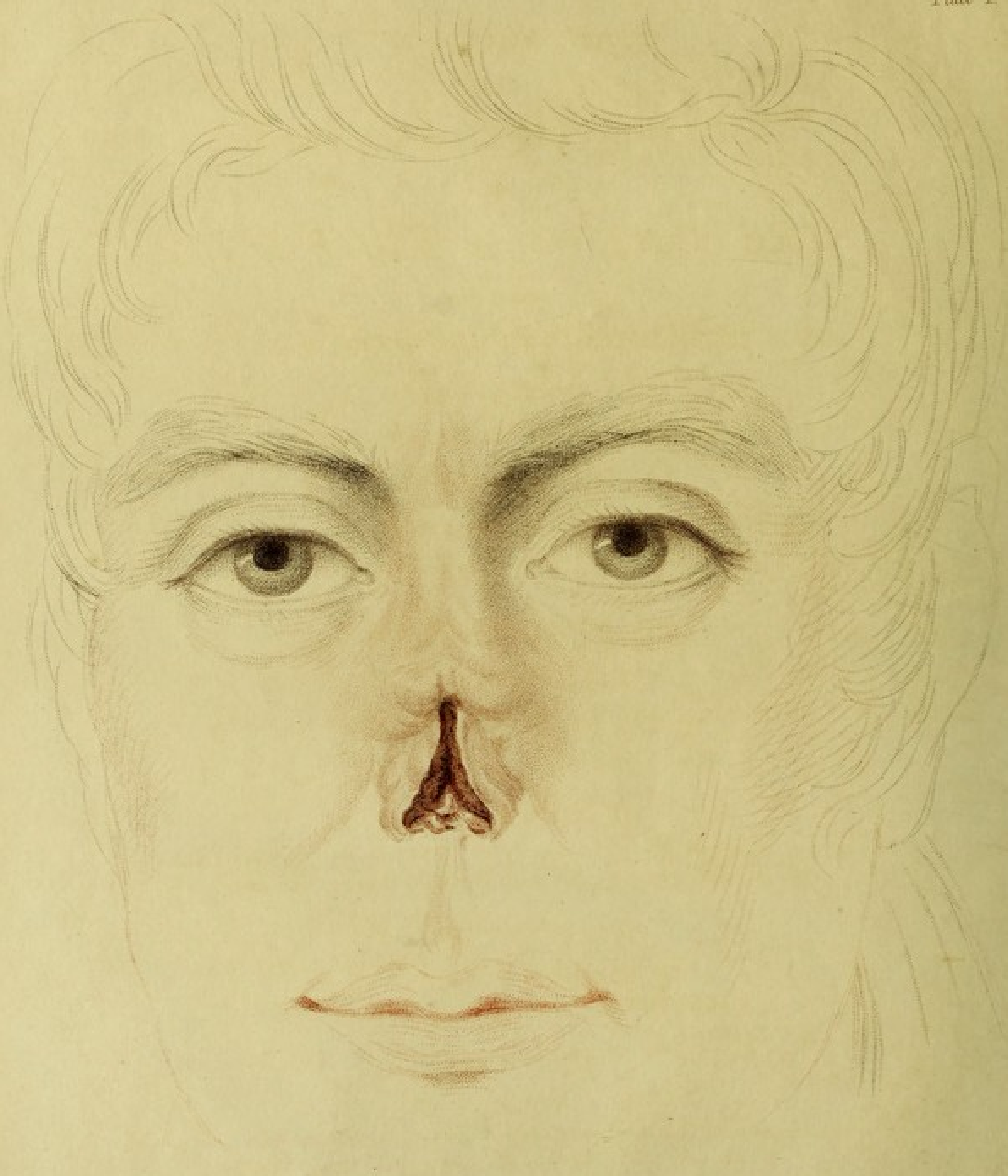
An account of two successful operations for restoring a lost nose from the integuments of the forehead in the cases of two officers of His Majesty's Army; to which are prefixed historical and physiological remarks on the nasal operation; including descriptions of the Indian and Italian methods / [J.C. Carpue].

Plate 1.



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AN ACCOUNT

OF

TWO SUCCESSFUL OPERATIONS

FOR

RESTORING A LOST NOSE

FROM THE

INTEGUMENTS OF THE FOREHEAD,

IN THE CASES OF

TWO OFFICERS OF HIS MAJESTY'S ARMY:

TO WHICH ARE PREFIXED,

HISTORICAL AND PHYSIOLOGICAL REMARKS

ON THE

NASAL OPERATION;

INCLUDING

DESCRIPTIONS OF THE INDIAN AND ITALIAN METHODS.

By J. C. CARPUE,

MEMBER OF THE ROYAL COLLEGE OF SURGEONS OF LONDON, AND
FORMERLY SURGEON TO THE YORK HOSPITAL, CHELSEA.

WITH ENGRAVINGS, BY CHARLES TURNER,
ILLUSTRATING THE DIFFERENT STAGES OF THE CURE.

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CONTENTS.

TO

HIS ROYAL HIGHNESS

GEORGE PRINCE OF WALES,

REGENT

OF THE

UNITED KINGDOM OF GREAT BRITAIN AND IRELAND,

&c. &c. &c.

THESE CASES

ARE,

WITH HIS ROYAL HIGHNESS'S MOST GRACIOUS PERMISSION,

HUMBLY AND DUTIFULLY INSCRIBED,

BY HIS ROYAL HIGHNESS'S

MOST OBEDIENT AND MOST DEVOTED SERVANT,

JOSEPH CONSTANTINE CARPUE.

London, December 1*st*, 1815.

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HISTORICAL

AND

PHYSIOLOGICAL REMARKS,

&c. &c.

PETER RANZANO, Bishop of Lucera, a city of the Capitanata, in the kingdom of Naples, in the eighth volume of his Annals of the World, a manuscript preserved in the library of the Dominicans at Palermo, relates, under the year 1442, that one Branca,* a Sicilian surgeon, practised a method of supplying deficiences of the ears, lips, and nose. Branca had a son, named Anthony, who distinguished himself in the same art.† Nosorenus places Branca at Catanea, and calls him "a ce- "lebrated surgeon, who restored ears, lips and noses."‡

Elysius

* The same who is called Brunus, by Dr. Thomson, in his Lectures on Inflammation. Brunus, a celebrated physician and medical writer of Florence, flourished about the year 1310, and Vincent Brunus, of Melfi, in Naples, published several works in the beginning of the seventeenth century; but neither of these persons is to be confounded with Branca, who is unknown as an author.

† Dictionnaire Historique de la Médecine, by ELOY, 4to. Mons, 1778. Art. TALIACOTIUS.

‡ Nosorenus, l. 2. Narrat.—Fienus, de Præcipuis Artis Chirurgicæ Controversiis.—Tract. xii, c. 1.

Elysius Calentius, a Neapolitan poet of the fifteenth century, tutor to Frederic, son of Frederic II of Naples, writing to one Orpianus, who had lost his nose, invites him, in the letter subjoined, to come to Naples, with the view of applying himself to Branca: "Orpianus," says the writer, "if you would have "your nose restored, come to me. Truly, the thing is won- "derful. Branca, a Sicilian, a man of great abilities, has "learned the art of restoring a nose, either by supplying it "from the arm of the patient, or by infixing upon the part the "nose of a slave. Having seen this, I determined on writing "to you, to whom no news can be more interesting. Be as- "sured, that if you come, you may go home again with as much "nose as you please."* Calentius died about the year 1503.†

Gabriel Barri, in his book, entitled, De Antiquitate et Sitû Calabriæ,

* "Orpiane, si tibi nasum restitui vis, ad me veni. Profecto res est apud homines "mira. Branca Siculus, ingenio vir egregio, didicit nares inserere, quas vel de brachio re- "ficit, vel de servis mutatas impingit. Hoc ubi vidi, decrevi ad te scribere, nihil existimans "charius esse posse. Quod si veneris, scito te domum cum grandi quantum vis naso "rediturum volas."—Gourmelenus, Chirurgicæ Artis, Parisiis, 1580, 12mo. lib. 1. p. 73.

† His *Works*, in prose and verse, were printed at Rome, in 1503. His poem, entitled, The Battle of the Rats and Frogs, in imitation of Homer, was written in seven days, in his eighteenth or nineteenth year. It was reprinted at Rouen, 1738. There have been several editions of his *Works*. His *Epistles* were published, in a collection of select epistles, by Gilbertus Cognatus, and printed by Oporinus, in 1558. He was contemporary and familiar with Sannazarius and Jovius Pontanus, by which latter he is mentioned, as also by Lilius Gyraldus, author of a History of Modern Poets, who tells us, that he was "poor, love- "sick, and a poet;" and that he was born at Amphracta, in Apulia, but lived generally at Naples.—See the Nouveau Dictionnaire Historique, by MM. Chaudon and Delandine, 8vo. Lyon, 1804; and Wotton's Ancient and Modern Learning.

Calabriæ, speaks of Vincent Vianeus, also called Vioneus, Boianus, and Boiani, a physician and surgeon of Tropea, as practising a cure for defective lips and noses. Vincent Vianeus communicated his method to his nephew Bernard, and Bernard to his son Peter ; and, for a time, all the Boianis were successively distinguished by it in Tropea. Peter, the third of the Boianis, died in 1571 ; and John-Baptist Cortesi, in passing through their city in 1599, found no person of the family exercising the art.*

Alexander Benedictus, a native of Legnago, in the territory of Verona, and who taught medicine at Padua for some time before the year 1495, is the earliest medical writer extant, who, since the revival of letters, has mentioned this operation of surgery: " In our time," says that author, " skilful persons have " taught us how to rectify deformities of the nose. Portions of " flesh, cut from the arm of the patient, formed into the shape " of nostrils, and added to the trunk of the nose, are very " commonly seen. They dissect the upper skin of the arm " with a razor ; and, then, paring off the remaining edges of " the nostrils, or, if necessary, cutting them away, they bind " the arm to the head, in order that wound may adhere to " wound. After this, the wounds having conglutinated, they " take away from the arm, with the knife, as much as is wanted " for the restoration of the nose, which they accomplish ; for " the kindred vessels of the nose nourish the flesh which is newly

 " acquired,

* Dictionnaire de la Médecine, Art. Taliacotius, Cortesi, and Vianeus.

" acquired, while hairs sometimes grow on the skin, because of " its origin on the arm. In this manner, with admirable art, " new noses are formed, with open nostrils; and, with a bold " ingenuity, nature is subjected to our will. It is to be added, " in the mean time, that these artificial noses badly endure a " severe winter; and, further, I warn persons to use them " gently, lest they be torn away from the trunk."*

Gabriel Fallopius, or Faloppia, who was a native of Modena, and died at Padua in the year 1563, in the eleventh chapter of a tract, entitled De Decoratione, treats of the restoration of the ears, lips, and nose: " Many persons," says this writer, " make " an attempt at the restitution of the nose, by a generation of " new flesh. It is said, that in Calabria, there are physicians " who restore noses, and by the following method: they scarify " the skin of the arm, and keep the wound in contact with the " remains of the old nose, till the latter are agglutinated to the " arm. After this, they dissect away the flesh from the arm, " and form nostrils, which they shape with hollow moulds, and " thus proceed till they have formed a nose. The operation " sometimes requires three months, sometimes six, sometimes a " whole year." Fallopius quotes Galen's description of the method of restoration, and speaks of it as equally applicable to the nose, ears, and lips.

Ambrose Paré, whose work was printed in 1561,† speaking of deficiences

* Alexander Benedictus, Anatomiæ, lib. iv, c. 39. Venice, 1497.

† Paré wrote in the French language. The Latin translation of his work, by Guillemeau, was printed at Paris in 1582.

deficiences of the lips, ears, and nose, remarks, that there lived in Italy, some years before, a surgeon who practised an operation for restoring lost portions of the nose. He used to dissect away, says Paré, the callous edges of the remainder of the nose, and excavate a portion of the biceps muscle, of the size required for restoring the nose to its former bulk; he then inserted the part excavated into the vacancy of the nose, and bound the head and arm together, in such manner, that neither of them could possibly move; and, in forty days, the flesh of the arm was agglutinated to that of the nose. Paré relates, that the younger son of the family of Sancto-Thoano, in Italy, being weary and ashamed of a silver nose, applied to this surgeon, from whom he returned with a nose of flesh, to the wonder and satisfaction of all who knew him.

Andrew Vesalius, or Vésale, a native of Brussels, and first physician to Charles V and Philip II of Spain, in the third book of his Chirurgia Magna, which was first printed at Venice in 1569, treats at some length of the restoration of the nose, describing, though imperfectly and erroneously, the operation of supplying the deficient parts from the arm, and adding an account of several medicaments to be used in the course of the cure. He directs the arm to be bound in conjunction with the face; forbids the patient to move either head or arm for forty days; and quotes a variety of authorities, among which are the names of Lanfrancus, Theodoricus, Rogerius, Gulielmus, Henricus, Peter Argillata, Albucasis, Avicenna, Galen and Guido. In the tenth chapter of the same book, he treats of a similar restoration

ration of the ears and lips, and quotes Celsus, Rhases, Guido, Fuchsius, Tagautius, and others.

