

Inaugural Address—VIII Summer Conference of The Association of Plastic Surgeons of India

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IT is no ordinary privilege for one not of your order, to be asked to address this Annual Conference of the Association of Plastic Surgeons of India. I welcomed this opportunity to talk to you in this dedicated hall, in the knowledge that this gesture is not personal to me, who has no local value, arithmetically speaking. This gesture is the offering of an offspring to its parent, surgery, of which I have been a life long devotee. God bless you!

Tycho Brahe, the celebrated Danish astronomer of mid 16th century, lost his nose in a duel. Distrusting that repair was possible, he had a prosthesis made, of gold and fixed it with cement. This earned him the nick-name of "man with the golden nose".

"In a fray between two drunken young-men, one of the party had his nose cut off with a sword. The assailant fled and was pursued by the opponent, regardless of his nose, which had fallen into a gutter. Tagliacozzi picked it up, cleaned and upon the return of the owner adjusted the cut surfaces with particular accuracy so that complete union followed" (Thomas Pettigrew in *Superstitions connected with practice of Medicine & Surgery*, 1843).

In the year 1587, Tagliacozzi wrote to his friend and distinguished colleague, Hieronymus Fabricius—"We restore, repair and make whole those parts of the face which Nature has given but which Fortune has taken away, so that they may buoy up the spirit and help the mind of the afflicted".

Could there be, I ask you, a better statement of the creed of faith of the plastic surgeon?

Allow me Ladies and Gentlemen of plastic surgery, to offer you my felicitations for your erstwhile achievements. You have released surgery from the opprobrium that it is content with extirpation and amputation of diseased parts and organs, without a thought of their replacement, to safe life when it is endangered. Your greatest achievement is that you have rescued the victims from the ghastly spectre of a life with life long deformity, disfigurement and disability—a noble task!

Eduard Zeis (1807-68) in his *Handbuch der Plastischen Chirurgie* published in 1838, first used the term "Plastic Surgery". The word plastic comes from the Greek plastikos, meaning "to mould".

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It is a little difficult to define plastic surgery, it is easier to describe its aim. Plastic Surgery is distinctly constructive and restorative. It deals with correction of deformities and disfigurements of the body, no matter how caused—by failure of nature, aftermath of accidents, ravages of disease or results of operations. Post-operative disfigurements exhibit democracy and appear in all countries. Plastic Surgery repairs defects by transfer of patient's own tissues, tissues of other individuals or by harnessing non-living materials. It aims at restoring or improving function and appearance. Its field extends from the top of the head to the soles of the feet. The dividing line between the field of reconstructive surgery and other fields of surgery is indefinable.

Mythology credits early Hindoos with knowledge of xeno-grafting of head and testes and also use of iron prosthesis.

Mythology apart, Hindoos developed great dexterity and excelled all other nations of the time in operative surgery. Knowledge of the method employed by them was carried by itinerant traders and surgeons to Egypt, Greece, Arabia and subsequently to other Mediterranean countries. Sushruta, the Hindu surgeon, amongst other operations, practiced rhinoplasty, auroplasty and cheiloplasty and described them in his *Samhita* perhaps the oldest recorded treatise on surgery in existence to-day. He restored the cut nose by the advancement of a flap of skin from the cheek. The technique is so well developed that it must have had a long ancestry. He repaired lips by cheek flaps, and ears by skin flaps taken from behind

the ear. This method of utilising sliding flaps was called many centuries later, the French method. An alternative method of nose repair was by a pedicled flap cut from the forehead and rotated on its pedicle to cover the defect. In the centuries old records of the potter caste there is a description of a public demonstration of free grafting of a full thickness skin flap by a charlatan woman, Gamba Kurta. The graft took without scarring.

Hippocrates (460-370 B.C.) paid great attention to achieving "beautiful scars". He enunciated the principle of loosening the skin from underlying structures so that it could be slid across to enable a wound to unite.

The writings of the Greek philosopher Aristotle (384-322 B.C.) contain no mention of plastic procedures.

Celsus (Aurelius Cornelius Celsus) was a Roman gentleman of means who lived from 25 B.C. to 50 A.D. Though not a medical man he wrote on medical subjects. In his *De Re Medica* published in 30 A.D., he described many plastic procedures like correction of entropion, ectropion and ptosis of eye lids. He advised use of skin flaps taken from adjacent areas to repair ears, noses and lips where the loss of tissue was small. He described the operation for the separation of fingers in syndactylism. He operated for removing unsightly scars.

But surgery and surgeons were yet to attract respect.

In the Babylonian days if a patient died

under surgery, the surgeon hand was to be cut off, such was the Royal decree.

