Werner L. Mang · Manual of Aesthetic Surgery 2

Professor Dr. med. Dr. habil. Werner L. Mang was born in Ulm, Germany, on 9 April 1949. Following his basic surgical training in the 1970s, he became a specialist in ENT (1980) and plastic operations (1984). He is the Medical Director of the Bodenseeklinik, Europe's largest clinic for aesthetic surgery. Professor Mang is Chairman of the Board of Directors of Mang-Medical AG, founding President of the German Society for Aesthetic Surgery, President of the International Society of Aesthetic Surgery, and an honorary member of numerous specialist societies.

He is also the author of the successful *Manual of Aesthetic Surgery*, Volume 1 (Mang School), which has been translated into English, Portuguese, Russian, and Chinese.

He is the author of more than 200 specialist publications; he has been a pioneer in his field in Germany and has personally carried out more than 30,000 cosmetic operations over the last 20 years. Thus, Professor Mang has significantly influenced the evolution of aesthetic surgery, as did Professor Pitanguy before him.

Werner L. Mang

MANUAL OF AESTHETIC SURGERY 2

- Breast Augmentation
- Brachioplasty
- Abdominoplasty
- Thigh and Buttock Lift
- Liposuction
- Hair Transplantation
- Adjuvant Therapies Including Spacelift

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120 Medical Illustrations by Hans Jörg Schütze

20 Plates of Surgical Instruments and 66 Photographs

ISBN 3-540-66553-6 Springer Berlin Heidelberg New York

Library of Congress Control Number: 00061916

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springeronline.com

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Printed in Germany

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Editor: Gabriele M. Schröder, Heidelberg
Desk editor: Irmela Bohn, Heidelberg
Production editor: Ute Pfaff, Heidelberg
Medical Illustrations: Hans Jörg Schütze, Köln
Cover-Design: Erich Kirchner, Heidelberg
Typesetting and Reproduction of Plates and Photos:
AM-productions GmbH, Wiesloch
Printing and bookbinding: Stürtz AG, Würzburg
DVD-Video: Video Transfer, Groß-Umstadt

Printed on acid-free paper 24/3150 – 5 4 3 2 1 0

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In memory of
Dr. Karl Mang
Dominic Blake

Manual of Aesthetic Surgery is dedicated to my wife, Sybille, and my children, Gloria-Victoria and Thomas-Werner. Without my wife Sybille I would have been unable to find the energy to build the new clinic at Lake Constance or to write this manual. Over the last few years, there has been no time for holidays or free weekends with my family, and it thus pleases me even more that, despite this stress, both my children are interested in the field of medicine. Naturally, it would be wonderful if my children could one day continue my life's work and become capable surgeons.

Introduction

My idea of writing an audiovisual work about aesthetic surgery has been crowned by success, for which I am extremely grateful. In Volume 1 of the Manual of Aesthetic Surgery, for the first time treatments were described simply, clearly, and concisely using text, pictures, and videos, so that young doctors who want to learn about this area, either as interested students and doctors or as young specialists in aesthetic/plastic surgery, could acquire the basic knowledge and surgical expertise they need without making treatment mistakes.

The manual is intended to be a basic tool and is not for professionals and doctors who have been practicing in this specialty for a long time. It is intended to be a textbook for doctors who are starting out in this field and want to learn about it.

Naturally, it was not possible to mention all the tricks, subtleties, and latest operation methods, suture materials, implants, etc. in these volumes. Every aesthetic surgeon must learn these through further training and conferences. However, for every surgical technique in trauma or abdominal surgery, the basics of the operation must be standardized. This was achieved well with Volume I of the manual. It has been the most successful book of its kind for Springer-Verlag, Heidelberg, and has been published in Spanish, Russian, and Chinese because of the enormous interest in it.

I had never thought that this book would be so well accepted. It has become an interdisciplinary textbook for surgeons, ENT and dental surgeons, plastic surgeons, dermatologists, gynecologists, orthopedists, and urologists and has a place in many hospital libraries throughout the world.

After the first volume was published, I received invitations to give lectures and surgical courses and take up chairmanships from almost everywhere in the world. I have been accredited as an honorary professor at foreign universities and see my life's task in plastic/aesthetic surgery as being to bring together all specialties that teach and research the field of aesthetic surgery in order to ensure excellent quality assurance in relation to patient care.

As a result of my lectures to the most varied specialist societies on every continent, I have discovered again and again that there is competition between ENT surgeons, dental surgeons, and plastic surgeons in almost every country, even though all three specialties perform extremely valuable work in the field of aesthetic surgery.

The leading plastic surgeons of the past, Diefenbach, von Gräfe, Joseph, and Lexer, were either ENT surgeons or general surgeons. We must never forget our history and the disciplines from which the specialty of aesthetic/plastic surgery has developed.

Anyone who has had sound surgical training and has an interest in the field of aesthetic surgery will value this book as a benchmark. It can help in allowing the specialty of aesthetic surgery to be taught in an interdisciplinary way, so that the specialties concerned can mutually exchange knowledge and thus contribute to further progress in this field.