Stephen Gourmelen, a native of Lower Britanny, and the adversary of Paré, in his Chirurgicæ Artis, printed in 1580, produces, probably from the collection of Cognatus, the letter of Calentius to Orpianus, as a testimony, that the restoration of the nose is practicable, and no fable. He particularly repeats that assertion in Calentius's letter, which the subsequent history of the nasal operation will be found to render so remarkable, namely, that the nose was sometimes formed or refitted "from the nose "of a slave:" "Ad ἐπαγωγὴν," says Gourmelen, "referenda est "ea chirurgica operatio, quâ nasus, aut abscissus, aut à nativi- "tate curtus, ex brachii carne, aut ex servi naso, reficitur: "namque hoc fieri posse, fabulosum non est." * Gourmelen is less faithful to his author, where he changes the expression, "*de* "*brachio*, of the arm," to "*ex brachii carne*, from the flesh of "the arm;" but several writers on this subject use the words, "caro" and "cutis" indifferently, and, perhaps, Gourmelen does the same.

John Schenck, of Graffenberg, a physician who practised at Friburg, adds his authority on the practice and method of restoring deficient lips, ears, and noses. His first work, De Capite Humano, was printed at Bâle, in 1584.

Alexander Benedictus is not known to have long survived the year 1511, the date of the great earthquake in Italy, of which mention

* Gourmelen, Chirurgicæ Artis, lib. 1. Parisiis, 1580.

mention is made in his works. The other writers, whose names have been now cited, were all contemporaries of Gaspar Taliacozzo, or Taliacotius; a writer whose celebrity, on the subject of the nasal operation, has so far eclipsed those that went before him, as to convey, to the greater part of posterity, and, perhaps, to very many of his contemporaries, the impression, that he was himself the first who wrote upon the art, and even its inventor. Of this person, and his work, it will be necessary to give a particular account.

Gaspar Taliacozzo, commonly called Taliacotius, was born at Bologna, in the year 1546, and died in the same city, in 1599, aged fifty-three years. He appears to have passed the whole, or nearly the whole, of his life in Bologna, where he filled, for many years, the chair of anatomy and medicine in its University, and where he enjoyed, even in his life-time, the highest reputation, both for his general attainments, and for his operations on the ears, lips, and nose; and, on the latter account, he was resorted to from different parts of Europe. At his death, the magistracy of Bologna honoured his memory with a statue, which they placed in the Anatomical Theatre of the University. This statue, which is said to be a good likeness of the person it represents, remains, or very lately did so, in full preservation, and has in its hand *a nose*, as an emblem of the art which he practised with so much fame and success. The faculty of Bologna, desirous, in their turn, to raise a monument, which might show their gratitude to a professor who had greatly contributed to the reputation of their schools, caused the following inscription to be engraved on a marble tablet, which they set up in the same place:

D. O. M.

D. O. M.

Gaspari Taliacozzo civi Bononiensi,
Philosopho ac Medico ætatis suæ celeberrimo,
Cum universum humani corporis anatomen,
In doctissimorum virorum frequentissimô conventu
Publicè administratam,
Facundiâ, methodô ac doctrinâ, admirabili explicavit;
Ejusque incompertas adhuc partes in lucem prodidit,
Animi grati et perpetuæ memoriæ ergo,
Lect. Medicique PP.
Ordinariæ Anatomes ab illo administratæ Monumentum.*

Ghilini gives another inscription in honour of Taliacotius, of which the date shows that it was written during his life-time:

Eidem Clarissimo atque Excellentissimo Viro.
D. GASPARI TALIACOTIO.
Ingenium moresque tuos celebramus et artem,
Gaspare, tam doctâ corpora secta manu,
At magis invisis quòd nos cumulaveris auctor
Muneribus, tumulos quæ latuere virûm,
Ergô pro meritis æternûm hôc marmore vives,
Clare vir ingeniô, moribus, arte, manu.
Annô M.D. LXXXII, XVI. calend. Januar.†

But,

* "To Gaspar Taliacozzo, citizen of Bologna, and a celebrated philosopher and physi-
" cian of his age, well acquainted with the anatomy of the whole human body, which
" he frequently dissected before a public assemblage of the most learned men, and demon-
" strated with admirable eloquence, method, and doctrine, pouring light upon the most ob-
" scure parts. Readers and Medical Professors! the Facnlty of Bologna, in testimony of
" their gratitude, and to perpetuate the remembrance of it, have raised him this monument."

† "To the most learned and most excellent man, Gaspar Taliacotius. Gaspar! we
" celebrate thy genius, thy worth, and thy skill; both for the scientific dissections per-
" formed by thy hand, and, still more, for the unseen benefits which thou hast heaped
" upon us, and which the tombs of men conceal. Therefore, for thy merits, live for ever
" in this marble, thou man of genius, worth, science, and skill! A.D. 1582, January 16."

But, though Taliacotius had long devoted himself, with singular zeal, to the operations in question; though, on that account, he had been resorted to from various parts of Europe; and though several contemporaries of the profession had referred to his operations in their works, it was not till the year 1587, after the appearance of a tract, De Decoratione, collected from the lessons of Jerome Mercuriali, and published by Julius Mancini, that Taliacotius took up the pen himself, and, in his Epistola ad Hieronymum Mercurialem, de Naribus multò antè abscissis reficiendis, gave the world an account of his method, and promised a fuller exposition on the subject. In 1597, he redeemed this promise, by printing, in folio, at Venice, his work, De Curtorum Chirurgiâ per Insitionem, Libro duo; additis Cutis Traducis, Instrumentorum omnium, atque Deligationum, Iconibus et Tabulis. The same work was reprinted, in the following year, in octavo, at Frankfort.

This scarce and singular work is comprized in two books, of which the first contains twenty-five chapters, and the second twenty; and the Venice edition forms a thin volume, in small folio, illustrated with numerous engravings on wood. In front of the volume, are thirteen Latin and Greek poems, addressed to the author by his friends and from which we may collect the general esteem in which he lived, and his particular renown for teaching and practising the nasal operation.

In the age of Taliacotius, it was the fashion, upon every subject, to write systematically; it was the fashion, also, to make a large display of reading. Taliacotius, therefore, in

treating of operations on the ears, lips, and nose, was led, by the example of his contemporaries, to say every thing which he found possible, concerning those features of the face; and to ransack, for this purpose, not only the books of medical writers, but the poets, the fathers, and even the Scriptures themselves; so, that with the help of Homer, St. Augustine, Orus Apollo, Cato, Euripides, Plato, Horace, Quintilian, Tertullian, Plautus, Aristotle, St. Gregory, Plutarch, the book of Genesis, and many other authorities, he has filled the ten first chapters; in which he examines, among similar correlative subjects, the dignity of the face, according to the poets and philosophers; the dignity of the face, according to the physicians; the dignity and composition of the lips; the dignity and construction of the ears; and the dignity and conformation of the nose.

TALIACOTIAN METHOD.

In the eleventh chapter, he arrives at a direct view of his subject, and in this and the succeeding chapters of this book, discusses the theory of the art, and examines what ancient or more recent writers have said concerning it, and whether his own practice agrees with that spoken of by them. The principle of the operation, says Taliacotius, in the twelfth chapter, is derived from the cultivation of trees; and, as grafts or buds are ingrafted or inoculated into stocks, so, in animals, one part may be ingrafted upon another; as, in vegetable grafting or inoculation,

inoculation, the stock must be cloven, or the bark perforated, so must that part in the animal be wounded, upon which the extraneous part is to be ingrafted. In other respects, however, there are some differences between the animal and vegetable processes; and, among the rest, the following, that animals, being composed of parts of different conformations, the part ingrafted must agree in conformation with the part which it is to supply. After these observations, he proposes to consider, what material is proper to supply parts deficient; whence this material should be taken, the quantity, and the manner of agglutinating it; in other words, of procuring adhesion between the one part and the ot her.

The integuments, says he, in his thirteenth chapter, form the material from which the deficient parts must be supplied; and hence, he continues, is manifest the error of the moderns, who imagine, that noses are to be restored out of the flesh. The integuments, he adds, are the material to be used, because they most resemble the material of the ears, lips, and nose. It is agreed by all medical writers, that when we would supply a lost part, we must put in its place something which resembles it in substance; or, if we cannot do that, something as near resemblance as we can. It is thus that we breed a callus for a broken bone, which supplies the place of true bone; and thus the first inventors of the art of restoring lost ears, lips, and noses, sought their material in the integuments. He then describes four sorts of skin, with which the different parts of the human

body are covered, and determines that the skin of the arm is the best adapted to the purpose in question.*

In the fourteenth chapter, Taliacotius decides upon the place or places whence the skin should be taken, severally for the nose, lips, and ears. The place, he repeats, must have a skin like the lost part, and be able to afford a sufficient quantity to supply the deficiency; and, since it must have time to unite with the defective part, it must be taken from such a part as may be brought to the other, and kept there, with as little inconvenience as possible. The only part, he concludes, to supply the nose and lips, is the arm, above the elbow; and, to supply the ears, the skin behind the ears; for, with respect to neither of these, is a man disfigured, the arm being covered with clothes, and the new ear tolerably hiding the place behind it, whence it was taken.

The fifteenth and sixteenth chapters, contain directions on the quantity of skin to be taken, and the manner in which the parts are

* Taliacotius enumerates four sorts of skin: "One sort," he says, "is bare of hair, "of exquisite sense, difficultly separated from the bodies underneath it, and will not fold, "as the rest will; such is the skin of the palms of the hand, and the soles of the feet. "Another sort has a muscle, and that but a thin one, immediately underneath it; such "is the skin of the forehead. A third, from the various and manifold implication of carnous "fibres, you may either call a cutaneous muscle, or a musculous skin; such are the lips "and cheeks. The last sort is the common covering of the whole body, in some parts "hairy, in others not so; and every where void of motion, and capable of being separated "without difficulty from the subjacent parts." Taliacotius expressly rejects the skin of the forehead, as alien to the nose, and not to be commodiously joined to the defective part. The skin of the palm of the hand, and sole of the foot, could not, he observes, well be removed, without the hazard of life.

are kept together, till natural agglutination takes place. The author observes, that the skin, after the second cutting from the arm, sometimes shrinks an eighth, a sixth, and even a fourth part, both in length and breadth; which he accounts for by supposing, that either the nutriment is not so plentifully brought to it, as when it was united with the arm, or that the nutriment brought to it from the parts to which it is newly attached, does not assimilate with it aright. He directs the surgeon to employ his discretion upon this point, and rather to take too much skin than too little. The parts are to be united by the interrupted suture.

The seventeenth chapter discusses the description of persons, as to age, constitution, and state of health, and the seasons of the year, and the time of the day, upon whom and in which the operation may be successfully performed.

The eighteenth is devoted to the question, whether it is preferable to take the skin from the arm of another person, or from that of the patient, whose lips or nose is to be restored. It appears probable, that this chapter was written in reply to the opinions of some who held, that in theory, the arm of another person might be used. Taliacotius considers, that there is no reason to doubt, that the skin of one man would unite itself with that of another; and instances the facility with which a graft from one tree is made upon another, even though of a dissimilar species. Meanwhile, he contends, that from the nature of the operation, that is, the difficulty, not to say the impossibility, of keeping two persons bound together, and motionless, for the space of time required to unite the parts, the

the mode is impracticable, and asserts that it has never been practised. He asks, whether there is any contrivance possible, by means of which the necessary confinement could be effected.

In the nineteenth chapter, he examines what ancient and later writers had said upon the subject of restoring deficiences of the ears, lips and nose, and how far his method agrees with theirs. On this occasion he refers his readers to the works of Galen, Celsus, and Paulus Ægineta, among the ancients; Alexander Benedictus, who lived after the revival of learning; and Fallopius, Vesalius, Paré and Schenk, who were his contemporaries in life, but precursors in their works. Schenk he calls "a most learned man of his own time."

In the twentieth, twenty-first, and twenty-second chapters, he defends the operation against the charge of cruelty, which had been brought against it by calumniators, calling to the mind of his reader the various painful operations performed by surgeons in other cases. In the twenty-third, he examines the differences between the several operations for the ears, lips, and nose, their respective facilities and difficulties; and, in the twenty-fourth, in what the new nose differs from the natural one, deriving those differences, in great part, from the original diversity of the skin of the arm from that of the natural nose. In the twenty-fifth chapter, which concludes the book, he proposes solutions of general questions raised in what has gone before.

In the second book, Taliacotius describes the operation. After particularizing the instruments and other apparatus required, he proceeds to the delineation or marking out of the skin

skin on the arm, which was the first thing to be performed. A portion of integument, of sufficient size, and of a square or oblong shape, according to the general form required, being determined on and marked, an incision was made on each side, while the upper and lower ends remained untouched. This portion of integument was then dissected from the muscle beneath, and a piece of linen passed between the integument and the muscle; and, this done, the patient was kept quiet, and the wound preserved, with many precautions, from inflammation and hæmorrhage, for some days. Thus far, no notice was taken of the defective nose.

The next stage of the operation was, to detach one of the ends of the graft, or flap of integument, from the arm. The flap had two surfaces, the upper or exterior, and under or interior; the first smooth and well coloured, the second red and uneven. The graft, when now cut at one of its ends, was therefore to be turned, so that the natural surface might be outermost. If the nose or upper lip was to be supplied, then the upper end of the graft, nearest the armpit, was cut; if the lower lip, then the lower end, nearest the elbow, was cut. To bring the flap into contact with the lip or nose, and preserve it in that situation, without detaching it, by both its ends, from the arm, was the next thing to be done. At this period of the operation, the patient put on a dress provided for the purpose, and by means of which it was possible so to bind his arm in contact with his face, as that it was no longer in his power to move the one nor the other. The patient having put on the dress,

dress, the surgeon proceeded to dissect away the integuments of the edges of the deficient parts. A model of the proposed end of the nose was to be made of paper, and this, when flattened, served as a pattern for shaping the graft, or flap of skin. The graft being now brought to the nose, by lifting the arm, to which, at one end, it still adhered, and being found to fit, was fastened by ligatures. The stitches were at equal intervals in the nose, but both at smaller and unequal distances in the graft. The graft, or flap of skin, having been thus applied to the defective nose, the patient was bound, so that he could not stir in any direction; and cloths dipt in a mixture of equal quantities of white of eggs and rose-water were applied for an hour and a half to the wound on the arm, to prevent inflammation. Tents, dipped in white of eggs were introduced into the nostrils, and pledgets, dipped in like manner, laid upon the outside.

