medizin in Leiden, wo er auch die theoretische Zahnarztprüfung ablegte. Die praktische Zahnmedizin wurde nur in Utrecht unterrichtet und deshalb musste er umziehen. Doch bald erforderte das Schachspielen mehr Zeit als das Zahnarztstudium. Im Jahre 1903 beendete Esser sein Studium in Leiden und promovierte zum Doktor der Medizin mit der öffentlichen Abschlussprüfung in Gent, Belgien.

Danach wird Essers Laufbahn als Arzt beschrieben, beginnend als Schiffarzt im Jahre 1904, anschliessend als Landdokter in Polsbroek und als Hausarzt in Amsterdam.

In dieser Stadt nahm das Schachspielen und die Sammlung von Kunst und Antiquitäten mit der Zeit einen immer wichtigeren Platz in seinem Leben ein. So wurde er Schachmeister der Niederlande im Jahre 1908.

Sein Geschäftssinn machte sich bei häufigen Besuchen von Börsen und Versteigerungen bezahlt. Öffentliche Versteigerungen haben ihn während seiner ganzen Lebenszeit sehr angezogen und der Handel mit Immobilien war gewinnbringend für ihn.

Im Jahre 1912 beschloss Esser, seine blühende Hausarztpraxis aufzugeben, um sich auf ein noch nicht existierendes Fachgebiet, die plastische Chirurgie, zu spezialisieren.

Eine kurze geschichtliche Uebersicht zeigt die Entwicklung der plastische Chirurgie und den niederländische Beitrag bis zu diesem Zeitpunkt.

Während des Jahres 1913 machte Esser für kurze Zeit eine Ausbildung der allgemeinen Chirurgie bei Laméris in Utrecht, gleichzeitig lernte er während der Hochschulferien die Ausbildung in Rotterdam kennen. Der unruhige

Esser fand allerdings die Vorbereitungszeit zu lang und teilweise überflüssig, und reiste im selben Jahr mit seiner Familie nach Paris, wo Morestin und Sébilleau bereits mit der rekonstruktiven Chirurgie des Gesichts die Aufmerksamkeit erregt hatten.

Auf Grund des Ausbruchs des ersten Weltkrieges während seines Urlaubs in den Niederlanden, wurde er gezwungen in den Niederlanden zu bleiben. Bis 1915 verweilte er im Krankenhaus von Noordenbos in Rotterdam. In Mai 1915 wurde er zum Bürgerchirurg im Dienst des österreichisch-ungarischen Kriegsministerium ernannt. Erwähnt werden die frühzeitigen Entwicklungen im ersten Weltkrieg, die die Versetzung Essers nach Brünn erklären. Danach wird sein Aufenthalt in Wien und Budapest beschrieben. Eine Vielzahl von Esser veröffentlichte Artikel erregte die Aufmerksamkeit der Berliner Chirurgen und im Jahre 1917 luden Bier, Krückmann und Schroeder ihn nach Berlin ein. Hier erschien in 1918 sein erstes Buch, eine Abhandlung über die Rotation der Wange. Auch nach dem Krieg, bis 1925, blieb er in Berlin. Danach liess er sich in Frankreich, anfänglich in Strassburg und später in Monaco nieder. Sein nicht unbedeutendes Kapital investierte er in den Niederlanden und Frankreich. Essers Arbeitsgebiet hatte sich nun über ganz Europa ausgebreitet, im Streben zur Verwirklichung seines Wunschtraumes: die Grundung eines international unabhängiges Institutes für plastische Chirurgie.