Aesthetic surgery can only achieve a serious basis in the long-term through constant training, the exchange of ideas, attendance at conferences, and the opening up of all specialties that perform valuable work in this field. Neither plastic surgery nor ENT and dental surgery can claim this specialty for themselves alone, as there is too much overlap both historically and in the specialist further-training guidelines.
For this reason, work is carried out in an interdisciplinary way at the clinic at Lake Constance with the departments ENT and plastic surgery, plastic and reconstructive surgery, maxillofacial surgery, aesthetic dental surgery, dermatology, and venous, hair and laser surgery. This is the only way a large clinic can cover the entire spectrum. The same applies to a well-trained aesthetic surgeon. He will always have main areas within his field of work and will be unable to cover all operations professionally alone. This is why the model of the clinic at Lake Constance will be successful in the long term, as in this clinic different groups of specialists are unified and offer interdisciplinary aesthetic surgery. This is the clinic of the future.

Every year approximately 3,000 operations are carried out at the clinic at Lake Constance, which has five operating theaters and 50 beds.
The *Manual of Aesthetic Surgery* should be seen as the symbiosis of my lifetime work with the Bodenseeklinik. It has been published to coincide with the building of the new clinic (completion 2003). In view of the great success and enormous demand for Volume 1, Volume 2 has now been published. The building of the new clinic has resulted in a delay but Volume 2 uses the same principles as Volume 1 and describes

the most important aesthetic operations in the torso area in a simple, clear, and concise way, providing a standard basis for novices, not for professionals. All physicians with an interest in aesthetic surgery can build on this and refine their surgical techniques during the course of their life. The basic principles must be standardized, so that dangers and risks can be reduced. Rhinoplasty should not be performed differently in London and Rome, and liposuction techniques should be the same in New York and Tokyo.

Just as in abdominal surgery, there are basic principles that must be observed so that the operations and results can be reproduced and serious treatment errors can be avoided.

Naturally, there are variations in the operations, whether the procedure is rhinoplasty, otoplasty, breast implants, or liposuction. The same applies to operations on the appendix or tonsils. The basic surgical technique used, however, is always the same. The anatomy never lies. It is therefore essential that the basic operations are standardized, particularly in aesthetic surgery, which I consider to be the most difficult type of surgery, as the surgeon must not only be well trained, but must also be a psychologist and artist. Volume 2 of the manual attempts to do this.

Substantial reconstructive procedures, such as breast reconstruction (reduction, tightening) and body lifting have been intentionally avoided. If necessary, this field will be looked at in another volume, as there is enormous potential for error and only experienced doctors working in a clinic environment are capable of learning this.

If I may be permitted another remark here:

The author's philosophy and the philosophy of the Bodenseeklinik is interdisciplinary cooperation, instruction and further training of young doctors, cooperation with all professional societies for the promotion of good patient care, and further development in the field of aesthetic surgery.

The Manual of Aesthetic Surgery has thus come about through tireless work. My clinic at Lake Constance is the largest clinic of its kind in Europe, a training clinic with interdisciplinary cooperation between all specialties that provide a stimulus for aesthetic surgery. Doctors from the disciplines of plastic surgery, ENT and dental surgery, dermatology, aesthetic dentistry, and anti-aging medicine all work in the clinic at Lake Constance. There are also dietary assistants, specialist beauticians, hair-stylists, color consultants, and psychologists.

Long-term success can only be achieved when aesthetic surgery is seen to be holistic medicine and the correct indications are available. Many patients have serious psychological problems that cannot be solved even by the best cosmetic surgery. These patients are then dissatisfied with the surgeon and try to find a cure from other surgeons. If these surgeons do not then cooperate with the surgeon who carried out the previous operation, the patient will complain. Medicolegal problems have an important role in aesthetic surgery throughout the world.

The specialty can only have a long-term future if doctors are well-trained, act as good colleagues towards one another, and do not want to make their name at the cost of others. I would therefore like to pass on this message to all the surgeons in the world: be considerate and fair to colleagues, regardless of their specialty. The Hippocratic oath should apply to cosmetic surgeons, too.

The philosophy of the Mang school is naturalness. Less is more. Health before beauty. Cosmetic surgery is not "alteration surgery" but rather "well-being surgery."

The aim of every operation, whether it is a facelift, rhinoplasty or a breast implant, should be a natural result. The patient should feel good and the surgery should not be conspicuous. Faces that are perfectly smooth, unnaturally augmented lips, and huge breasts are no longer the

trend of the twenty-first century. The two volumes of the manual therefore present surgical techniques that provide natural and normal results.

Aesthetic surgery is not beauty surgery. It is instead high-tech surgery with the highest surgical standards. As with every other surgical procedure, the risks mean that specialist surgical personnel, anesthesia, recovery rooms, and inpatient monitoring are essential. Surgery on a day-case basis is only advisable for minor procedures carried out under local anesthesia, such as eyelid corrections, spacelifts, hair transplantations, and laser operations. Otherwise, an inpatient stay is necessary, as most complications, e.g., severe bleeding, occur within the first 24 h after the operation.

The current worldwide problem of medicolegal issues in cosmetic surgery procedures should be combated with extensive expert activity. In addition to providing accurate oral and written information in the presence of witnesses and photographic documentation, use of the correct surgical techniques and postoperative monitoring are extremely important in avoiding the possibility of becoming liable for compensation. More and more patients are happy to take legal action and this means that good training, quality assurance, good relationships between colleagues, and professional interaction with patients are even more essential.