The remainder of the second book describes the manner in which, at the end of twelve days, the patient's arm is to be released from his face, the graft being at length wholly cut away from the arm; the manner of modelling the septum; the plasters and bandages; the care to be taken, for some time, to defend the new nose from accidental injury; and what is peculiar in the treatment of defective ears and lips. At the close of the work is a series of twenty-two engravings on wood, in which are exhibited the instruments to be employed, the dress in which the patient was confined, and the various stages of the operations. Plate II, in this work, is a *fac simile* of the VIIIth figure in Taliacotius's work, and may both amuse the reader as a curiosity,

C. Turner fecit.

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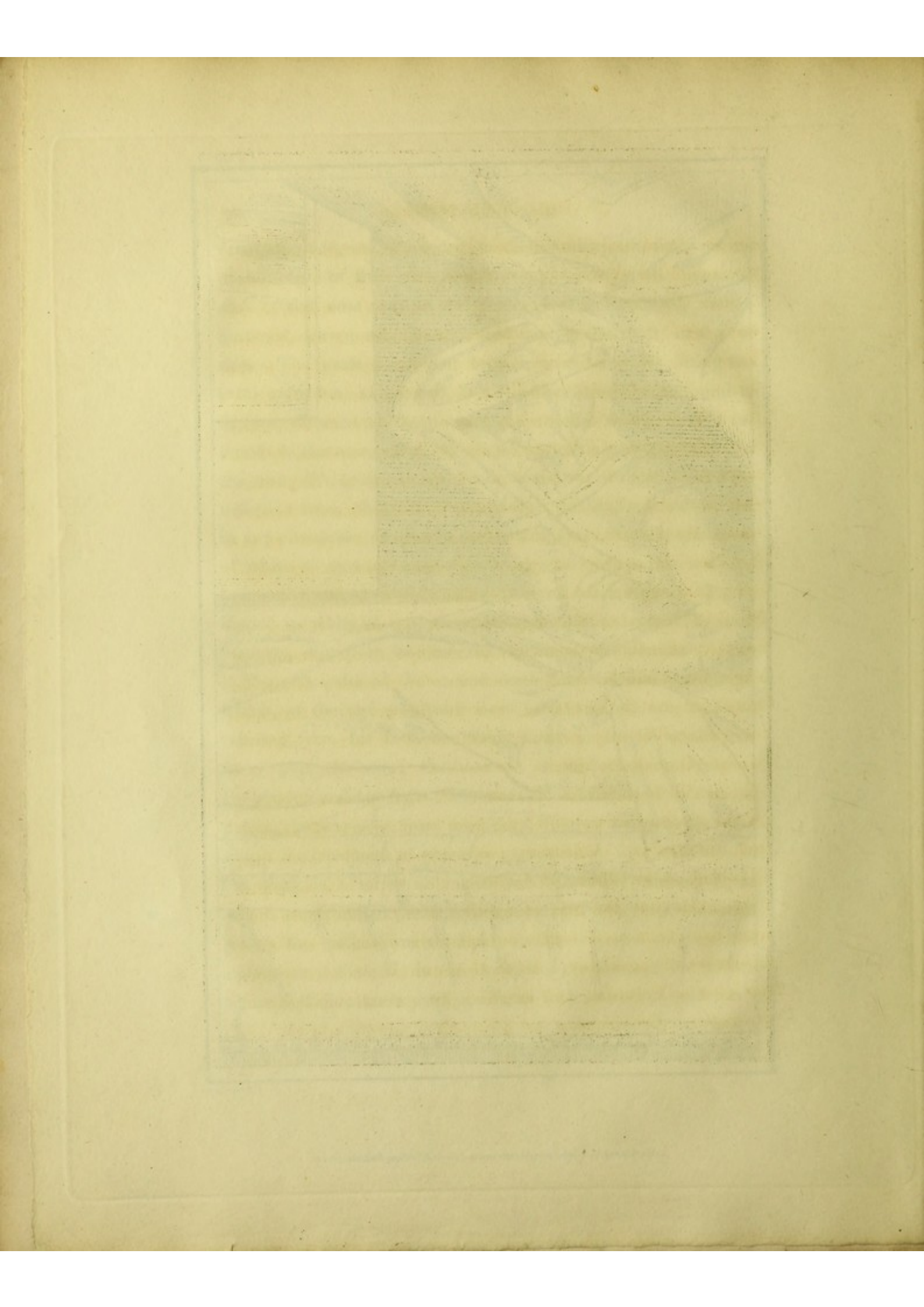

curiosity, and assist him in appreciating the patience of those who submitted to the ITALIAN METHOD.

Since the work of Taliacotius, few persons have written on the nasal operation, except as offering an abridgment of this last. Thomas Fienus, a native of Antwerp, where he was born in the year 1567, went, in 1590, to Bologna, to study under Taliacotius. In 1602, he printed, in twelve books, his work De Præcipuis Artis Chirurgicæ Controversiis, in which he presents, in nine chapters, a sort of compendium of the work of Taliacotius, with the title of De Nasi Amputati ex Carne Brachii Restitutione. By the terms of this title, as well as by parts of the text itself, he appears to give fresh countenance to the vulgar error, that the deficiences of the nose were to be supplied from the flesh, instead of the integuments of the arm. It appears, however, that this countenance, as perhaps in the example of others, arises only from a loose manner of expression; for, in his second chapter, he assures us, that the incision is not made in the muscle, but only in the integuments of the arm: "Non fit "scissio in musculis brachii, sed tantum cute."

Fienus further misleads his reader, in what he says concerning the supposed formation of the nose from the arm of another than the patient. Calentius, Gourmelenus, and Taliacotius, all concur, as he tells us, in declaring, that "the new nose may "be taken from the arm of another man." We have just seen, that Taliacotius totally disclaims the practice, and even disbelieves its possibility. As to Gourmelenus, he merely cites the letter of Calentius, and describes his general impression of the matter. Gourmelenus was a French physician, and the res-

toration of the nose was an Italian, or, more strictly still, a Calabrian art. Calentius does not say the *arm*, but the *nose* of another man.

Amid these errors, however, Fienus bears the strongest testimony to Taliacotius's cures, the reality of which, like those of earlier practitioners, have sometimes been doubted. After citing evidences of the previous existence of the art, he adds, "And I, also, can testify, that Gaspar Taliacotius, professor of "anatomy in the University of Bologna, has restored many "noses by this art; which noses I have myself seen, both after "they have been restored, and while in progress of restoration." Fienus died in the year 1631.

William Fabricius, a celebrated surgeon, commonly called Hildan, and Hildanus, from Hilden, a village in Switzerland, where he was born in the year 1560, died at Berne in 1634, and left Six Centuries of Observations, which, after his death, were collected, and printed at Lyons, in 1641. In 1586, he placed himself, for improvement, under M. Griffon, a surgeon of Lausanne, of whom he relates, that, in a certain instance, he had completely restored a nose: "In the year 1590, when the Duke "of Savoy made war upon Geneva, a virgin fell into the hands "of the soldiers, whose chastity when they had attempted in "vain, being enraged, they cut off her nose. About two years "after, she went to Lausanne, where M. John Griffon, a most "eminent and successful surgeon, then lived. He undertook "to cure her, and restored her nose so artificially, that, to the "admiration of all, it appeared rather natural than artificial. "I myself have seen it several times; and she continues unmar-

"ried

" ried at Lausanne, this present year, 1613. It is true, that in " the cold of winter the tip of her nose looks livid; but it is " nourished as other parts are, and endued with sense. Griffon " had some hints of the method from an Italian, as he travelled " through Lausanne, who had conversed with the famous Ta- " liacotius; though he had neither seen the operation per- " formed, nor Taliacotius's works, before he cured this maid. " But he performed the cure in the same manner as Taliacotius " describes it."*

John-Baptist Cortesi, who was born at Bologna, in 1554, and appears to have succeeded his master Taliacotius, in the chair of anatomy and medicine in the University of that city, which he filled for the fifteen years ending in the year 1598, and went, in the following year, to Messina, in Sicily, where he occupied the same chair during thirty-five years, and was also a practising physician. He died in 1636, in the eighty-second year of his age, at Reggio, in Calabria, five leagues from Messina, whither he had gone to see a patient of distinction. Cortesi printed, at Mentz, in 1625, Miscellaneorum Medicinalium, Decades Denæ, &c.; and, in that work, both describes the method of Taliacotius, and his having himself carried it into practice. This is the writer whom Professor Thomson calls *Curtin*, and cites, as affirming, with great exultation, " That by the assist- " ance of God, he had made such proficience in the art, as to " repair not a few noses, both in Sicily and other places."† In his time, as before observed, the Boianis of Tropea were extinct.

Anthony

* Hild. Obs. Chir. Cent. iii. 39. It is to be remarked, that in 1590, the date of Griffon's case, Taliacotius had published nothing, except his letter to Mercuriali.

† Lectures on Inflammation, p. 229.

Anthony Molinetti, a physician, and the son of a surgeon, was born in Venice, and was distinguished both for his success in practice, and his skill in anatomical dissections. He filled, at the same time, in the University of Padua, the chairs of anatomy and surgery, and of the theory of medecine. In his Dissertations on the Senses and their Organs, printed at Padua, in 1669, he praises the Taliacotian method; and asserts, in proof of its practicability, that his father restored, in the year 1625, the nose of a Noble Polonese.*

To the foregoing writers may be added others, who have treated of the theory of the Taliacotian method, without mentioning examples of its practice; as, the celebrated John Henry Sculzte, Michael Louis Renaulme, author of communications to the French Academy of Sciences, in the year 1719; Rosentein, a Swedish, and Dubois, a French author; both of whom, in 1742, wrote on the practicability or impracticability of restoring a nose from the "flesh of the arm."

With these notices, the history of the Taliacotian, Italian, or Calabrian method may be considered as nearly reaching its close. The authors of the Nouveau Dictionnaire Historique, having met with the title of the book of Verduin, a surgeon of Amsterdam, known for the celebrity which he acquired, as the real, or supposed inventor of the *amputation à lambeau*, or method of saving a flap in amputation, have thrown out, that this writer "renewed, in 1666, the idea of Taliacotius."† It is true, that Verduin

* Molinetus, Dissertationes Anatomicæ et Pathologicæ, de Sensibus et eorum Organis. Patavii, 1669. 4to.

† Nouveau Dictionnaire, Art. Tagliacocci.

Verduin depended upon the same physiological principles with Taliacotius, whose name, with that of Hippocrates, he cites, as authorities for this part of his plan; but he has nothing to say about the ears, lips, and noses, his subject being the amputation of arms and legs. The title is de Nova Artiuum de Curtandorum Ratione. The date is 1696, and not 1666.

NEGLECT OF THE OPERATION.

With the exception of the instance cited by Hildanus, no authority appears to offer itself, for believing that this method was ever in use beyond the confines of Italy. Taliacotius drew it from the southern extremity of the Italian soil, and planted it, for a time, in Bologna; but even there, and notwithstanding the ardour with which he cultivated it, and the copious manner in which he wrote of it, it almost died with himself; and neither France nor Germany were ever acquainted with it, but as an art in use among certain practitioners in Italy. In Italy, Vincent Crucius, a native of the states of Genoa, and who, about the year 1612, filled the medical chair in the Roman college, rejected the art as impracticable.

Of the views taken of it in Germany and Holland, we may judge from Heister: "We have already directed," says that writer, "in what manner you are to replace and conjoin a nose "which has been almost quite separated from the face by a "wound, bite, or any sharp instrument; but we have not yet "acquainted you with the method of cutting out a new nose "from some fleshy part of the body, and of conjoining it on the "face, instead of the true nose, which was cut or torn off.

"Talia-

" Taliacotius has a professed treatise on the subject, illustrated " with many plates, and entitled Chirurgia Curtorum per Insi- " tionem; yet, what is there proposed by the author, is, for want " of later experiments and observations, judged to be impracticable and without foundation, by our modern surgery. " When this part is lost, we must supply it with an artificial nose " of wood or silver, unless, by being on the spot, you can ins- " tantly replace it, either by suture or plaster."*

M. Eloy, in his elaborate and excellent Dictionnaire Historique de la Médecine, printed at Mons, in 1778, expresses himself, notwithstanding the testimonies he quotes elsewhere, in the following terms on this subject :—" Many authors have " spoken of Taliacotius's method; but the greater part confine " themselves to mentioning it, without very much applauding it. " If that physician did not himself say that he had performed " the operation, his readers would be tempted to believe that " his system, however ingenious, had never been found sustainable but in theory. At best, we do not find that he succeeded in convincing his contemporaries of the advantages of his " method; for, had this been the case, experiments, made under " their eyes, would have transmitted the manner of operation to " the succeeding age, and, by succession, to our own, which is " not without occasions for putting in practice the method of " Taliacotius. How many deformities would not be removed by " this practice, so curious in physiology, but almost too cruel in " surgery!"†

" Attempts

* Heister, English edition, 1768. Chap. 73.