Die rechtlichen, politischen und finanziellen Schwierigkeiten bei der Gründung eines derartigen Institutes werden näher beschrieben. Essers politische Arbeitsweise ist einigermaßen opportunistisch. Seinen materiellen Wohlstand verdankt Esser hauptsächlich seinem umfangreichen Immobilienhandel. In 1928 übernimmt er eine teils geschäftliche teils medizinische Reise nach Südamerika. In den Dreissigerjahren beschäftigt er sich, auf Grund seiner Erfahrung im ersten Weltkrieg, mit der Ausgabe verschiedener Lehrbücher über die Grundverfahren der plastische Chirurgie. Gleichzeitig veröffentlicht er häufig Artikel in den neugegründeten Zeitschriften für plastische Chirurgie.

Der Ausbruch des zweiten Weltkrieges und die starre Aufrechterhaltung der absoluten Neutralität verhindern die tatsächliche Gründung seines Institutes im Letzten Augenblick.

Beim Ausbruch des zweiten Weltkrieges weicht er in 1940 nach den Vereinigten Staaten aus. Dieser Zeitabschnitt kenzeichnet sich durch sein Interesse für Philosophie und für seine Autobiographie. Seine Autobiographie ist bei seinem Tod in Chicago in 1946 noch nicht vollendet.

Im zweiten Teil dieser Doktorarbeit werden die durch Esser eingeführten Grundsätze der plastische Chirurgie ausführlich behandelt, wobei die Esser Epitheleinlage in den Kriegsjahren bahnbrechend war, sowohl auf deutscher als auch auf britischer Seite. Die Veröffentlichung in zwei Sprachen war für dessen Verbreitung sehr wichtig.

Die systematische Verwendung des arteriellen Lappen und die Erkenntnis der Bedeutung selbständiger Gefäss-Systeme für Haut- und zusammengesetzte Lappen war sehr wichtig. Ein Hindernis für die weitgehende Verbreitung war, dass viele diese Methode schwierig und

riskant fanden. Die Beschreibung behandelt ferner die wichtigsten anderen Methoden sowie die Rotation der Wange, die zweiblättrigen Lappen und die gestielten Daumenplastiken mit Hilfe der Zehen.

Der dritte Teil des Buches beschreibt den Einfluss von Essers Ideen auf die moderne plastische Chirurgie. Die Esser-einlage wird heute noch in der Kieferchirurgie bei Vestibulumplastik von zahnlosen Patienten verwendet. Der arterielle Lappen erregt noch immer viel Interesse, vor allem seit 1970 und verursachte eine Reihe von Insellappen, sowie die Hautmuskeltranspositions-lappenplastiek, achsiale Lappen und die fortschrittlichsten mikrovasculär gestielten Haut-Weichteillappen oder freie Lappen. Das Risiko der Gefässbeschädigung beim Freipräparieren konnte später durch die Einführung des Operationsmikroskopes in die plastische Chirurgie in den Sechzigerjahren gänzlich vermieden werden.

Das noch immer wachsende Interesse für die klinische Anatomie, die von Esser hochgeschätzt wurde, führt zur fortlaufenden Beschreibung neuer Lappen mit einem eigenen Gefässsystem. Am Ende des dritten Teiles ist ein vollständiges Verzeichnis von Essers Veröffentlichungen angegeben.

Die Schlussfolgerungen, die man aus dieser Doktorarbeit ziehen kann, sind folgende:

1. Die Einführung der arteriellen Lappen und der Insellappen war ein Impuls für das Denken in der plastische Chirurgie. Viele neue Lappen beruhen auf diesem Grundsatz und werden vielfältig in der modernen Wiederherstellungschirurgie verwendet. Zum Grossteil haben moderne vasculär gestielte Lappen sowie der Hautmuskeltranspositionsinsellappen die Spalthauteinlagentechnik verdrängt, unter anderem ist das der Fall bei der rekonstruktiven Chirurgie des Kopf-Halsgebietes.
2. Die Spalthauteinlagentechnik war im ersten und zweiten Weltkrieg von grosser Bedeutung, sie machte umfangreiche Rekonstruktionen bei Gesichtsverwundungen auf verhältnismässig einfache Weise möglich. Vor allem in der Kieferchirurgie ist, auch nach dem Krieg diese Methode von Bedeutung geblieben.
3. Die Rotation der Wange hat einen wichtigen Platz bei der Wiederherstellungschirurgie der Augenlider eingenommen.
4. Der zweiblättrige Lappen ist ein sehr brauchbares Hilfsmittel zur Dichtung kleiner nasaler Hautdefekte.
5. Durch das häufige Hin- und Herreisen zwischen verschiedenen Universitätsstädten ist es Esser nicht gelungen, eine eigene Schule der plastischen Chirurgie zu gründen. Das hat die Weiterentwicklung der arteriellen Lappen wahrscheinlich lange Zeit verhindert.
6. Esser war wahrscheinlich in seinem Heimatland nicht so bekannt, weil er die allgemeine chirurgische Ausbildung nicht abgeschlossen hatte, und deshalb konnte er sich in den Niederlanden nicht als selbständiger Spezialist niederlassen. Weitere Gründe hierfür sind das Fehlen niederländischer Veröffentlichungen, sowie sein Charakter, der durch Individualismus gekennzeichnet war, besonders aber seine Selbstüberzeugung und wenig diplomatische Einstellung.

Résumé et conclusions

Cette thèse se compose de trois parties. La première est consacrée à l'histoire de la chirurgie plastique entre 1910 et 1940, liée à une biographie du Néerlandais Johannes F.S. Esser.

La seconde partie comporte une description et une analyse des principales méthodes introduites par Esser, et la troisième expose leur influence sur la chirurgie plastique et réparatrice actuelle.

La partie biographique, débutant par l'histoire de la guerre d'indépendance de la Belgique et le rôle que cette campagne a joué dans la vie de son grand-père, décrit l'enfance et la période scolaire de Jan Esser à Leyde et sa réputation grandissante comme joueur d'échecs durant les années d'études secondaires et universitaires, tout en esquissant brièvement l'histoire du jeu d'échecs à cette époque.

Jan Esser étudie la médecine à Leyde où il passe également la partie théorique de l'examen de chirurgie dentaire.

La partie pratique n'étant enseignée qu'à Utrecht, un déménagement s'impose. Esser consacre bientôt plus de temps aux échecs qu'à ses études de dentiste. Il termine ses études de médecine à Leyde en 1903 et reçoit le titre de docteur en médecine après avoir passé un examen d'état à Gand en Belgique.

Esser fait sa carrière de médecine générale comme médecin de bord en 1904, ensuite médecin de campagne à Polsbroek et enfin comme médecin de famille à Amsterdam. Là, Esser donne une place prépondérante aux échecs et à sa collection d'art et d'antiquités.

Il devient champion national d'échecs en 1908. Il exploite son habileté aux affaires lors de ses fréquentes visites à la bourse et aux ventes aux enchères, qui ont toujours exercé sur lui une forte attraction, ainsi que dans l'immobilier.

C'est en 1912 qu'Esser décide d'abandonner sa clientèle et d'aller se spécialiser dans une branche jusqu'alors inexistante: la chirurgie plastique.

Un aperçu historique montre le développement de la chirurgie plastique et la part de la Hollande dans ce spécialisme avant cette date.

Esser suit quelque temps, en 1913, un cours de chirurgie générale auprès de Laméris à Utrecht, tout en prenant connaissance pendant les vacances de l'enseignement donné à Rotterdam. Cependant Esser, qui ne tient pas en place, trouve le temps de préparation trop long et en partie superflu. Il part la même année pour Paris où Morestin et Sébileau ont déjà attiré l'attention par la chirurgie réparatrice du visage.

La première guerre mondiale éclate lors de ses vacances en Hollande et il est

immobilisé là. Il travaille à la clinique de Noordenbos à Rotterdam jusqu'à sa nomination, en Mai 1915, comme chirurgien civil au service du Ministère de la Guerre de l'Autriche-Hongrie.