In spite of the exhortation of Dhannantari, the preceptor of Sushruta, that *ashu kriya karanat* (because of quick results) surgery is the foremost of the healing arts, it began to decline from the time of Budha (500 B. C.) who decried shedding of blood for any cause. Surgeons were declared unclean persons.

In the West Celsus wrote in 30 A.D., "the effects of surgery are more obvious than any other kind. Where we depend chiefly on medicaments, improvement is clear enough, yet it is often clear that recovery is gained without them. In the part of medicine that cures by the hand, it is obvious that all the improvement comes chiefly from this, even if it be assisted somewhat in other ways". But here also surgery met with no better fate than in India.

The great Galen (Claudius Galen, Greek physician, 131-201 A. D.) declared that surgery is not benefitting the status of a learned man.

The celebrated Persian physician, Avicenna (980-1037 A.D.) treated surgeons as inferior beings.

In 1215 A.D. Pope Innocent III decreed that no priest should perform surgical procedures involving shedding of blood, as it was incompatible with Divine Mission. As a result such procedures were turned over to barbers, bath-keeper, 7th sons, mountebanks, sowgelders and other individuals of low

degree.

Even in the 18th century in Germany, it was considered beneath the dignity of a physician to practice surgery. Thus we see Haller (Albrecht von Haller, 1708-77) who taught surgery in Gottingen and Berne, never demeaned himself to perform an operation.

Plastic surgery next comes to notice in the West, about the middle of the 15th century (1430-42) when Brancas, father & son, of Catania, Sicily, both unqualified, came to be known as people who could restore lost nose. They employed the Hindoo method. Son Antonio later discovered the use of a pedicled flap from the arm to reconstruct the nose. This is the Italian method of rhinoplasty, the flap being taken from a distant moving part. This was forgotten.

About a century and a quarter later, Tagliacozzi (Gasparo Tagliacozzi, 1546-99), professor of surgery at Bologna, revived and embellished Brancas' operation. His book *Curtorum Chirurgia per Insitionem* was published from Vienna in 1597, two years before his death. The lot of a pioneer is never easy. His operation was decried by men like Ambroise Pare (1510-90), Andreas Vesalius (1514-64) and Gabriel Fallopius (1523-62) Pare declared "lost nose cannot be restored or joined again; for it is not in Men as in Plants".

More bitter was the opposition of the Church which considered the operation as meddling with the handiwork of God; religious persecution was carried on even

after his death. His body was exhumed from the consecrated ground of the Church of San Giovanni Battista and was buried elsewhere. His books were called in and destroyed—fortunately a few copies escaped.

With the death of Tagliacozzi in 1599, his rhinoplasty died. The method was considered an impossibility and became a legend.

The Faculty of Medicine of Paris grudgingly gave some sort of recognition to surgeons, but as late as 1788 issued an official bad against reparative operations on the face even though plastic operations were being performed throughout the 17th century. Rhinoplasty was finally resurrected by Carl Ferdinand v. Graefe of Berlin (1787-1840) who published it in his book *Rhinoplastic* in 1818.

In Europe during the first half of the 19th century, great strides were made in evolving the principles and operative procedures of plastic surgery. The principle of free grafting belongs to this century.

Vedic India recognised the principle of division of labour among the followers of the healing art. This is not seen in Babylonian and early Chinese medicine. Egypt had one physician for one disease and not for many. Medicine was separated from surgery in the 7th century in Europe.

Specialisation as we see it today, began towards the end of the 19th and beginning of the 20th century.

War always an unmitigated evil has one good aspect. It generates a stimulus for the

advancement of science of all denominations—destructive as well as humanitarian. The depressing spectacle of deformed humanity, the result of the First World War (1914-19) was a challenge to the surgeons to develop plastic surgery.

The challenge was taken up and it soon became evident that successful performance of plastic procedures demanded the utilisation not of skin alone but practically of all types of tissues of the body. The transference of tissues, maintenance of their vitality and insurance of their “take” were problems that had to be studied and solved. Thus sprouted another branch of specialism drawing sustenance from the trunk of the tree of surgery.

Specialism brings a fresh outlook and generates a special knowledge and dexterity to supplement the general management and well-being of the patient. The fault of specialism is in the belief in self-sufficiency with which it tends to be associated. If specialism remains apart from others, it tends to a dead and static perfection and de-humanisation having only the semblance of advancement. Specialism is evil when a local lesion is treated without confident knowledge of the general clinical condition of the patient; for the living body is, in both its material and in its indwelling forces, the most complex thing yet known—it is a harmonious physiological and psychological whole and not a mere conglomeration of tissues and organs.