† Dictionnaire de la Médecine, Art. TALIACOTIUS.

" Attempts have been made," says M. Petit-Radel, in the Encyclopédie Méthodique, Paris, 1792, " to repair the defor-
" mity produced by a want of nose, after a wound by which that
" part has been taken away. We owe the method to Taliacotius.
" That author directs an incision to be made in the arm, into
" which he puts the remains of the wounded nose, after renew-
" ing the wound which had been already cicatrized. When
" the remains of the nose are well consolidated with the wound
" on the arm, he cuts away so much of the skin as is wanting
" for the repair of the nose. The method has not got into
" vogue, because it has been thought much more easy to remedy
" the defect by an artificial nose, than by this painful operation,
" of which the success is any thing but certain."* In France, we shall also have occasion to see the misconceptions of Dionis and De la Faye.

Looking to medical writers in England, it is observable, that Wiseman does not deign to mention the nasal operation. On the other hand, the Chirurgorum Comes, printed at London, in 1687, and " begun by the learned Dr. Read," who is highly commended by Wiseman, makes the art of *addition*, or the supplying of parts, one of the four branches of surgery; and draws from the work of Taliacotius the whole of this division of its contents. A few years after this, Sir Charles Bernard, subsequently serjeant-surgeon to Queen Ann, in a paper inserted in Wotton's Reflections on Ancient and Modern Learning, wrote in strong approbation of the art, and wished it introduced into English practice. The whole doctrine of Taliacotius, as well as

* Encyclopédie Méthodique, Art. Nez.

as the whole history of the nasal operation, is mistaken by Mr. John Hunter, in the little he advances with reference to these subjects, in his remarks on Union by the First Intention: "The attempt to unite parts of two *different* bodies," says that great inquirer into nature, "has *only* been recommended by "Taliacotius."* Various other English writers betray an equal unacquaintance with the subject.

The causes of the neglect of the art, at least in Western Europe, have probably been several. Dr. Thomson supposes, that there is less occasion for its use than formerly, when in Europe, as still in Asia, cutting off the nose was a barbarity practised, both on prisoners of war, and as a civil punishment. The same writer appears to think, that the pain and discomfort of the operation (referring always to the Italian method) exceed the value of the benefit it promises.†

We may be permitted, however, to look for the causes of the comparative oblivion into which, among us, the operation has fallen, in a variety of circumstances. Taliacotius found the art in Naples and Sicily, whither it had spread itself from Calabria. It is to be doubted, whether, even in the time of Taliacotius, the number of cases requiring the assistance of the art was equal, in the west of Europe, to the number in the east; in countries bordering on Asiatic and African nations, and tinged with their manners.‡ It is not to be questioned, on the other hand, that the climate of the north of Europe is less

* A Treatise on the Blood, &c. 4to. edition, London, 1794. p. 208.

† Lectures on Inflammation.

‡ An old law of the Lombards assigns the loss of the nose as the punishment for a second theft.

less favourable to the success of the operation than that of the south. Little demand, therefore, for the art, and frequent failures in execution, would discourage practitioners from exerting themselves in a task requiring so much assiduity on their part; and they would find it easier to ridicule and discredit the example of Taliacotius, than to follow it either with profit or reputation. It formed no part of the ancient studies of their profession; it was a novelty, and a novelty which was far from being recommended, either to the surgeon or to the patient, by facility of adoption. In all this, in the mean time, the paucity of cases is the principal feature to be regarded. Had the loss of a nose been as frequent as the fracture of a limb, the treatment of the one accident would have been as anxiously provided for as the other.

But there is, perhaps, an additional explanation of the ridicule which has been heaped upon the practice and doctrines of Taliacotius, and of its consequent disuse. To fix our view, for a moment, on England alone: in this country, about the time of the Usurpation, and under Charles II, the Taliacotian Art, as it was called, was classed with the exploits of Jack the Giant-killer, and spoken of only to amuse children. But this injustice arose out of occurrences and controversies, in reality wholly unconnected with the name of Taliacotius, and with which ignorance alone did then, or will now, connect them. The truth is, that there had arisen, at the period referred to, a new era in the history of European surgery: it was the restoration of the natural and easy method of cure of simple incised wounds, through the medium of *adhesive inflamation;* or, in the lan-

guage of Galen, " the art of healing by *the first intention;*" and which, in Europe, had so long given place to a barbarous system of false science and artificial torture. This restoration, however, glorious as it was, had to overcome, in its progress, both the prejudices of its enemies and the follies of its friends; the one accusing it of being fraught with the most hideous mischiefs, the other attempting to gain it popularity by means of the most extravagant pretensions and the most absurd fables. The point at issue was the cure of simple incised wounds, or the union of divided parts, by bringing the edges together, and suffering nature to unite them by her own adhesive process. This, the regular surgeons, and the public with them, condemned; supporting the existing elaborate, tedious, and painful practice, by a variety of plausible arguments, and attributing the cures of their opponents, where their reality could not be denied, to the intervention of the Devil.

The reformers, on their part, either because they did not themselves very well understand the theory of their own cures, or because nothing but what was tinctured with mystery was suited to the age in which they lived, united to the simplicity of their art the most complex ceremonies and doctrines. They were called *Sympathetic Doctors*, and they taught the existence of sympathies between the most incongruous bodies in nature; accounting, in this manner, among other things, for their cures of wounds. These cures they pretended to effect by using ceremonies, over objects between which and them there was no natural connection, and which were also at a greater or less distance from the spot. All this was juggle, like the *hocus-*

pocus

pocus of ordinary conjurors; but, strange as it must seem, there was sound sense beneath: "They chose out," says a modern professional writer, "fit cases of clean incised wounds; they "put the lips neatly together, and very generally held them "close by a sticking-plaster, so well composed, and so firm, that "they called it *emplastrum strictivum;* they took care never to "undo the dressing till the wound was healed. Had they ventur- "ed to lay the lips of a wound simply together, and make them "adhere, they would have been greatly abused for following the "simple rules of nature. But they took credit for something like "witchcraft; and they condescended to dress the axes and "swords, that the wounds themselves might have leave to "lie at rest till they healed.*"

Among the most distinguished of the Sympathetics, was John-Baptist Van Helmont. It was this writer who, in attempting to support his visions, by reciting, among other ridiculous tales, an account of a gentleman of Brussels, that had his nose restored, but who lost it again through the power of sympathy, mixed the name of Taliacotius with the follies of the Sympathetic School. The story, which has been as idly commented upon, as it was originally told, is subjoined; and we must remember, that Van Helmont is defending those appearances which he imputes to sympathies, against the hostile imputation of Satanic influence.

"The following case, at least, will be acknowledged to be "free

* Principles of Surgery, Edinburgh, 4to., 1801, Vol. I, page 29.

" free from every illusion of Satan. A native of Brussels, who " had lost his nose in battle, repaired to Tagliacozzo, a sur- " geon of Bologna, to have his nose restored; and, as he " dreaded to have the incision made in his own arm, a labour- " ing-man was found, who, for a remuneration, suffered the " nose to be taken from his arm. About thirteen months after " his return to Brussels, the adscititious nose suddenly became " cold, and, after a few days, dropped off, in a state of putre- " faction. The cause of this unexpected occurrence having " been investigated, it was discovered, that at the same moment " in which the nose grew cold, the labourer at Bologna " expired. Persons still living at Brussels were eye-witnesses " of this transaction. Is it not a clear instance of the magnetic " properties of the *mumia*, that a nose, which, for so many " months after adhesion, had enjoyed common life, sense, and the " vegetative faculty, should thus suddenly die, on the opposite " side of the Alps? I ask, what is there of superstition or " phantasy in this case?"*

Dr.

* De Magnetica Vulnerum Naturali et Legitimâ Curatione, &c. § 23. Parisiis, 1621. The *mumia* of Van Helmont is explained (Section 3) by himself to be a sort of *material* spirit, infixed in and belonging to every living body *(spiritus insitus et confirmentatus)* and which passes from dying bodies into those of *survivors (superstes)*, by which appear to be meant, bodies which, upon receiving the mumia, become alive. This mumia is co-extensive with the whole body, and ramified into all its parts. It follows, that if, at the death of the labourer at Bologna, so much of his mumia as was contained in the nose lent to the gentleman at Brussels, had not forthwith joined the remainder, the new possessor would have had but a mutilated mumia, and been all alive, except his nose! There is, then, a *sympathetic*, or magnetic property in the mumia; so, that however the parts are separated

Dr. Fludd,* an English physician, and one of the most zealous of the Rosicrucian brethren, has improved upon this story. In his Defence of Weapon-Salve, or the Squeezing of Parson Foster's Spunge, 1635, p. 132, he informs us, from unexceptionable authority, as he says, that " a certain Nobleman in " *Italy*, who lost a great part of his nose in a duel, was ad- " vised by a physician to take one of his slaves, and to make a " wound in his arm, and to join the little remainder of his " nose to the wounded arm of his slave, and to continue it " there for some time, till the flesh of the arm should be " united to his nose. Accordingly, the Nobleman, by the " promise of freedom and a reward, prevailed on one of his " slaves to become the instrument of the experiment, by which, " in the end, the two-fold flesh was united ; after which, a piece " of the flesh of the slave's arm was cut out, and so managed, by a " skilful surgeon, as to serve in the place of a natural nose. The " slave, being rewarded and set free, went to Naples, where he fell " sick and died ; immediately on which, a gangrene appeared on " the Nobleman's nose. Upon this, that part of the nose, which " belonged

separated, they can, on needful occasions, resolve themselves into their original unity. The reader is outraged, perhaps, at all these extravagances ; but what is Van Helmont's mumia, compared with Paracelsus's pigmies, out of which grew the giants ?

* Robert Fludd, or de Fluctibus, was born at Margate, in Kent, in 1574. He took his doctor's degree at Oxford, in 1605, and died in London, in 1637. His writings on the mathematics, and especially on mechanics, says the author of the Dictionnaire de la Médecine, are worthy of some esteem ; but, in physic, he produces nothing but superstitious trifles. His works are better known in foreign countries than in England, where nobody, except John Selden, and a very few other writers, have mentioned them. He wrote, beside the Defence of Weapon-Salve, &c. Pathologia Dæmoniacæ, Goudæ, 1640, folio.

" belonged to the dead man's arm, was, by the advice of his " physicians, cut off; and, being encouraged by the success of " the previous experiment, he was now prevailed upon to have " his own arm wounded in like manner, and to apply it to the " remainder of his nose, which he did, and a new nose was cut " out of his own arm, which continued with him till death."*

It is to these superstitious stories, and not to the works of Taliacotius, that Butler refers, in the first canto of Hudibras, where he has this well-known comparison:

" So, learned Taliacotius, from
" The brawny part of porter's bum,
" Cut supplemental noses, which
" Would last as long as parent-breech;
" But, when the date of Nock was out,
" Off dropped the *sympathetic* snout."

The fact, in the mean time, of the loss of the Brussels' gentleman's new nose, is very explicable, though without any reference, either to Satan or to sympathy. If Van Helmont had been more particular in his inquiries and narration, he would doubtlessly have told us, that the accident took place in the middle of a Brussels' winter. The nose did not literally drop off, but it mortified, and decayed away; and this, even so early a writer as Alexander Benedictus, with the experience only of Italian winters, had taught us to expect, unless great care were opposed to the severity of the weather.†

The Tatler, who wrote in 1709-10, has availed himself, in his two

* See Sir Kenelm Digby's Discourses concerning Powder of Sympathy, 1660, page 115.

† See above, page 4.

two hundred and sixtieth paper, of the lines of Butler, to produce a merry lucubration, after the taste of the age, at the expense of Taliacotius and his cures. This author, however, had nothing in view but to "point a moral;" and, accordingly, he makes use of the scrap of romance, to introduce an assurance, to the young men of the town, that the art, though flourishing once, was then wholly lost; and, that therefore, they must not live "as if there were a Taliacotius at the corner of every street."

But, the doctrine of the *sympathetics*, considered by itself, is not the only source from which the misrepresentation of the restitution of the nose is derived. It is the *cure by the first intention*, as it is called by Galen, or, as we now say, by the process of *adhesive inflammation*, and upon which the union of the new parts with the old really depend; it is this doctrine itself, which has also been pressed into the service of ridiculing Taliacotius, and the restoration of a mutilated nose.

It has been seen above, that the natural aptitude of divided parts to unite, is the true source from which the pretenders to sympathetic cures derived the success of their impostures. Various stories of the union of parts have been circulated by them and their disciples; some of them undoubtedly true, many extraordinary and, perhaps, exaggerated; a few entirely false. Among all these, some are accounts of the union of divided parts of the nose; and, though neither their truth nor their falsehood are questions of the smallest importance to the theory of the nasal operation, to the method of Taliacotius, nor to the reality of the cures of Taliacotius and others, yet ignorance, from time to time, has seized upon them, with a stupid exultation,

exultation, as proofs of the falsehood of the whole. It has first assumed, that the stories are themselves fables; and, then, from a perfect unacquaintance with facts, supposed a resemblance between the described adhesions of the parts of the nose, and the nasal operation.