The other standard procedures are clear and can be easily and safely learned following good basic surgical training. Similar basic surgical rules apply to brachioplasty, abdominoplasty, and thigh lift and buttock lifts. In principle, these procedures entail cleanly lifting a cutaneous/fatty flap from the fascia and tightening the skin appropriately, using a large cutaneous resection and positioning the incisions in such a way that they are preferably not visible. The surgeon's talent is estimating the correct cutaneous resection, so that not too much and not too little is removed, and accurate surgical planning of the incisions so that they will preferably be in a non-visible area. The intracutaneous suturing technique with Monocryl, a suture which is not removed, is now standard and provides the best results. In certain cases, the skin may also be adapted with overcast cutaneous suturing with thin nylon, following subcutaneous, tension-free skin closure. When these continuous sutures are removed in time, the cosmetic results of the suturing are no different than for intracutaneous suturing.

For all operations associated with large scars, follow-up treatment is very important. A compression dressing should be worn for approximately 4 weeks and follow-up treatment for the scar should be carried out with a silicone plaster. Scars resulting from brachioplasty, abdominoplasty, and thigh and buttock lifts in particular are often unpredictable and must be discussed in detail with the patient when the procedure is explained so that there is no disagreement later.

Volume II of the Manual of Aesthetic Surgery will appeal to doctors in the field of aesthetic/plastic surgery and provide them with a basic knowledge of the most important and most frequently requested operations in the torso area:

Breast Augmentation

This procedure is requested very frequently. The incision line and access are decisive factors in the success of the operation. In the manual and video, we present the simplest and safest type of access. This involves making a small incision in the inframammary fold and, with supramuscular insertion, clean dissection between the fascia and the gland. With submuscular access, the implant is inserted below the pectoral muscle, after this has been carefully detached at the medial and caudal attachment.

The video shows supramuscular access, as this is the easiest surgical technique for novices and provides an aesthetically pleasing result if the skin condition is good.

In a clinical study on our patients, we were able to establish that there is no significant difference in the rate of fibrosis in submuscular and in supramuscular access. The rate of fibrosis among our patients was less than 4% for both these methods.

The choice of implant is also important. Only licensed implants should be used. We would advise against using cheap implants and implants that have not undergone long-term testing.

The concept of breast augmentation described in the manual can be used as a basis. Experience is very important, particularly in breast surgery, as regards the shape of the implant (round, low profile, high profile, anatomical, etc.) and the best position.

In addition to an access incision in the inframammary fold, naturally the incision can also be made above the nipple or via the axilla. This requires additional experience and practice. The wound is sutured intracutaneously with 4.0 Monocryl. The sutures are not tightened and the incision can be treated with a silicone plaster 4 weeks after the operation for 2 months. Usually, there is no residual visible scar.

The procedure is performed under conventional anesthesia and with antibiotic cover. The patient should wear a specially fitted sports bra for 4 weeks after the operation.

Brachioplasty

An important factor in brachioplasty, as with all major tightening operations on the torso, is that there may be residual scars if the suturing technique and wound healing are poor. This must be made clear to the patient before the operation.

An important preoperative stage in the operation is to mark the surplus skin to be resected precisely on the patient, who should be standing. The size of the resection is also a decisive factor in the successful outcome. If too little is resected, this will result in folds in the medial area of the upper arm. If too much is resected, hypertrophic scars may form.

The surgical technique is simple. It basically consists of dissection of a cutaneous/fatty flap from the fascia of the upper arm, step-by-step resection and wound closure in three layers. As the patient is often worried about a large caudal scar extending to the epicondyle of the upper arm, we have developed a modified technique: the "fish mouth" technique. With this technique, the tightening is not performed vertically and primarily on the upper arm, but horizontally and on the skin of the axilla. With this type of incision, the incision on the inside of the upper arm does not extend beyond the cranial third. Postoperative scar care is also important with this type of incision. The patient must be monitored for 24 h after the operation, and the special compression dressing can be removed after 8 days.

Abdominoplasty

The art of a good aesthetic surgeon is in choosing the right indication. He needs many years of experience to do this. It is possible to achieve good results without making large incisions with the new method of tumescence liposuction, particularly with collections of fat in the abdomen/hip area. If, however, there is a lot of surplus skin and the patient has lost more than 30 kg in weight, or pregnancies have severely stretched the upper abdomen and periumbilical region, abdominoplasty is indicated. If it is necessary to tighten only the lower abdomen, it may be possible to avoid moving the navel. However, it is usually necessary to make an incision around the navel and reimplant this in the correct position.

In the video, the basic abdominoplasty technique is described clearly, concisely, and simply so that every experienced surgeon will be able to perform this procedure. As with all tightening operations on the body, the procedure consists of an operation on the thick cutaneous/fatty flap

along the abdominal fascia. It is essential that the surgeon makes precise markings on the torso while the patient is standing and carefully plans the surgery prior to the operation. The level of the incision must be defined precisely so that it will always be possible to avoid a vertical incision. The more surplus skin there is, the more caudally the incision may be placed. During abdominoplasty it must also be taken into account that the mons pubis is usually included in the tightening.