Many of us have fair acquaintance with many parts of our science but none can hold it all. For complete knowledge or

for research or for safely thinking out beyond what is known, one has to limit oneself to specific sections of our science. Thus arose specialists—the explorers.

For the plastic surgeon, as for any other specialist in other branches of surgery, a thorough surgical background is essential. He must be familiar with the basic principles of pathology and the healing of normal and abnormal tissues. He must know how to care for the injured and the injured tissues at all stages. He must understand the reaction of tissues to trauma, infection, interference with blood and lymph circulation. He must be an adept in the fundamentals of surgery. Besides learning, training and experience are needed. Learning without experience produces a pedant, while experience, without learning produces a technician. Training is guided experience, it leavens experience. Without training one is cut off from the accumulated wisdom of others. The skill to do comes of doing. On the top of all this, he must have imagination and be something of an artist.

Unfortunately for the progress and proliferation of plastic surgery Tagliacozzi's conclusion, depending on the false analogy with grafting of trees, that skin can be transplanted from one person to another, was proved wrong. The human body resents intrusion by foreign tissues, puts up barriers against them and rejects them. This inviolable principle of the body handicaps the work of the plastic surgeon. He is compelled to use tissues of the patient on whom he is working. There are three exceptions—identical twins accept each others tissues, cornea has universal

acceptance, foetal tissues which have not yet developed sensitivity to antibodies can successfully be transplanted as allografts. A new born infant has developed immunity. To prevent rejection various practices have been undertaken to lower the natural defences of the body. These however, exposes the host to greater risk of infection and death. An alternative way is to build up the recipient's toleration by injecting small doses of antigens present in the tissues to be transplanted. Following the procedure, kidney transplants (xenografts) from guinea pig to rabbit have been successful. Neither of these procedures are attractive.

John Bell (1763-1820) Scottish surgeon, brother of Sir Charles Bell, wrote "It is an old but becoming thought that in our profession we are but ministers of Nature; and indeed the surgeon, still more than the physician, achieves nothing by his own immediate power but does all his services by observing and managing the properties of the living body".

Once the riddle of cornea acceptance and allograft rejection are solved there will still be the problem of dearth of live allografts to work with. Surgeons will have to search further afield—human cadavers, animals, refrigerated spares and non-life materials—for his grafts. It is a comforting thought that generally speaking, artificial materials are not rejected. Metals, plastics silicone rubber, ceramics, dacron all have been successfully employed. It is fearful to contemplate where surgery would have been without this saving grace, for one cannot think of surgery without sutures today. It is perplexing that catgut is accepted without

demur. Artificial substitutes lack the built-in "message mechanism" of the living to adjust itself to the fluctuating needs of the body. They donot grow with the body and are liable to wear and tear and breakage.

In April 1969, a man of 47 was kept alive for 64 hours with a total cordiac prosthesis until it was replaced by a homologous heart (St. Luke's Hospital, Houston).

With expanding research and understanding of the rejection phenomenon and its control, vista will be opened up to reach transplantation of glands and organs.

The British Pharmacy Industry in a technical forecast, not very long ago, says that during the next 20 years animals will be bred specifically to provide organs for transplantation to humans and humans will be injected immediately after birth or even before, with extracts from the animals to prepare their bodies against rejection of transplants. Wells' *Brave New World* will then descend on earth and old men like

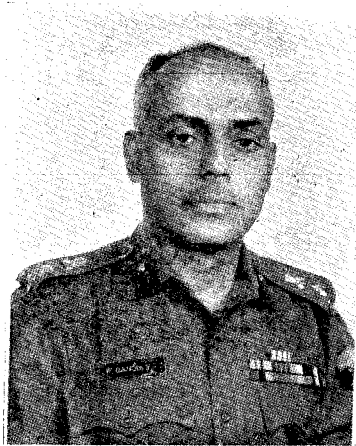
myself will have their problems of geriatric solved. Then we will see a race of men parading the country with body rejuvenated by organs borrowed from animals and crowded by an old brain. Imagination leads to performance. Science fiction has already transplanted the brain. "Will the surgeons fall behind and not bedeck us with animal brains? Looking at the present society, it seems they have already done so.

Many centuries ago Hippocrates wrote "The medical art is formed little by little and daily becomes enriched by new discoveries; it cannot arrive at its highest point of perfection until a great number of generations have come and gone".

If at any time in your endeavours, you men and women of plastic surgery, meet with disappointments abounding, remind yourself that when it is dark enough you can see the stars. Therefore go forth with patience, trust and hope.

HIS blessings will attend your path.

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