One of the foremost of the narratives, cited in order to confound, by the argument *ex absurdo*, the theory of this art, but which has, in reality, no sort of analogy with it, is that of Sir Leonard Fioravanti, concerning the "Cure "of one that had his nose cut off, and set on again." "In that time," says Sir Leonard, "when I was in Africa, "there happened a strange affair, and it was this: a certain "gentleman, a Spaniard, called El Senor Andreas Guitero, "of the age of twenty-nine years, upon a time walked in a "field, with a military man, and fell at words with him, and "began to draw. The soldier, seeing this, struck him with the "left hand, and cut off his nose, and there it fell down in the "sand. I then happened to stand by, and took it up, and "washed away the sand with *warm water*, and dressed it "with our Balsamo Artificiato, and bound it up; and so left "it to remain for eight or ten days, thinking that it would "have come to suppuration. Nevertheless, when I did unbind "it, I found it fast conglutinated, and then I dressed it only "once more, and he was perfectly whole, so that all Naples "wondered thereat, as is well known; for the said Senor "Andreas doth live, and can testify the same.*" Sir Leonard Fioravanti

* Secrets of Surgery, page 54.

Fioravanti was a native of Bologna, where he took the degree of doctor both in philosophy and medicine. He was admired by his contemporaries for his knowledge of medicine, but still more for his skill in surgery. As respects the regular practice of his day, he was an empiric ; but an empiric of that description whose real merits have been displayed, in a manner equally forcible and entertaining, by a living writer.* His Compendio del Secreti Naturali was printed at Turin, in 1580; and his Chirurgia at Venice, in 1588, the year of his death.

A cure which is far more difficult of belief, is vouched for by Garengeot, a French military surgeon, who was born in Upper Brittany, in the year 1688, and whose high reputation procured for him, about 1728, a seat in the Royal Society of London: "In the month of September, 1724," says M. Garengeot, "a soldier of the regiment of Conti, coming out "of L'Epée Royale, from an inn in the corner of the street "Deux-Ecus, was attacked by one of his comrades, and, in "the struggle, had his nose bitten off, so as to remove almost "all the cartilaginous part. His adversary, perceiving that he "had a bit of flesh in his mouth, spat it out into the gutter, "and endeavoured to crush it, by trampling upon it. The "soldier, who, on his part, was not less eager, took up the "end of his nose, and threw it into the shop of M. Galin, a "brother-practitioner of mine, while he ran after his adversary. "During this time, M. Galin examined the nose which had "been thrown into his shop, and, as it was covered with dirt,

* Bell's Principles of Surgery, Vol. I, page 17, *et seq.*

" he washed it at the well. The soldier returning to be dressed, " M. Galin washed his wound and face, which were covered " with blood, with a little warm water and then put the ex- " tremity of the nose into this liquor, to heat it a little. " Having, in this manner, cleansed the wound, M. Galin now " put the nose into its natural situation, and retained it there " by mears of an agglutinating plaster and bandage. Next day, " the union appeared to have taken place; and, on the fourth " day, I myself dressed him, with M. Galin, and saw that the " extremity of the nose was perfectly united and cicatrized.*"

It is to be repeated, that these stories of adhesions of the separated nose are told, (whether true or false,) without prejudice or advantage to the theory of the nasal operation, or to the doctrine or the veracity of Taliacotius and the rest of those by whom as we find, it has been practiced. All the elaborate contrivances of Taliacotius had for their object to effect the union of a graft which was not, like a vegetable graft, or like the ends of the noses of Fiorovanti and Garengeot, previously detached from the stock on which it grew, but of which the original union was to be carefully preserved till the new union had taken place; contrivances which to mark, in the strongest manner, that in the opinion of Taliacotius and the rest, such unions as those now cited were impracticable. Vésale, who, as we have seen, wrote before

* Traité des Opérations de Chirurgie, 3 vols., 12mo. Paris, 1720, 1731, 1749, Vol. III.

before Taliacotius, and who, in what he says of the nasal operation, appears to have had no particular knowledge of that practitioner, expressly separates the cases of "a nose wholly "cut off, *totus nasus abscissus*," and a nose whose mutilations admit of being restored. With respect to the first, he asserts, "that neither nature nor art are so highly privileged, as to allow "the restitution, and that to attempt such a cure, is as if an ape "should philosophize on the possible amplification of his powers, "and resolve to fly through the air." In the mean time, on the subject of the operation for restoring the mutilated nose, his book has this marginal comment: "*Hoc equidem mirabile, et "notatum dignum;* this is wonderful, and worthy of note."* Taliacotius, who wrote nearly thirty years after Vésale, advances no higher pretensions for the art than had been advanced before; and how extraordinary, then, if it be true, that M. de la Faye, when he cut off parts of the flesh and skin of dogs, and tried in vain to fasten them on again, could fancy that he was proving the impossibility of the nasal operation! M. Pierre Dionis, likewise, has put himself to the trouble of "denying absolutely and unconditionally Taliacotius's "art of making ears and noses of the flesh of the arm."† M. Dionis, therefore, did not happen to know, that Taliacotius has expressed his earnest astonishment, "that it should ever have "come into the minds of men, in other respects well-informed

* Vesalius, Chirurg. Magna, lib. 3, c. ix.

† Principes de Chirurgie, 12mo. Paris, 1739.

" and learned, to believe in the possibility of applying the mus-
" culous flesh of the arm to the restoration of the nose!"* It is with equal ignorance of the writings of Taliacotius and the other authorities on this subject, that so many pens have successively ventured upon the question. Taliacotius was not the author of the doctrine of adhesion, nor did he contemplate the adhesion of parts between which total separation had taken place, nor did he propose to unite either the flesh or the integuments of one man, with the flesh or the integuments of another.

INDIAN METHOD.

It was in this manner that the nasal operation had become forgotten or despised, in at least the west of Europe; when, at the close of the last century, it was once more heard of in England, from a quarter whence mankind will yet, perhaps, derive many lights, as well in science, as in learning and in arts. A periodical publication, for the year 1794, contains the following communication from a correspondent in India, which is accompanied by a portrait of the person mentioned, explanatory of the operation: " Cowasjee, a Mahratta, of the " caste of husbandmen, was a bullock-driver with the English " army,

* " Vide Dionis, p. 64.

† " Qua de causa vehementer miror, quid hiscè viris, alioquin doctis et eruditis, in men-
" tem venerit, ut ex carne musculosa nares rescarciri posse crediderint!" Taliacotius, De Curtorum Chirurgia, lib. 1, c. xix.

" army, in the war of 1792, and was made a prisoner by " Tippoo, who cut off his nose, and one of his hands. In this " state, he joined the Bombay army near Seringapatam, and is " now a pensioner of the Honourable East-India Company. " For above twelve months, he was wholly without a nose; when " he had a new one put on, by a Mahratta surgeon, a Kumar, " near Poona. This operation is not uncommon in India, and has " been practised from time immemorial. Two of the medical " gentlemen, Mr. Thomas Cruso, and Mr. James Findlay, of " Bombay, have seen it performed as follows: A thin plate " of wax is fitted to the stump of the nose, so as to make a " nose of good appearance; it is then flattened, and laid on the " forehead. A line is drawn round the wax, which is then of " no further use; and the operator then dissects off as much " skin as it covered, leaving undivided a small slip between the " eyes. This slip preserves the circulation, till an union has " taken place between the new and old parts. The cicatrix of " the stump of the nose is next pared off; and, immediately " behind this raw part, an incision is made through the skin, " which passes round both alæ, and goes along the upper lip. " The skin is now brought down from the forehead; and, being " twisted half round, its edge is inserted into this incision; so " that a nose is formed with a double hold, above, and with its " alæ and septum below, fixed in the incision. A little Terra " Japonica is softened with water, and, being spread on slips of " cloth, five or six of these are placed over each other, to secure " the joining. No other dressing than this cement is used for

" four

" four days; it is then removed, and cloths, dipped in *ghee* (a " kind of butter), are supplied. The connecting slip of skin is " divided about the twenty-fifth day; when a little more " dissecting is necessary to improve the appearance of the new " nose. For five or six days after the operation, the patient is " made to lie on his back; and, on the tenth day, bits of soft " cloth are put into the nostrils, to keep them sufficiently open. " This operation is always successful. The artificial nose is se- " cure, and looks nearly as well as the natural one; nor is the " scar on the forehead very observable, after a length of time."* The same account was subsequently engraved under a detached portrait of Cowasjee, in which, as in the former, the new nose and cicatrix are marked. This portrait is engraved by Mr. W. Nutter, from a painting by Mr. James Wales, of Bombay; and published in London in the year 1793.

Pennant, in his View of Hindoostan, printed in 1798, gives a second description of this practice: " I must by no " means omit," says this popular writer, " one branch of " European surgery which has of late been practised with great " success by a Poonah artist, who has lately revived the " Taliacotian art, differing only in the material; for he does " not apply to the ' brawny parts of porters, &c. &c.' to " restore the mutilated patient. I am not master of the process; " but I am told it is by cutting the skin and muscles of the " forehead

* Gentleman's Magazine, 1794.

" forehead on three sides, and drawing it over the deficient part. " If the bridge of the nose is injured, I presume that must " be supplied by some ingenious invention. The Hircarrah, or " Madras Gazette, of August 5th, 1794, informs us, that Cowasjee, " two years before, fell under the displeasure of Tippoo Sultan, " who instantly ordered the nasal amputation. The sufferer " applied to the great restorer of Hindoostan noses, and a new " one, equal to all the uses of its predecessor, immediately rose " in its place. It can sneeze smartly, distinguish good from bad " smells, bear the most provoking lug, or being well blown, " without danger of falling into the handkerchief. It will " last the life of the wearer; nor, like the Taliacotian, need he " fear,

" That when the date of Nock is out,
" The drop of sympathetic snout."

" This art is practised by the Koomas, a caste of Hindoos. " Some religious ceremonies are first performed. Betel and " arrack are put into the patient's hands, and he is then " laid on his back, his arms stretched along his sides, on the " ground, and he is ordered, on no pretence whatever, to use his " arms during the operation; and they impress him with this " idea, that it cannot be successful unless he complies strictly " with this injunction."*

On undertaking the first of the two cases to be hereafter narrated, I was induced to make such personal inquiries as were

* Pennant's View of Hindoostan, 2 vols. 4to. 1798, Vol. II, page 237.

were within my reach in this country, concerning the Indian method. I did myself the honour to write to Sir Charles Mallet, who had resided many years in India, and who obligingly confirmed to me the report, that this had been a common operation in India, from time immemorial; adding, that it had always been performed by the caste of potters or brickmakers, and, that though not invariably, it was usually successful.

Mr. James Stuart Hall, a gentleman who was many years in India, assured me, that he had seen the operation performed, and that it was of tedious length. From Dr. Barry, of the India service, I learned, that he also had seen the operation; that it occupied an hour and a half, and was performed with an old razor, the edge of which, being continually blunted in dissection, was every moment re-set. Tow was introduced to support the nose, but no attempt to form nostrils, by adding a septum, was made.

I am obligingly informed by Major Heitland, of the India service, that in India, several years ago, in the time of Hyder Ali, Mr. Lucas, an English surgeon, was, in several instances, successful in the operation, which he copied from the Hindoo practitioners.

Boyer mentions, that the late M. Chopart once employed, in a manner, as it seems, similar to the Indian, a portion of the integuments of the neck, to fill up a void space, left by the operation for a cancerous lip. The union took place, and a tolerably well-formed lip was procured.* Mr. Lynn performed this

* Lectures on Inflammation, p. 230.

this operation successfully, some three years since; and it has been repeated, also with success, very lately, by my friend and late pupil, Mr. Sutcliffe, of Rochdale. Do the Indian artists, like the Italian, undertake equally the restitution of the nose, ears, and lips?

I have heard, that about the year 1803, the nasal operation, by the Indian method, was performed in London, without success. The patient, I am told, is still alive, in India.*

I can add no more to the history of the Indian method; † but what has appeared is sufficient to arrest the reader's attention, both as it offers so great an improvement on the Taliacotian practice, and as it illustrates the history of the operation in general. It cannot be otherwise, than that this discovery of its existence in the distant regions of India, should awaken our curiosity more earnestly than before, as to the place and date of its original use. Mr. Pennant, in the passage quoted, has evidently taken a very hasty view of the matter, where he calls the operation "a branch of *European* sur-"gery;" where he speaks of it as "practised of late," and as a "late" revival; where he denominates it "the Taliacotian art;" where he attributes its revival to "a Poonah artist;" and where he intimates that there is but one "restorer of noses" in Hindostan. He himself soon after tells us, that the art is practised

* If the Gentleman who performed the operation is still living, and will favour the Author with an account of the cause of its failure, he will much oblige him.

† The Author will be very thankful for any communication on this subject, from persons resident in India, or who have resided in that country.

by a whole cast; and that its exercise is accompanied by fixed religious ceremonies. Do not these things savour of antiquity, and proclaim something very different from " a late revival of " the Taliacotian art," and the adoption of " a branch of " European surgery?" Assuredly, the Hindoos owe no part of their skill in this operation, either to Europe in general, or to Taliacotius in particular. With the exception of Mr. Pennant, all the names I have cited concur in deriving the Indian practice from " time immemorial."

It will be observed, that the whole of the foregoing accounts are agreed upon these points, that the performance of the operation is confined to a particular cast of Hindoos, and that this cast is said to be the Koomas, or potters, or brickmakers. The combination appears, at first sight, to be singular; but an explanation is not difficult, and may not be unacceptable. Most of the Hindoo casts, though fixed within positive limits, as to professions, trades, or other occupations, are yet allowed a certain range, a certain variety of pursuit, among which the individual is free to make his choice. The casts are known to be divided into subcasts; and there are degraded casts, making branches of the pure casts, with respect to whom a still greater laxity is allowed: " The professon of *astrology*, and the task of making " almanacs," says a late writer on India, " belong to *de-* " *graded Brahmins;* and the occupations of teaching military " exercises, and *physic*, as well as the trades of *potters*, " weavers, braziers, fishermen, and workers in shells, belong " also to the descendants [meaning the outcasts] of Brah- " mins."