Dissection is carried out along the abdominal fascia as far as the costal arch. The entire cutaneous/fatty flap is then pulled downward and resected in stages, with the upper body slightly flexed, so that later neither too little skin (bulging) nor too much skin (risk of necrosis) is resected.

A preoperative autologous blood donation is advisable for very obese patients. Ultrasound investigation for umbilical and abdominal wall hernias is also recommended. Intraoperative and postoperative thrombosis and infection prophylaxis is given for 10 days after the operation. The 4.0 Monocryl sutures must not be tight. A silicone plaster is applied after 4 weeks for 2 months. Care of the scar is essential. This is the mark of a good abdominoplasty. Similarly, the reconstruction of the navel must appear natural and there should be no "dog ears" at the sides in the caudal area of the incision.

The procedure is performed under general anesthesia during an inpatient stay. A special girdle should be worn for 4 weeks after the operation.

Thigh and Buttock Lift

The technique for a thigh lift is similar to that for brachioplasty.
Deep, subcutaneous dissection of the fascia and step-by-step resection of the skin, previously marked precisely, are performed.

An operation on the medial side of the thigh is one of the most unsatisfactory operations an aesthetic/plastic surgeon can perform.
The patient's expectations of the procedure are usually too great and he/she is then disappointed by the result. The patient should therefore be given an extremely detailed explanation prior to the thigh and buttock lift. The indication should be considered carefully and if the patient expects too much, they should preferably be turned away.

The extent of the resection should be defined carefully the day before the operation. If the skin on the inner side of the thigh is loose, the buttock region is usually also loose, so these operations can be combined well.

The incision line in the buttock area should not extend beyond the lateral buttock fold, as otherwise there may be residual aesthetically displeasing scars, which often disturb patients more than hanging skin.

With extremely slack skin in the area of the medial thigh, vertical tightening extending to the medial side of the knee can be performed in addition to horizontal tightening in the groin and buttock region. This allows extremely intense tightening of the entire medial thigh, but the residual scar should be drawn to the patient's attention and explained.

The video shows the most frequently requested operation for horizontal thigh and buttock lifting. In contrast to brachioplasty, it is important that the thick cutaneous/fatty flap be secured at two points to achieve a longer-lasting result and better scar formation, owing to gravity in the thigh area. The points for fixation are the periosteum of the pubic bone and the inguinal ligament. The extent of the resection is defined with key sutures, and the area is resected in stages so that not too much and not too little skin is removed. The operation is performed under general anesthesia on an inpatient basis. Thrombosis and infection prophylaxis is started. A special girdle must be worn for 3 weeks after the operation, followed by care of the scar with a silicone plaster.

Because of the many requests, hair transplantation, Prof. Mang's spacelift, and a few brief descriptions of adjuvant therapies are included in Volume 2.

Adjuvant therapies are being continually developed and newly published, mainly within the field of dermatology. For this reason, only the essential features of the adjuvant therapies are described very briefly in this manual, with no claim to completeness.

The essential texts on biological implants (collagen), lipotransfer, botulinum toxin, dermabrasion, ultrapulse CO_2 laser, erbium-YAG laser, coblation, and chemical peeling can be found in Volume 1. As only ultrapulse CO_2 laser treatment was shown in Volume 1, we have filmed short videos for Volume 2 on biological implants (collagen, hyaluronic acid), botulinum toxin, dermabrasion, erbium-YAG laser, and chemical peeling. For space reasons, these films have been kept very short and should show that adjuvant therapies should also be included in the repertoire of an experienced aesthetic surgeon.

Two of these treatments have been described in detail in the video and the text.

Liposuction – Removal of Fat with the Tumescence Technique (Mang's Solution)

Liposuction is one of the most frequently performed operations in aesthetic/plastic surgery. In men, liposuction is primarily requested for the abdominal/hip area; in women, it is for the lateral and medial thigh, buttocks and hips ("saddle area").

Dry suction under general anesthesia does not merely put a strain on the cardiovascular system with an increased risk of thrombosis and embolism, but also causes blood loss, including a drop in hemoglobin to under 8 g %, as well as destroying the infrastructural supporting tissue (IST).

This infrastructural supporting tissue is maintained when the tumescence technique is used, so that there is no "chewing gum effect" following liposuction, i.e., the skin does not have depressions in it but instead is tightened.

The tumescence technique was first published at the beginning of the 1990s by Jeff Klein. Lidocaine was used as local anesthesia. In view of the toxicity, we carried out a large study that showed that the aesthetic/plastic surgical tumescence technique with lower doses of prilocaine solution (Mang's solution) produces the same results with a lower incidence of complications:

- Mang's solution=0.9 % saline solution (NaCl) 3000 ml
- 1 % prilocaine 1500 mg (=150 ml)
- Epinephrine 3 mg
- 8.4 % $NaHCO_3$ 30 mEq
- Triamcinolone acetonide 30 mg

As high doses of prilocaine may cause methemoglobinemia, no more than 6000 ml of this tumescence solution should be injected per session either manually or with a pump. The results are very good if the correct indicationsare given. There is no blood loss, the risk of thrombosis and embolism is significantly reduced, and there is protection from infection. The patient is mobile on the first day after the operation.