Une étude des circonstances du début de la guerre est destinée à expliquer la nomination d'Esser à Brno, puis son séjour à Vienne et ses difficultés avec ses supérieurs militaires. La période tourmentée de Vienne est suivie d'un séjour agréable et fructueux à Budapest.

Il publie une quantité d'articles qui attirent l'attention des chirurgiens de Berlin, et en 1917 il est invité par Bier, Krückmann et Schroeder à venir à Berlin.

C'est là que paraît son premier livre, en 1918: une monographie sur la rotation de la joue.

La guerre terminée, il reste à Berlin, jusqu'en 1925.

Il s'établit ensuite en France, d'abord à Strasbourg, ensuite à Monaco. Il investit un capital assez considérable aux Pays-Bas et en France; il étend son champ d'activité quasiment à l'Europe entière, dans un élan à réaliser son rêve: la fondation d'un institut international indépendant pour la chirurgie plastique.

Les difficultés d'ordre juridique, politique et financier qu'il rencontre sont exposées. Esser ne manque pas d'opportunisme lorsqu'il les aborde. Son aisance matérielle est due principalement à son considérable commerce dans l'immobilier.

En 1928, il effectue un voyage en Amérique du Sud dans un but en partie commercial, en partie médical.

Dans les années trente, Esser écrit divers traités sur les techniques de base de la chirurgie plastique, fondées sur son expérience acquise pendant la première guerre mondiale, et publie de nombreux articles dans les revues de chirurgie plastique récemment fondées.

La seconde guerre mondiale d'une part, et d'autre part la ténacité inflexible d'Esser à revendiquer la neutralité absolue pour son institut font obstacle au dernier moment à la réalisation de cette grande entreprise.

La guerre ayant éclaté, il part en 1940 pour les Etats-Unis. Il consacre cette période de sa vie à la philosophie et à son autobiographie, qui est inachevée lors de son décès survenu à Chicago en 1946.

La seconde partie de cette thèse expose amplement les principes introduits par Esser dans la chirurgie plastique. C'est surtout la méthode des moulages dermiques qui a fait oeuvre novatrice pendant les années de guerre, autant du côté allemand que du côté anglais. La publication en deux langues a été de grande importance pour la diffusion de cette méthode.

L'utilisation systématique du lambeau artériel et la notion de la valeur d'un système vasculaire indépendant dans les lambeaux cutanés et dans les lambeaux complexes a été de grande importance. Un inconvénient pour la diffusion à vaste échelle de cette technique a été que beaucoup de chirurgiens la trouvaient trop délicate et trop hasardeuse.

Une description des principales autres techniques, telles que la rotation de la joue, le lambeau bilobé et la reconstruction du pouce par greffe de l'orteil pédiculé termine la seconde partie.

La troisième partie traite de l'influence exercée par les idées d'Esser sur la chirurgie plastique actuelle.

Les moulages dermiques sont toujours pratiqués en chirurgie dentaire pour les plasties vestibulaires des patients édentés.

Le lambeau artériel retient toujours l'intérêt, surtout depuis 1970; il est à la base d'une diversité de lambeaux insulaires tels que les lambeaux musculocutanés, les lambeaux axiaux et les plus avancés d'entr'eux: les lambeaux revascularisés ou libres. Le risque d'endommagement des vaisseaux lors de la préparation du pédicule a pu être annihilé par l'introduction dans les années soixante du microscope opératoire dans la chirurgie plastique. L'intérêt sans cesse croissant porté à l'anatomie clinique, préconisé par Esser, mène continuellement à des descriptions de nouveaux lambeaux à système vasculaire autonome.

La troisième partie se termine par une bibliographie complète des publications effectuées par Esser.