" mins."* Thus, astrology, medicine, and *pottery* are among the several pursuits allowed to one and the same cast.

That *astrology* and *medicine* should be thrown into the same lot, excites no surprise. In Persia, and all the eastern countries, the art of healing is consigned to the professors of these two sciences conjointly;† and the same prevails, or has prevailed, in many other parts of the world. It is hence that our ancient almanacs contained instructions concerning the health of the body; and, at this day, "Francis Moore," though he calls himself "physician," is plainly an astrologer. The adjuncts

 of

* Mrs. Graham's Letters on India.

† Chardin gives a clear view of the respective principles by which the two professions are governed, in the treating of their patients: "The physicians," says he, "endeavour "to adapt their remedies to the phenomena of the disease, while the astrologers, on their "side, maintain, that attention is to be paid to the phenomena of the planetary system, in "order to determine the most proper time for taking medecines." The professions, in the mean time, are not to be understood as further distinguishable, than as the one consists in physicians who combine astrology with their medicines, and the other in physicians who rely upon their medicines only. The English physician, described by Chaucer, is no other than the astrologer of Chardin:

"With us there was a doctor of physik,
"In al the worldè was there non hym lyk,
"To speak of physik and of surgerye;
"For he was groundit in astronomy.
"He kept his pacient a ful gret del,
"In hours by his magyk-naturel;
"Wel couth he fortunen the ascendent
"Of his ymagys for his pacient.
* * * * * * * * *
"Full ready had he his apothecaryes,
"To send him his droggis and letewaryes [electuaries]."

CANTERBURY TALES.

of pottery, weaving, &c., in the same cast with the former, appear to evince, that the Indian institutions are less restrictive on the particular genius or disposition of individuals, than may have been commonly supposed.

ORIGIN OF THE ART.

A due attention to the little evidence within our reach, will go far to fix us in the opinion, that the nasal operation is of the highest antiquity in the warm climates of the East; that its practice, in all the southern parts of Asia, from India to Persia and Arabia, has existed from very early times; that Greece shared it with Asia; that it afterward passed into Calabria, and from Calabria into other parts of Italy, and that in Italy it languished, and died: partly through its approach to severer climates, partly, perhaps, through the practice of a more complicated, tedious, and painful method; partly through the low state of surgery in Europe; and partly through the senseless incredulity and ridiculous misconcptions, arising out of that low state of surgery, with which it was met both by practitioners and people.

That the nasal operation was not first known in Italy is proved, in a great degree, by this, that with the more industry we trace its beginning, the further and further off we see it recede from us. Some would give the invention to the first Branca, the Sicilian. Gabriel Barri claims it for Vincent Vianeus, or Boiani, of Tropea. Cortesi ascribes it to Peter Boiani, his descendant.

descendant. Multitudes resolutely fix it on Taliacotius; but, Cortesi, and, after him, M. Eloy, will have Peter Boiani to have been the instructor of Taliacotius. All unite in refusiug an earlier date to this art than the sixteenth, or, at furthest, the fifteenth century. If we look for the grounds of the conclusion, we shall find them to be no better, than that at this period, the invention of printing, and revival of letters, gave an impulse to the reading and writing of books.

But Taliacotius was neither the inventor of the art, nor does it appear to be true, that he learned it of either of the Boianis. Taliacotius is himself careful to mention all that he could collect concerning the previous practice of the operation; and it is worthy of remark, that as far as I have been able to discover, little is to be added to what he has brought forward concerning its ancient history in Italy. He speaks of Branca, and of a reported existence of the art in Calabria; but, of the Boianis, at least by name, he appears to have known nothing. His own account of the art, and of his share in the cultivation of it, is to be found in his epistle-dedicatory to the Duke of Mantua: "Very "little," he observes, "is left us by ancient writers, on the "supplying of deficient parts of the body. The restoration of "lips, ears, and noses, is said to have been formerly practised in "Calabria; but the art, if it could be called an art, was rather "pursued at random, than according to any fixed method. On "my part, beside the other services which I have rendered to "medicine in general, I have placed this particular branch upon "the basis of uniform rules, and have reduced the method of prac-"tice into writing." In other passages, indeed, he may be thought

to

to have assumed for himself somewhat too large a share of originality in the art. In the nineteenth chapter of his first book, he writes as if he alone had taken the integuments, for the restoration of a lip or nose, from other parts than the immediate vicinities. There is, surely, some inconsistence in this portion of his language, (as well as in that in which he so greatly undervalues the ancient state of the art,) both with what he presently afterward tells us of Branca, and with what he had read in Celsus, Calentius, Benedictus, and the rest: "Branca, a Sicilian," says Taliacotius, "practiced the art "with distinguished skill, though no one has ever explained "his method." The truth appears to be, that Taliacotius's only instructors were books, tradition, and his own reflections and experiments; that upon these foundations he formed a method for repeating what had been done before; and that he performed the further service of putting that method into writing, and making it public. Former practitioners had been famous for the art; but their method, and, in most instances, themselves, had afterward passed into oblivion:

"They had no poet, and they died."

Sir Charles Bernard, it is to be acknowledged, in his contribution to Wotton's Ancient and Modern Learning, appears willing to stop at Branca, as the earliest restorer of a deficient nose; but he can have had no other reason for this, than what may be thought a too circumscribed construction of ancient testimonies: "As for those operations," says Sir Charles, "which "the Greeks called κολοβώματα, or *curtorum chirurgia*, they "amounted

" amounted to no more than cutting the hare-lip, or the like; " for that they knew and practised." What the Greeks called κολοβώματα, the Romans called *curta*.

Celsus, a native either of Rome, or of Verona, was born in the reign of Augustus; that is, before, or not much later than the birth of Christ. This writer teaches the art of supplying *curt* or deficient parts *by incision*, by dissecting the integuments from the muscles, by leading them to the deficient part, and by joining them thereto; and adds, that *sometimes* the skin of *other parts* was applied to the deficient part. He speaks of deficient parts generally, without naming either nose, ears, or lips.*

Galen, a native of the city of Pergamos, in Asia Minor, was born toward the middle of the second century. He tells us, that the Greeks gave the name of κολοβώματα to those of whom either the lips, ears, or nose, was deficient: " Now, the method of curing " a deficient lip," says this illustrious physician, " is, first, to " dissect the skin; then, to bring it in contact with the skin of " the lips; then, to take away the callus; after which, what re- " mains is to sew the two together, and to agglutinate them."† Further on, " If the lips, ears, or nose, are deficient," says Galen, " additions may be made to them by incisions; the " edges of the raw skins being brought together, and aggluti- " nated." ‡ He speaks also of supplying deficiences of other parts;

* Celsus, vii, 9. " Many things," says Boerhaave, " which are to be found in Celsus, " pass, at the present day, for new."

† Galen, 14, Met. Med. 16.

‡ Idem, 18.

parts, and even inquires, whether, if a finger, or any similar part, were wanting, it would be wholly impossible to supply it?

Paulus Ægineta, of whom it is disputed, whether he flourished in the fourth, fifth, sixth, or seventh century, was born in the Greek island of Ægina. Paulus follows Galen, but with great brevity: he directs, for the treatment of deficient lips and noses, that the integuments be dissected from the part below; and, then, the callosity of the deficient lip or nose being dissected away, and the edges of the two integuments being brought into contact, to stitch and conglutinate the parts. This is the sense of the whole of Paulus's short chapter on Κολοβώματα, of which the following is the old French translation of M. Tollet, in 1540: "Curtes en lebvres et narines "sont curées en ceste sorte. Nous couppons le cuir vers la partie "inférieure. Puis, après les labies de la plaie conjoinctes, "premièrement la callosité ostée, nous cousons et congluti-"nons."*

We have now seen that the nasal operation, and all the physiological *facts* upon which it depends, were known in Europe at least as early as the date of the Christian era; that the *fact* of adhesion was known to Hippocrates, and that where our history fails us, is simply the point beyond which we have no records. We have now, also, before us, the greater part, if not the whole of the information which was possessed by Taliacotius; and, beside satisfying ourselves that this eminent person was not

* La Chirurgie de Paul Ægineta, par M. Tollet, à Lyon, 1540. Lib. vi, chap. 26.

not (what he never pretended to be) the inventor of the art, we may venture to judge in what degree he advanced it.*

That the art has subsisted from the most ancient periods in India, and other southern parts of Asia, and was at no time carried thither from Europe, is probable from further evidence than the simplicity of the Indian method, as compared with the Italian; the ordinary recourse which is had to it in India; its practice by a particular cast, and its junction with religious observances: it is probable, likewise, from the frequent occasions for it, from the favourableness of the climate, from the temperance of the people, and from the plainness of the road by which Nature leads to the invention. The adhesion of divided parts, however little understood, till lately, in France or England, was one of the first spectacles presented to mankind. If we fancy that we are entitled to refuse to the Orientals the reputation of science, this makes no alteration in the case; for no depth of science, but involuntary observation, was all that was wanted here. The operation of the hare-lip could not fail to suggest the supply of small

 deficiencies

* None of the ancient writers were ignorant of the process of adhesion, as effected by bringing the lips of wounds into contact, or *healing by the first intention;* but the bringing foreign parts to adhere, seems to have been practiced only by the restorers of noses, lips, and ears, and not scientifically examined before Taliacotius; who proposes the questions, "In what manner, and by what means, is the new nose nourished?" and "Does it live and "feel?" He apprehends, that its nourishment must depend, either upon the formation of a new set of vessels in the new nose, or upon the inosculation of the vessels previously existing in it, with those of the part with which it is brought into contact; and he gives the preference to the latter theory. Chirurgia Curtorum, lib. 1, Cap. xxv.

deficiences of the nostrils; and this would lead to greater reparations. The taking the integuments from other parts was an enlargement of the plan, and the result of research, or at least of reflection.

In addition to the facility afforded to the nasal operation by the climates of the south of Asia, there is also to be remembered the extraordinary demand for its practice; a circumstance which cannot but have combined with the former, both to give it birth, and to keep it in use; and a circumstance, also, which prevailed, as we may believe, even more forcibly in remote ages, than in the present. Even the demand, however, of the present age, were enough! I shall have occasion, in another place, to mention the frequence of the amputation of the nose in India, and the accompanying popular persuasion, that one way or other, the sufferers may recover their loss. A direct example is exhibited in the case of Cowasjee, under Tippoo Sultan. Instances have recently occurred, attended with other cruelties, in the island of Ceylon, under Scindeah Rajah. But an example, upon the grand scale of eastern barbarity, which will at once suffice to strike the reader's imagination with the full force of the fact, presents itself in Father Guiseppe's Account of Nepaul, printed in the second volume of the Asiatic Researches. The city of Kirtipoor, in Nepaul, being besieged by the Ghoorka army, was betrayed by one of its nobles. The inhabitants might still have stood on their defence; but, on the promise of amnesty, they surrendered themselves prisoners. Two days afterward, Pritwinarayan, the king of Ghoorka, their conqueror, ordered the

the principal persons of the town to be put to death, and the lips and noses of every one, even the infants who were not found in their mothers' arms, to be cut off; directing, at the same time, that the lips and noses should be preserved, that he might ascertain the number of souls; and that the name of the town should be changed into *Nascatapoor*, which signifies (such relationships have the languages), *Nose-cut-Town:* "The order," says Guiseppe, "was carried into execution with every mark of horror "and cruelty, none escaping but those who could play upon "wind-instruments; although, Father Michael Angelo, who, "without knowing that such an inhuman scene was exhibited, "had gone to the house of Suruparatna [the officer fulfilling the "order], and interceded much in favour of the poor inhabitants. "Many of them put an end to their lives in despair; others came "in great bodies to us, in search of medicines; and it was most "shocking to see so many living people with their teeth and "noses resembling the skulls of the dead." This event occurred in the year 1769, or 1770; and, after perusing this, no solitary instance in its kind, shall we remain in doubt, that the nasal operation was in early request in countries where tyrants are so ready to wound, and Nature is so willing to heal?

But, if we are now to account for the existence of the art in Calabria, at a time when it was unknown in the rest of Europe, and even in the rest of Italy, it will, perhaps, be agreed, that we have only to call to mind the geographical situation of Calabria, its neighbourhood to Greece, and to the frontiers of Arabia, and the rest of Asia; and the degree in which it resembles

those countries in its climate, in the living and manners of its inhabitants, and how much it anciently resembled them, in its laws and punishments. It may deserve, nevertheless, to be further remarked, that even the political circumstances of Calabria, in times not very remote from those of the Brancas and Boianis, were favourable to the introduction into that country of every art, and, among the rest, of every medical art, which was practised in the East.

Through a great part of the middle ages, Italy and other countries of the south of Europe, were overrun by the arms of the Arabs. Francis II of Naples, the most enlightened monarch of his age, and whose policy required a counterpoise to papal domination, always maintained a strict friendship with these active Mohammedans, and carried on with them, even after he had expelled them from his kingdom, an extensive intercourse in literature and the arts. It was from Arabia that surgery was restored in Italy, as it was from Italy that it was carried into France. The connection of the Arabs with India has always been intimate.

The foregoing are some of the facts and considerations which present themselves on a hasty survey of the question. If weight is due to all of them, or to those of chief importance, we shall hardly think, as has been thought heretofore, that in tracing the art eastward to Italy in general, or even to Calabria in particular, we have found the seat of its birth; but we shall venture to place it among the acquirements of the whole eastern and ancient world, the rays of whose light have successively,

from

from age to age, penetrated the forests and recesses of Europe. It is probable, nevertheless, that while the general principles of the art were early and widely spread, the particular methods had their origin in particular and unconnected inventors. The express rejection, by Taliacotius, of the integuments of the forehead, for the material of the new nose, as being alien to the part, and not to be commodiously joined with it,* forms a total separation from the Indian method; while his choice of those of the arm was in exact conformity with the Calabrian.