The patient should be monitored for 24 h after the operation. He/she may leave the hospital with a special girdle, which must be worn for 3 weeks. The injection sites may be treated with scar ointment for 3 weeks after the operation. Then the region treated by liposuction should be exercised in a gym under supervision.

In the video, the manual tumescence liposuction technique with Mang's solution is presented as a basic technique. Auxiliary devices of whatever type (MicroAire, ultrasound, reciprocator, etc.) may be useful and reduce the liposuction time, although the same results can be achieved perfectly with the manual technique. This technique is simple, can be performed without any large instruments, and there are no significant risks if it is carried out by a specialist.

Similarly, the tumescence injection can be given manually or mechanically with a pump. The manual technique, however, is very time-consuming and it is necessary for the surgeon to have a lot of stamina, so at our clinic we apply the tumescence solution quickly (without too much pressure and over at least 45 min) and homogeneously with a six-cannula pump system. Following local tumescence anesthesia, you should wait 30 min and then begin liposuction.

If performed by an experienced surgeon, manual liposuction may take up to 90 min and up to 45 min with the MicroAire system. The patient must be prepared for the total liposuction procedure with tumescence to last approximately 2.5 h.

Hair Transplantation

Hair transplantation is a procedure frequently performed in men. We have an experienced transplantation team, managed by Dr. Frank Neidel. Depending on the indication, we work with both slit and micropunch techniques, manually or with laser assistance. Precise surgical planning, the correct technique and the schedule of the hair transplantation team, which is made up of the surgeon and three assistants who prepare the hair roots, are all important factors.

Approximately 3,000 hair roots are transplanted per session. The procedure is performed on an outpatient basis under local anesthesia. The patient is then given antibiotic cover and hair hygiene is strict. The hair should be washed on the fourth day after the operation with a mild chamomile shampoo.

Spacelift

The name spacelift was chosen by Prof. Mang and protected by patent (German Patent Office, Patent and Logogram No: 303 23891), as three-dimensional fat droplets of 0.1–0.3 mm are injected via the purified autologous fat cells into the space between the cutaneous and adipose

tissue of the face, virtually as if in a honeycomb. As these fat droplets are not injected in a bolus dose but by using microinjections, they do not die but retain a vascular association and are transformed into fibroblasts, or rather connective tissue cells, and thus stabilize the aging process. Fat cells are thus injected into the space between the cutaneous and adipose tissue, particularly at those sites where the collagen and elastin fibers break down with age, i.e., in the nasolabial, mouth, forehead, lateral eye, and cheek regions.

The spacelift should be seen as a prophylaxis against aging after the 35th year of life. If there is surplus skin in the area of the neck/cheeks or eyelids, conventional tightening or lifting must be performed.
A spacelift cannot replace a facelift.

The procedure is carried out on an outpatient basis under local anesthesia. Cooling and lymph drainage are then necessary for 3 days, along with antibiotic cover.

It fills me with pleasure when I receive letters from young colleagues asking when the second volume of the *Manual of Aesthetic Surgery* will finally appear as they have learned so much from the first volume. Naturally, there has also been constructive criticism, but the overwhelming majority of interested aesthetic/plastic surgeons see the manual as a standard work for gaining basic knowledge in the field of aesthetic surgery. If I have achieved this aim, the effort has been worthwhile.

Naturally, there will always be new methods, implants, and surgical materials. Aesthetic surgery, however, is no different from general surgery; there are clear guidelines that must be built upon to prevent errors and complications.

As aesthetic surgeons, we are often unable to define beauty, and we should not be swayed by fashion. What is said to be beautiful in the media today may be different again in a few years' time. The aesthetic surgeon must therefore impart timeless beauty through his creative work. The patient must feel good. Less is often more and overly aggressive aesthetic surgery is not my style.

During the 1980s and 1990s, I spent a lot of time at conferences in the USA and Brazil, but in the last few years I have been more active in Russia and China. I often receive invitations from these countries because of my *Manual of Aesthetic Surgery*, Volume 1, as aesthetic surgery is only just being developed there, and any knowledge in this field is extremely welcome. I have become acquainted with many competent plastic surgeons who are very interested in the field of aesthetics, particularly in Russia. The demand is also increasing in these countries.

I have a close relationship with the University of St. Petersburg through Prof. Malakhov, whose human qualities I admire just as much as his surgical skills.

Within Europe, our task is also to share our knowledge in aesthetic surgery. In doing this, doctors will make a substantial contribution to international understanding. The same applies to China where there is a great demand for knowledge in aesthetic surgery. Young doctors from this country have demonstrated their technical skill in my clinic.