Les conclusions que nous pouvons nous permettre de tirer de cette thèse sont les suivantes:

1. L'introduction du lambeau artériel et du lambeau insulaire a été un stimulant à la réflexion pour la chirurgie plastique. Nombreux sont les nouveaux lambeaux, greffés sur ce principe, fréquemment pratiqués dans la chirurgie réparatrice actuelle. Les lambeaux vasculaires pédiculés modernes, tel le lambeau insulaire musculocutané, ont en grande partie supplanté la technique des moulages dermiques; c'est le cas en particulier pour la chirurgie réparatrice de la tête et du cou.
2. La technique de greffe cutanée avec moulure épidermique a été de grande importance pendant la première et la seconde guerre mondiale; dans les cas de défiguration, elle a permis de pratiquer des reconstructions étendues par méthode relativement simple. C'est surtout en chirurgie dentaire que cette technique a gardé sa valeur, même après la guerre.
3. La rotation de la joue est une méthode qui a acquis une place importante dans la chirurgie réparatrice des paupières et des joues.
4. Le lambeau bilobé est une ressource très commode pour refermer les déficiences mineures du nez.
5. C'est par ses fréquents déplacements d'une Université à l'autre qu'Esser n'a pas pu faire école dans la chirurgie plastique. Ce fait a sans doute longtemps bloqué le développement ultérieur du lambeau artériel.
6. Le peu de renom qu'Esser a acquis dans son pays natal est probablement dû au fait qu'il n'avait pas terminé ses études de chirurgie générale, ce qui l'a mis dans l'impossibilité de se fixer comme spécialiste aux Pays-Bas. L'absence de toute publication dans des revues néerlandaises y a certainement contribué, ajoutée à sa personnalité individualiste, sa grande confiance en soi et son manque de souplesse.

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The author first became acquainted with the name of Esser during a teaching session at the Welsh regional centre for plastic and reconstructive surgery and Burns centre in Chepstow, Gwent in 1979, during his basic training in plastic surgery (Head of department Mr. M.N. Tempest, M.D., Ch.M. F.R.C.S.Ed.), when Esser's name was mentioned by one of the members of the junior staff in relation to his major invention of the arterial flaps (later renamed "axial pattern flaps" by McGregor and Morgan).

The name of this compatriot was completely unknown to the writer at that time, but excited and curious to discover who Esser was and how his original publications appeared, began the search.

From then on it was a slow progress, unravelling the life and activities of Johannes Esser. However investigations were accelerated in Holland with an extensive search in University libraries for his mainly German publications.

An extra impetus was provided by Dr. Henri Winters, plastic surgeon of Lochem, the Netherlands, who in the past had met the late Mrs. Esser in Monaco. Moreover he possessed most of the books written by Esser.

These contact, visits, interviews and correspondence with Esser's daughters and son, Dr. E.J. Palmer-Esser of Paris, Mr. M.H.M. Esser of Dayton, Ohio, Mrs. Esser of Vaucresson, Mrs. B. Roockx-Esser of Cordes and Mrs. O. van den Berg-Esser of Amsterdam, resulted in an avalanche of material, papers, documents, books, papercuttings and photographs, all of which showed a rather confusing and overwhelming picture of this original Dutch pioneer.

Of immense value was the unfinished autobiography of Esser, written towards the end of his life, in the United States. A study of this material, revealed a very advanced, dedicated and somewhat restless plastic surgeon, starting this special branch of surgery, under difficult conditions, facing much opposition, alone prior to World War One. He was not an easy man, but very persisting and lacking tolerance on occasions.

Further introductions were arranged with Esser's former secretary in Holland, Mrs. L. Claus of Epe, to whom the author is indebted for her knowledge of the complex commercial side of Esser's life. Gratitude is also expressed to Dr. H.R. van der Molen of Apeldoorn, whose father the dentist

H. van der Molen, collaborated closely with Esser, during his irregular visits to Amsterdam.

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of

Dr. J.F.S. Esser

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"... if you search deep enough, far enough, and long enough, you may find that someone has done it before you..."

V.R. Pennisi, 1983

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