An additional remark suggests itself from this view of the history of the nasal operation. It has been insinuated, by those who would derive its birth from Taliacotius, that it had its origin in some of the consequences of Lues Venerea; which disease is said to have been first known in Europe after the siege of Naples, in 1494. But the year 1442, the date assigned, in the Dominican manuscript, to the age of Branca, precedes the date of the siege of Naples by half a century, as does the age of Celsus by almost fifteen hundred years. Again, something more than a whole century elapsed, between the siege of Naples and the appearance of the work of Taliacotius. Beside, the branch of surgery, which is the subject of that work, has no peculiar reference to the nose, but equally includes the ears and lips.

PHYSIOLOGICAL PRINCIPLES.

In concluding this sketch of the history of the nasal operation, it will be acceptable to add some account of the physiological

* See above, page 12.

gical principles upon which the branch of surgery to which it belongs proceeds, and from which it derives its success.

ADHESION OF WOUNDED SURFACES.

I. The first of these principles consists in that aptitude for adhesion which is found to subsist in all, or nearly all, the living parts of animal bodies; and the natural end of which is their restoration to the pristine state, after accidental division or separation. Such is the adhesion of the two extremities of a fractured bone; and such, in the case of a simple cut finger, is the adhesion of the two sides or edges of the divided parts.

The adhesion of the divided parts of a living Bone is effected by the pouring out of osseous matter from the arteries. Sometimes, from the state of the patient's health, or other cause, this does not happen, in which case, a callus forms, and prevents the desired union; but, the callus being removed, osseous matter may still be produced. A gentleman having fractured the tibia, the usual method of reduction was resorted to without success. Six months after the accident, he applied for my assistance. Knowing the pain and inconvenience experienced by the patient, from sawing away part of the ends of the bones, I made an incision through the integuments, and cut or scraped away the callus which had grown upon the extremities of the fracture. Then I brought the parts into contact, and applied splints and bandages. Osserous matter was secreted, a perfect union took place, and the

the gentleman was enabled to walk as well as before the accident.

The adhesion of divided Muscles and Integuments, is the express subject of our present inquiry. Of those adhesions, some extreme cases, in part old, and in part new, have already appeared in these pages. In modern surgery, the general fact is universally admitted; and the only subject of doubt is, the adhesion of parts which have been *entirely* separated; or, in other words, in one of which circulation has been wholly interrupted. Professor Thomson thinks, that we should "in no case despair "of adhesion, so long as the least degree of circulation remains "in both, or even in one of the parts, divided;"* and adds, "we must learn, from experience, in what circumstances re-"union may be attempted with probability of success." Dr. William Balfour, of Edinburgh, without regarding the continuance of the circulation, would attempt to procure adhesion between any divided parts, "unless such parts were of a "magnitude that the apposition of the wounded surfaces would "not restrain hæmorrhagy."†

Dr. Balfour has recently made public two cases of adhesion, which have occurred in his practice, accompanied with some interesting remarks. In the first case, which was that of his son, a child of four years and a half old, be procured the adhesion of the points of three fingers of one hand, which had

* Lectures on Inflammation, page 243.

† Observations on Adhesion, with Two Cases, &c. Edinburgh, 8vo. 1814, page 13.

had been separated, with the exception of slight attachments of skin, so as to hang at right angles, when the fingers were extended; but, in the second case, the adhesion procured yields to no recorded instance in apparent incredibility, and is yet authenticated by gentlemen of character: "On the 10th day "of June, in the year 1814, two men came into my shop, "about eleven o'clock forenoon; one of whom, George Pedie, "a house-carpenter, had a handkerchief wrapped round his "left hand, from which blood was dropping slowly. Upon "uncovering the hand, I found one half of the index wanting. "I asked him what had become of the amputated part. He "told me he had never looked after it, but believed it would be "found where the accident happened. I immediately dis- "patched Thomas Robertson, the man that accompanied the "patient, to search for and bring the piece. During his ab- "sence, I examined the wound, and found that it began near "the upper end of the second phalanx, on the thumb side, and "terminated about half an inch lower on the opposite side. "The amputated piece, as measured by the patient himself, "was an inch and a half long, on the thumb side, and an inch "on the other. The wound was inflicted in the cleanest man- "ner, by one stroke of a hatchet, and terminated in an acute "point.

"In about five minutes, as nearly as I can guess, Thomas "Robertson returned with the piece of finger, which was white "and cold; and I remarked to Dr. Reid, who was present, "that it looked like a bit of candle. Without the loss of a

"moment

" moment, I poured a stream of cold water on both wounded " surfaces, to wash away the blood from the one, and any dirt " that might be adhering, from the other. I then applied, with " as much accuracy as possible, the wounded surfaces to each " other, expressing a confident expectation that re-union would " take place.

" I endeavoured to inspire the patient with the same hopes, " by detailing to him the success I had in my son's case; which, " for the reasons already mentioned, was to me quite decisive " of the question, whether or not parts entirely separated from " the system would re-unite. All this was heard by the patient " with a very apparent distrust. But I could do no more than " tell him, that, if re-union did not take place, no harm could " ensue from the attempt, and that, if it did, a great deformity " would be prevented. I informed him, that unless pain or " fœtor, or both, should occur, I would not remove the ban- " dages for a week at least; directed him to keep his fore arm " slung, and not to think of any kind of work. At last, he " entered so far into my views, as to promise punctual obe- " dience. He called on me next day, when he felt no parti- " cular uneasiness, but remarked, that the wound had not alto- " gether done bleeding. Assuring him there was nothing in " that, I desired him to call on me every day; but did not see " him again till the 4th of July!"

On the 2d of July, a gentleman called on Dr. Balfour, and gave him an account of his patient, by means of which he also found out the man, and had an opportunity, as well of exa-

mining the state of his fingers, as of obtaining his acknowledgment of the facts of the cure: "The accident happened "on the 10th of June; and on the 12th, the patient, under the "influence of the ridicule of his acquaintances, for giving the "least credit to my assurances that re-union would take place, "applied to another practitioner. This gentleman, I am in- "formed, on being told the object I had in view in replacing "the piece of finger, represented the impropriety of any other "person intermeddling with it. But, prepossessed with the "belief that he carried about a piece of dead matter only, tied "to the stump of his finger, the man insisted on having the "bandages removed, which was done accordingly. Thus were "nearly rendered abortive, my attempts at the re-union of the "parts, and the profession deprived of a fact, which, as de- "monstrating the wonderful powers of Nature to repair in- "juries, is inferior in importance, to none in the annals of the "Healing Art. But, fortunately, Nature had been too busy "for even this early interference to defeat her purpose. Adhe- "sion had taken place.

"In consequence of the information I got from the gentle- "man who called on me on the 2d of July, I found out the "patient on the 4th, when re-union of the parts was complete. "The finger, in fact, is the handsomest the man has, and has "recovered both heat and sensation. In the progress of the "cure, the skin was changed, and soon after the accident, the "nail fell off; but I have not the smallest doubt that it will "likewise be renewed."

In

In corroboration of these facts, Dr. Balfour has added three affidavits; one of George Pedie, the patient; one of Thomas Robinson, a fellow-workman; and one of Dr. Peter Reid, a physician in Edinburgh. After this case, what shall we say to those of Fioravanti and Garengeot?

Blegney mentions a case in which a nose, that had been cut off with a sabre, was restored to its place by Winsault, an army-surgeon, and a perfect adhesion obtained by the use of stitches and agglutinating plasters. Lombard gives an account of a nose nearly cut off and un-replaced for some hours, in winter, which was made to adhere by stitching and proper dressing. A similar case is mentioned by Loubet. Bossu, a surgeon of Arras, states the case of a thumb which has some resemblance to that case of Dr. Balfour: "The facts," says this author, "related "by Garengeot, appeared to me at first as they have done * "to many others, so ridiculous, that I frankly confess, I doubted "of their possibility, till experience had undeceived me. A boy, "in shaping a wedge of wood, amputated obliquely the third "phalanx of the thumb of the left hand, a little above the nail, "in such a manner as to lay open the articulation on the lateral "and internal part. He came to me immediately, and while "the wound was still bleeding. I took the thumb, which he "had in his pocket, covered with dirt and crumbs of bread, "washed it in warm wine, re-applied it, and supported it with "proper dressings."† In this case, also, complete adhesion

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* Zodiacus Medico-Gallicus, March 1680.

† Journal de la Médecine.

was obtained.—I have been informed by Mr. Abernethy, that an instance of union between a finger and its end, which had been cut off, occurred not very long ago at St. Bartholomew's Hospital.

I have before me a letter from Dr. William Ruddiman, in which are related some extraordinary facts, as connected with adhesion of divided parts of the nose in India, his acquaintance with which arose from his residence in that country: "One of our senior surgeons on the Madras establishment in "the year 1780," says Dr. Ruddiman, "was with Colonel "Baillie's unfortunate detachment, which was cut off by Hyder "Ali. The surgeon above mentioned, whose name was Wil- "liam Raine, had his nose completely cut off by a sabre, all "but hanging by a bit of skin. He, poor fellow! did nothing "more to it, than put it carefully up in its proper place, and "only bandaged it with a shred or two of his handkerchief; "and, strange to tell, it did well, and we, Madras gentlemen, "knew him well, many years after he came out of prison. "I remember," continues Dr. Ruddiman, "an instance in "one of our native troopers, when I was in the field, under "General Coote, against Hyder, in 1781. This man had his "nose completely cut through by a sabre, from the termination "of the bony part; to the degree, that when he came for chi- "rurgical aid, it was literally hanging down on his mouth, and "he was bleeding exceedingly. I did nothing more than wash "it clean with luke warm water, put it carefully and steadily in "its proper place, give it a few stitches with a ligature, support

"it

" it on the outside with little bolsters of lint on the sides, and " hollow dossils inside, and dress it simply as occasion required; " and, in a few weeks, the trooper's nose was as firm, as " handsome, and as sound as ever."

In neither of the foregoing examples, however, was there that perfect separation of the parts, which is described by Fioravanti, Garengeot, and others. The integuments were never wholly cut asunder. Dr. Ruddiman, in the mean time, subjoins an observation which, though under circumstances less conclusive than the foregoing, relates to examples of total separation: " Among the natives in towns and " villages," says my correspondent, " it is usual for male- " factors, viz. in cases of petty theft and other minor " crimes, to be sentenced to have their noses cut off in the " *bazar*, or market-place, by the common *chuckler*, or execu- " tioner; on which occasion, the executioner always makes a " point of throwing the amputated nose into the fire; because, " say they, were the offender to have possession of his nose, he " would have nothing more to do, than, the moment it is cut " off, put it into its proper place, well secured; where it would " unite, and be as good as ever again. This I have never seen " done; but I have often heard it asserted as a fact by the natives. " The recovery in India," adds Dr. Ruddiman, as a general remark upon these facts, " of wounds of the most desperate " description, many of which would be looked upon, in England, " as incurable, is surprizing; and I can only attribute it to the " warmth of the climate, and to the very abstemious regimen

" to

" to which the natives most rigidly adhere, chiefly boiled rice, " with its water and decoction, and a very little salt, just " barely to give it the slightest zest."

To these new examples of adhesion, it is proper that I should add a testimony of the opposite kind. Captain ——————, a nephew of Sir Charles Malet, but whose name I have not the honour to recollect, has assured me, that he was present, a very few years ago in Syracuse, when a Turk lifted his scymetar against a Syracusan, and cut off his nose. A surgeon of the city was at hand, and immediately replaced the nose; but though every circumstance of expedition, climate, and season, was in favour of the experiment, it did not succeed.

Of the possibility of uniting the integuments of one man with the integuments of another, in other words, of the success of an animal graft, where the original circulation in the graft was not maintained till the new adhesion had taken place, an example is contained in a letter from my experienced friend and fellow pupil, Mr. Sawrey. Mr. Sawrey was some time ago applied to by a Swedish gentleman, now resident in London, who, " when " a boy, exchanged a piece of the skin of his arm with a school- " fellow, as a mark of indelible affection. The piece which was " transplanted united with the skin of the arm, both in him and " his friend, as he informed me; and, certainly, marks of its " having done so remained in him at that time."

The adhesion of divided Tendons is now known to be easily procured. It was formerly the practice, in ruptures of the Tendon Achilles, to hold the parts together by stitches; but all which is

at

at present thought necessary, is to bring them into contact, and leave them to the natural process of adhesion.

The union of divided Arteries, is a known act of nature: "In "many inflammations of the eye," says Mr. John Hunter, "we "find an artery, or arteries, passing from the tunica conjunctiva "to the cornea, and ramifying on the part. These have often "been cut across, to prevent the influx of blood; the two ends "are seen to shrink; but in a little time they are again perceived "to unite, and the circulation to be carried on as before."*—This union, however, must be understood of small arteriesonly.

The medical reader will, I trust, be interested in the following case of taking up the carotid artery, which my professional avocations have hitherto prevented me from publishing.