I have already mentioned all of my medical colleagues in Volume 1 with whom I have been working since 1975 and have had the privilege to learn from, as well as everyone who has helped me on the way. In addition to these, I would also like to mention my long friendship with Prof. Ivo Pitanguy. I first visited Prof. Pitanguy at his clinic in Rio de Janeiro in 1972. Since then, Prof. Ivo Pitanguy has often taken part in conferences in Lindau and is always a very welcome guest in our home. His professional competence, his charm, his gentlemanly nature, his warm-heartedness and his ability to get things done, as well as his pioneering spirit and his love for aesthetic/plastic surgery have perhaps encouraged me to continue resolutely in this specialty and to pass on my knowledge to young colleagues. This young team of enthusiastic aesthetic/plastic surgeons at my clinic has also helped me to complete Volume 2 of the manual.
For this, I would like to give particular thanks to Dr. med. Klaus Lang, Dr. med. Marian Stefan Mackowski and Dr. Manuel Stock for their assistance with the chapters on surgery of the abdominal wall and extremities, Dr. med. Frank Neidel for compiling the hair transplantation chapter, and Dr. Nico Roßmann for the photographic documentation and his marvelous care of patients on the ward. Dr. med. Kathrin Ledermann is responsible for adjuvant therapies at my clinic and helped me to compile the videos and texts about this area. My sincere thanks for this. I would like to thank Ms Annemarie Anzenbacher and Ms Karina Engelhardt for the clerical work and organization and my entire surgical and inpatient team who likewise gave up much time to compile the films and photographs.

My particular thanks naturally go to the Springer-Verlag and, in particular, Ms Gabriele Schröder, who has always been very patient with me and has not pressed me too much, despite my delays. I would like to thank Ms Ute Pfaff for the wonderful production of the volume and, last but not least, Mr Klaus Peter Prieur, who recorded the films in the operating room and edited and set them in the studio with much patience, skill, and originality.

The *Manual of Aesthetic Surgery* is brought to life by the excellent illustrations. Mr Hans Jörg Schütze created these in an ingenious way. He was present at the operations and drew every important stage. The first volume of this manual was only so successful because of his professional competence and perseverance. I offer him my warmest thanks for this.

Werner L. Mang

Foreword by M. P. Ceravolo

All plastic surgeons have been waiting for this book. Those who have read Prof. Mang's first volume will be surprised to see how the clarity of the text, the detailed drawings, and the wisdom in the technical advice now proposed by the author are even more impressive than in the first volume. Breast surgery, abdominoplasty, and the technical difficulties of other major operations can easily be tamed through an extremely didactic method and outstanding iconography.

The author, like Virgilius in the *Divine Comedy*, accompany the reader through the different circles of Hell, explaining how to do things and how "avia" become "pervia" if well handled. Professor Mang's eclectic personality, his rousing enthusiasm, and his vast experience merge in this book, making it a "must" for the surgeon training in aesthetic surgery and a pleasure for the experienced plastic surgeon.

Mario Pelle Ceravolo
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Foreword by D. L. Feinendegen

Aesthetic surgery has experienced exceptionally rapid growth over the last few years. There has been a continual increase in the number of people requesting such operations and, alongside specialists in plastic surgery, more and more doctors from other specialist surgical fields are now working in this area. Until now, however, it has been possible to acquire sound training in aesthetic surgery within Europe in only a few large hospitals. Doctors interested in this field therefore often have to move abroad to obtain experience in aesthetic surgery.

Professor Mang has been working to establish training in aesthetic surgery for many years. His greatest contribution has been to ensure interdisciplinary cooperation between plastic surgeons, ENT specialists, oral surgeons, and other surgeons active in the field of aesthetic surgery. Professor Mang has already made these ideas a reality in his new clinic.

With his two manuals on aesthetic surgery, Professor Mang has created a foundation for training in aesthetic surgery. The first volume has already made a strong impression, with its clear structure and excellent, step-by-step diagrams that make even difficult surgical techniques easy to understand. The manuals appeal particularly to young doctors who are having their first experience with aesthetic surgery. The additional option of audiovisual learning, provided by the integrated DVDs, underlines Professor Mang's modern teaching concept.

The two manuals reflect Professor Mang's tireless dedication to the task of continuing to establish the field of aesthetic surgery. I myself have come to value Professor Mang as a teacher and wish him continued success in making his ideas a reality. I hope that as many doctors as possible will be able to profit from these ideas, ultimately contributing to the welfare of patients.

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It is a great pleasure and a great honor for me to write a foreword in the second book of Professor Werner L. Mang.

Professor Mang and I have been acquainted for many years and have attended many meetings together. He must be congratulated on having presented his great experience in aesthetic surgery in his books in a dynamic way with a video included in a DVD. All aesthetic surgeons with experience or surgeons learning aesthetic surgery who have not the privilege to observe Professor Mang in his clinic at Lake Constance can be informed about the latest and best procedures used by Professor Mang. The text and illustrations are of exceptional quality and reading the different chapters is a real pleasure.

All chapters have been written with great care and with the desire to be of the highest interest for the readers. There is no doubt that this second book will have the same deserved success as the chapters of the first book.

We are greatly indebted to Professor Mang for all the time he spent in offering both seasoned and beginning aesthetic surgeons eager to learn or refine a surgical procedure a true mine of precious and safe techniques. He is extending the horizons of our specialty by providing the readers with his contributions or the improvements that he brought to conventional techniques. He emphasizes details that continue to make our specialty creative and very practical at the same time. All such precise information is an incentive to read and learn more to achieve excellence in our daily work, in patient selection, in planning, and performing.

Again, we should be very grateful to Professor Mang for sharing his great knowledge, experience, creative mind, and insight.

I have known Prof. Mang for more than 20 years. Following his surgical training, he gained an international reputation as a specialist in ENT and plastic surgery and, through his *Manual of Aesthetic Surgery*, Volume 1, he became beyond the boundaries of Europe. In 1987, Prof. Mang founded the German Society for Aesthetic Medicine and was a pioneer in this field in Germany. I have frequently attended his wonderful conferences in Lindau on Lake Constance, listened to his excellent lectures, and become acquainted with interesting aesthetic surgeons from all over the world. My wife and I have been pleased to accept private invitations

from the Mang family and these have given us the pleasure of meeting Professor Mang's enchanting wife, Sibylle, and his children, Gloria and Thomas.

Prof. Mang's clinical activity and his services to society are remarkable. He is a workaholic and pursues his goals in aesthetic surgery determinedly, properly, and with a lot of self-sacrifice. In many discussions with him, we wanted to find out what beauty really is. Cosmetic surgeons have heavy responsibilities and must be creative.

For Volume 2 of the *Manual of Aesthetic Surgery*, therefore, I have attempted to define the term beauty:

Initially we are expected to believe that beauty has something to do with proportion, balance, and symmetry. I would like to attempt, therefore, to explain beauty objectively by looking back to the starting point of the ancient Egyptians, Greeks, and Romans

What is Beauty?

Beauty is a combination of form and proportion that brings us pleasure and that we can admire. The perception of beauty, however, varies between different cultures. Beauty is a balance between form and volume. Beauty produces in us an aesthetic feeling, an admiration, by pleasing the eye. Some people even claim that beauty is a visual phenomenon.

Beauty is a combination of qualities, such as form, proportion, the color of the human face (or other objects) that charm the gaze.

Over 200 years ago, David Hume (1711–1776), a Scottish philosopher, remarked, "Beauty is essentially a private and personal experience. Beauty is in the eye and mind of the beholder." He also said, "Beauty is not a quality of the thing itself but that which exists in the mind of those who contemplate it." Beauty is an individual emotion.

A few philosophers have concluded, "Beauty is good, and what is good, is beautiful."

A long time ago, the philosopher Sapphie said, "That which is beautiful is good and he who is good will soon become beautiful."

Our early experiences influence how we judge now. Particularly because beauty does not captivate through detail but through the whole, which is greater than the sum of the individual parts, our parents, partners, ex-

partners, wives and friends remind us of experiences. In the same way, our current experiences will affect our feelings of tomorrow. The happy and unhappy phases of our lives leave behind traces that shape our inclinations. Faces that we loved during our youth, which gave us warmth and security, live on in our thoughts.

Beauty does not only have to do with the face, the voice, the body or a charming appearance. A person is beautiful because of their character, their personality, their ability to feel joy and give pleasure to others, and their capacity for love.

If we like a face, we like the mood which that person conveys. A person can be attractive in many ways.

Beauty and charm are often confused. Cleopatra, George Sand, Louisa de la Valliere and Theodora were famous for their beauty. In truth, they were very beautiful but also had a lot of charm. Beauty is more an illusion than a reality.

Beauty exists not only for the eye but also for the mind.

A beautiful personality emphasizes the beauty of the face. There are numerous ways of defining beauty and it is often associated with charm. Charm, however, differs from beauty because it is permanent, whereas beauty fades. The English say, "Charm lasts! Beauty passes!" Ultimately, we can see that it is not only the eyes which judge whether someone is beautiful or not but the mind which plays a much greater role and judges the heart and inner beauty.

According to the American Sociologist Frumkin, a woman is judged in relation to her sexual charisma. Whether she is judged beautiful or not beautiful depends not only on the symmetry of her proportions but also on whether these attributes suggest potential sexual possibilities.
The sensual emotion is then transformed into an aesthetic feeling.

Following these classic explanations, we can conclude that the perception of beauty differs among cultures and individuals and that it is not only a question of form and symmetry. A person's personality, charm and inner beauty play an important part in giving a person a pleasing image. The eyes alone do not make a judgment, but the head and the heart as well. The mind is influenced by our past experiences, which affect our judgment, just as our current experiences influence the future. One of Buddha's teachings tells us, "Today is the son of yesterday and the father of tomorrow." Beauty is like an iceberg; only one small part is visible.

Konrad Lorenz, Nobel Prize winner for Medicine and Physiology, has made a special contribution to our understanding of the biology of behavior. This has helped us to understand human beauty.

When someone feels drawn to a face, this is because the face has childlike features. Everyone instinctively feels attracted to a childlike face. The sight of a childlike face evokes an emotion that is automatically linked with a desire to protect. It is the same in both humans and animals. Konrad Lorenz explained this in the following terms: the desire to protect one's offspring is prompted by something which the offspring sends out, a physical peculiarity, a sound, a smell. It is the same in man. There are signals which provoke protective instincts, sympathy and tenderness. What are they, asks Konrad Lorenz? In infants, the signals come from the head. The roundness and fullness, the prominent forehead, the full cheeks, a small snub nose; all these infantile characteristics provoke a protective instinct. A child's face is associated with purity, friendliness, honesty, and vulnerability.

We know that women keep their curves, whereas men lose them. A good plastic surgeon should therefore ensure that during surgery he optimizes the characteristics which, as in a baby, provoke affection, tenderness, and a desire to protect.

Softness and roundness = tenderness.

Once again, to give the impression of beauty, it is of fundamental importance to be able to recognize childlike features in an adult's face. Features, however, are not the sole cause of the protective reflex; expressions are also important. These at least have the advantage that they are within the reach of everyone. A few people know how helpful expressions can be in getting someone to do something or in pleasing someone. The emotions which were elicited by Brigit Bardot's childlike features were helped particularly by her famous "spoilt child"-like pouting. Just as well known are the childlike expressions used, or abused, by Marilyn Monroe and Audrey Hepburn. It has even been rumored that Marilyn Monroe deliberately made herself up badly to give the impression that she was a small girl who still did not know how to get ready properly and, even after long sessions at the hairdressers, immediately rumpled her hair to restore the disheveled appearance of a small girl who had just come in from playing. Men have no desire to protect women who do not have a childlike appearance and want to dominate men, and feel reminded more of their mother than their wife.

Women are more concerned with beauty than men and consciously or subconsciously display this childlike behavior. They are consciously or subconsciously shy, fragile, weak, innocent, naïve, ignorant, temperamental, admiring, inquisitive, etc. A few women even emphasize weaknesses to trigger the protective instinct. Have I already mentioned that apparent weaknesses in women are also their strengths? All this to strike a man directly in his heart. Napoleon said, "Women's two weapons are make-up (the significance of this will be discussed later) and the tears of a small, helpless child."

It is easy to understand why childlike features in an adult can move someone, in the same way as freckles, full red cheeks, long eyelashes, blond curls, well-defined and full lips. Among men, as we can see in a few of the great sex symbols, the side parting (Clark Gable, Gary Cooper), an untidy mane of hair (Leonardo de Caprio) and daily shaving can only be explained as the desire for a childlike appearance. It is not necessary, however, to have all these attributes; one is usually sufficient.

Every individual can display childlike features at any time. As regards particular features, if someone does not have these, he or she can usually acquire them with the help of cosmetic surgery. Beauty is not merely a completely natural phenomenon; instead, it has been a cultural phenomenon for a long time and this is the case particularly in the present day. People try to improve themselves and women, to whom beauty is more important than it is to men (men tend to try to obtain power), try to improve their beauty and charm with make-up and accessories like spectacles, false eyelashes, earrings, hair styles, permanent make-up around the lips, eyelids and eyebrows, hats, necklaces and the invisible accessory, perfume. A few modern accessories have been developed by beauty professionals to disguise beauty defects, e.g., wide spectacle side pieces hide crow's feet, a high frame emphasizes the length of a nose that is too short and, conversely, a lower frame disguises a nose that is too long. All these strategies are discussed discreetly and in detail in women's magazines. An old proverb describes this perfectly: "Thirty percent of beauty is natural, seventy percent is created by vanity." The disadvantage of this resource is that it is not possible to look young and beautiful without it.

Make-up has always been around and if a face is to be beautified, it should be made to look natural and the face should resemble a young face. Lipstick, for example, creates the intense color of young red lips, which is a sign of a more rapid metabolism. Blusher is a reminder of

childlike red cheeks and powder gives the face the pale, velvety skin of youth. Desmond Morris called this over-stimulation. Long false eyelashes remind us of the long eyelashes of children. If applied badly, however, make-up can also ruin the beauty of a face. It can be both friend and foe. In ethnological books, we can read that in former times, witches improved the appearance of sick people so that the relatives were not shocked when they saw them.

Childlike features and expressions are therefore important in provoking the protective instinct, but the voice should also be soft and pleasant, like a child's. A hard, metallic voice, such as smokers have, is not reminiscent of that of a child.

Clothing should be pleasing to the eye and mind and it should have a good cut. The mini skirt makes us think of the long legs of an adolescent. Colors remind us of childhood; light colors, like blue or pink, are always chosen by old women. Naturally, black should be avoided.

In conclusion, all human senses should be stimulated: sight, hearing, smell (children do not have a smell – thus we use deodorant) and touch. The firmness of the skin is also important.

Beauty institutes have understood this for a long time and enthusiastically apply it. Do we not read in women's magazines: ladies have beautiful breasts, a flat stomach and good legs, but are they also firm?
The firmness and elasticity of tissue are fundamental qualities of a child's skin and a part of their beauty. Beauty is costly. It is easy for wealthy people to get jewelry and beauty accessories, but these are more difficult to acquire without money. This is one explanation of the popularity of aesthetic medicine and surgery among the less well-off and among those who cannot please merely with their natural gifts or with the artificial resources of the wealthy. As they are only able to please with their body, the less wealthy will more pay readily for an operation to remove acquired or existing supposed defects so that they can continue to be admired.

The idea of using the child formula is well known. The heart should be receptive to generosity, and this is used for reasons other than just noble ones. Thus, for example, a child's face next to the product in an advertisement increases sales and turnover. Whether these are medications or other products, if the consumers are sensitive, sales will increase.

Naturally, a way to the heart is sought but also, and predominantly, a way to the wallet. The child formula strategy is likewise used to direct public