On the 3d of October, 1803, Mr. G. a shoemaker, residing in Little Coram Street, Tavistock Square, being engaged in a quarrel with his wife, went behind her, and with a square shoemaker's knife, stabbed her in the side of the neck. A violent hæmorrhage followed; but a female lodger in the house, who had formerly been an hospital nurse, happened to pass the room-door at the moment, and immediately flew to the woman's assistance. Having a cloth already in her hand, she applied it to the wound, and kept it there with the strongest pressure. Dr. Cairns, formerly a surgeon in the navy, and now practising as a physician at the Cape of Good Hope, instantly attended. This gentleman used every effort to tie the jugular vein, and left common carotid artery,

* Hunter's Treatise on the Blood, &c.—4to. Edition, p. 193.

artery, both of which were divided; but the hæmorrhage was so considerable, that this was impracticable. In this state of the patient, he desired my assistance. On hearing his account, I requested him to remove the pressure, in order to my seeing the parts; but he said, that this was impossible, as the patient would immediately bleed to death, and assured me that the use of the tenaculum and forceps was impracticable.

In this extremity, I proposed to him, to pass a ligature round my wrist, to be used as hereafter described; and, this done, to take off the pressure, and admit my thumb and finger into the wound. The hæmorrhage, as he had forewarned me, was truly dreadful; but I succeeded in laying hold on every part within the wound, théca, artery, vein, and nerves, down to the vertebrae. I now desired him to slip the ligature over my fingers, and make it tight on the parts which I held; which being done, the hæmorrhage completely ceased. At the time the ligature was tied, the left eye protubed dreadfully from its orbit. Mr. Tweedie, of Southampton Row, was present, and assisted in tying the artery.

The woman was kept in the same position, and forbidden to eat or drink. Sir Richard Ford attended, from Bow-street, to take her deposition; but I told him, that if she lived, which I much doubted, it would be from her being kept perfectly quiet. Mr. Allcock, my pupil, since deceased, remained with her. So little hope had I of her recovery, that I informed Mr. Allcock, that I would return in two hours, when I supposed she would be dead; that we would dissect the parts, when

when I apprehended we should find, that we had not only tied the jugular vein and common carotid, but included the par vagum, and great intercostal nerve. On my return, however, to my equal surprise and gratification, she was still living. Her pulse was very low; and the right side of her head was exceedingly cold. She had some sleep, and did not seem to be in much pain. Sixteen hours after tying the artery, I allowed her a small quantity of cold barley-water. I kept her strictly upon the antiphlogistic plan for eight days, scarcely allowing her any food, and none which required mastication; when the ligatures came away without the least hæmorrhage, and the parts gradually healed from the bottom. The woman's age was about fifty-five; and, though neither sickly nor emaciated, she was of a spare habit.

The union of divided Nerves has discovered itself under circumstances nearly similar to that of the union of arteries, as described by Hunter. In a case of Tic Douloureux, which disorder is a painful affection of the nerves of the face, particularly of the infra-orbital nerve, that nerve was several times divided. It united as often; and the pain, which its division was intended to remove, in consequence returned. The patient was not relieved, till, being cut once more, the divided parts were artificially kept asunder. After this, the wound healed from the bottom, by granulation, and the pain did not return.

The union of divided Cartilage is generally, and probably with reason, held to be impossible. I shall recite, however, in this place, a case which has occurred within my own practice;

and which, if it does not exhibit the union of divided Cartilage, is, at least, a striking example of adhesion in general. The wife of a baker, in Whitcomb street, near the Haymarket, in a fit of insanity, cut her throat obliquely through the cartilaginous rings of the trachea, or windpipe. It being impracticable to confine the motions of the woman, so as to keep the divided parts in contact, I fastened them by ligature; and, though I had considerable trouble, a complete cure was effected: the patient recovered, and is still alive. In this case, it may be said, that it was not Cartilage which united with Cartilage; but that the adhesion took place by means of the perichondrium and contiguous muscular fibres.

In the second Nasal Case which is to follow these remarks, I have witnessed the actual adhesion of Cartilage to the integuments of the forehead; and, in many instances, where noses have been slit, the parts have very readily adhered.

II. But, though the natural end of this general aptitude for adhesion is the reparation of injury, and restoration to the pristine state, by uniting parts which are properly one, and ought never to have been divided; yet the process appointed for this purpose is equally capable of causing unnatural unions between parts foreign, or not properly connected with each other, and even of causing those adhesions between parts of separate animal bodies.

Duhamel, so well known for his researches upon trees, was not less inquisitive upon the properties of animal bodies. That philosopher repeatedly made the experiment of cutting off the

spurs

spurs of cocks, and inserting them into their combs; where adhesion uniformly took place, and the spurs grew with even more luxuriance than naturally on the legs. In these cases, preposterous adhessions were procured between foreign parts of the same animal body; but Duhamel went further, and placed the spurs of cocks on the legs of hens, and the spurs of hens on the legs of cocks, when most of them, though not all, adhered, and grew. Here, adhesion was procured between parts of one animal body, and the parts of another animal body, but of the same species.

Mr. John Hunter repeated Duhamel's experiments, with the same success as himself; and, even pushed the adhesion of parts of separate bodies to a still greater extent, by taking the part from a human body, and placing it on that of a cock! He drew the tooth of a young man, and introduced it into the comb of a cock, where adhesion followed. The cock was afterward killed, and injected with fine injection. The arteries of the comb had formed an union with the arteries of the internal membrane of the tooth. The reality of this experiment and result have been called into question; but the preparation is now in the Hunterian Collection, at the College of Surgeons; and Mr. Astley Cooper

* That the spurs of a cock will grow more vigorously on his comb than on his legs, is accounted for, by Duhamel, upon the supposition, that the animal juices are supplied more plenteously to the upper than to the lower extremities.—For Duhamel's experiments, see the Memoirs of the French Academy of Sciences, for the year 1746.

has repeated the experiment; has obtained a like result; and is in possession of a similar preparation.

In truth, there is but one and the same principle for producing success in this experiment, and for producing it in the operation, known to be frequent among dentists, in which a tooth is drawn from the jaw of one person, and, after being washed in warm water, inserted into that of another, where it usually grows, as intended. A human tooth and a cock's comb are confessedly heterogeneous substances in themselves, and parts from separate animal bodies; but equally so are the tooth of one man and the jaw of another, and the cause of union is in either case the same. It is as heterogeneous to transplant a tooth from one jaw to another, as from a jaw to the comb of a cock; in neither instance do we seek to unite the tooth with a tooth; but, in both, to unite the arteries of the tooth with the arteries of its foreign receptacle. The experiments of Messrs. Hunter and Cooper only surmount this further difficulty, that of procuring adhesion between the parts of bodies of different species of animals.

As to the union of a tooth with the body, but not with the part to which it naturally belongs, a curious example has fallen under my own observation. At the York Hospital, in the year 1796, there was a patient who had a compound fracture of the inferior maxillary, or jaw bone, occasioned by a ball.* It was four months

* The ball, in inflicting the wound, took the impression of the bone and teeth. I have extracted a great number of balls; and have found, that when they come in contact with a hard

months before the parts were healed. Considerable exfoliations took place. The patient, not being able to masticate, was fed with spoon-meat. When the wound was at length healed, he was allowed boiled meat; upon which he soon informed me, that the attempt to swallow produced so much pain in his tongue, that he wished to return to his former diet. On examining the part, I felt, rather more than an inch from the apex of the tongue, something which was exceedingly hard. Imagining that it might be a splinter of bone, I made, with much difficulty, an incision between the genio-hyoglossi muscles, which form the centre of the tongue, and laid hold on the hard substance with my forceps; when, to my great astonishment, I extracted a bicuspid or double tooth, which had been forced from the jaw into this place! The tooth was of an excellent colour, and there was no discharge from the muscles; so that it must have retained its vitality. If it had not done this, it would have lost its colour; as in the case of the teeth of the dead subject, when decomposition has commenced. Thus, the vessels of the tongue must have united

hard part, they invariably take the impression; and, often, as completely as the wax takes the impression of a seal. A remarkable instance follows. A patient from the army in Holland, was brought into York Hospital, in consequence of a gun-shot wound. The thigh was exceedingly swelled, and, in a few hours, the man died. The wound was in the middle of the front of the thigh. I examined the part, and found that the ball had encircled the surface of the bone, passing through the extensors, and to the muscles inserted into the linea aspera, and lodged only an inch above the place at which it had entered. It was impressed on two sides with the form of the bone, including even the figure of the fibres. I presented this ball to my friend, Mr. Keate, the Surgeon-General.

united with those of the tooth; being precisely the same union as where teeth are transferred from one head into another, or where teeth or spurs are inserted into the combs of cocks.

III. Taliacotius appears to have been the first to advance the proposition, whether well or ill-founded, that the art of procuring adhesion between the parts of animal bodies was derived from that of ingrafting, in the cultivation of trees.* To some, the converse of this doctrine will appear quite as probable: namely, that adhesions of the parts of animal bodies being presented to men's eyes by the course of nature itself, while no such adhesions are naturally wrought in vegetable bodies, it is more simple to conjecture, that the art of ingrafting, and the knowledge of adhesion, in the cultivation of trees, was derived from the adhesion of parts of animal bodies. Be this as it may, the existence of similar properties in this respect, in animal and vegetable bodies, serves to confirm to us the universality of the process of adhesion, and to familiarize us with its effects, and the phenomena which may be produced from it. In what follows, we shall see, in the bodies of trees, capabilities precisely resembling those which have been just adduced in animals; that is, adhesion and growth between foreign parts of the same body, and between the parts of different bodies.

No person doubts that a graft may be taken from one part of a tree and ingrafted on another part; and it is known, that

* See above, page 10.

that if a scar is made on the trunk or limb of a tree, bark will gradually grow over it.*

Of an union of the bark or *integuments* of foreign parts of the same tree, the following instance, of which I have been informed by the Honourable Philip Roper, formerly of Sittingbourne, in Kent, affords an interesting example. About sixteen years ago, some sheep having broke into the orchard belonging to a neighbour of Mr. Roper, and barked nine fruit-trees entirely round, and for a considerable height, the owner was advised by a neighbouring gentleman, to whom he related the accident, to make an experiment for restoring the communication between bark and bark, and thus preserving the circulation of the sap. Boughs were cut from the trees, and stripped of their bark, of which four strips were fastened perpendicularly on the trunk of each tree, in such manner that their lower ends were in contact with the edges of the bark next the roots of the trees; and their upper ends in contact with the bark on the upper part of the trunk, as in Figure I.

(*Figure*

* "The shapes of trees may be greatly improved in their youth, by taking off the "strongest of the collateral branches. It will much strengthen the upright or leading, "shoot, and the timber will be much the better for it; for, if a large branch be suffered "to remain, it causes a knot in the timber, if it keeps alive; if it dies, it continues further "to decay, and the wet passes through the pores, and causes the body of the tree to "decay; but, were either those, or the growing ones, cut off an inch from the body, "*the rind would grow over it,* and preserve the timber. The part should be made "extremely smooth, and quite perpendicular; otherwise the wet will rest upon it, and "enter the body of the tree." Stacpoole's Historical Anecdotes, &c. relative to Ireland. Part I, Corke, 1762.

(*Figure II.*) (*Figure I.*)

(*a*) (*b*) (*c*)

The experiment perfectly succeeded; adhesion took place; the circulation of the sap was restored; and, after some time, the bandages, by which, at first, the adscitious bark was held to the trunk, were no longer necessary. Eight trees, out of the nine, were preserved; and were, this last season, in full bearing.

Of the union of vegetable bodies, many remarkable facts are known: "Where three trees (Figure II) are inarched," says Dr. Hales, "and thereby incorporated, the middle tree will then grow, "though it be cut up from its roots, or the root be suspended "in the air;" and for this he assigns the reason, that the "middle tree, (*b*), attracts nourishment strongly from the ad- "joining trees (*a*) and (*c*)."* The same experiment was a few years since successfully repeated, by the late Dr. Hope, at Edinburgh, upon three willows; and the middle tree lived in great health and vigour: "It was observed," says Dr. Smith, in his Introduction

* Hale's Statics, vol. i, 132.

troduction to Botany, " that the central tree was several days " later in coming into leaf than its supporters; but I know not " that any other difference was to be perceived between them."*

By what has preceded, the reader will have been fully satisfied, that a restorative adhesion of the wounded surfaces of organized bodies is a fixed and ordinary law of nature, to be defeated only by peculiar circumstances. Nature, here, as in every other instance, strives to accomplish her process in spite of obstacles; and obeys, zealously though blindly, the mandate she has received. Hence, determined on adhesion in all possible cases, she effects it, as has been shown, not only where it agrees with the original adaption of the parts, but wherever their organization permits. She effects it, not only where we desire it, but where we deprecate it; and this for the plain reason, that it is the congruity of the organization of the parts, and not the congruity of their forms, nor of their uses, which belongs to her purpose: " Accident," says Hunter, " or " rather want of attention, has, in some instances, been the cause " of union taking place between different parts of the body; " the chin has been united to the breast, the tongue to the lips, " or cheek, &c."† So, in dressing the sores occasioned by burns, the utmost diligence is necessary for keeping the raw parts asunder; because, if the *fingers* and *toes* were suffered

* Smith's Introduction to Systematical aud Physiological Botany; 8vo. 1807, p. 61.

† Treatise on the Blood, &c. 4to. p. 208.

to touch each other at these times, or the back of the ear and the head, there would be a symphysis, or growing together. —But further facts cannot be necessary, to prove the reality of adhesion of wounded surfaces, under appropriate circumstances, whether in animal or in vegetable bodies.

ADHESIVE INFLAMMATION.

After considering the *facts* of adhesion, our next inquiry regards the *means* or medium. In animal bodies, the means is *adhesive inflammation;* in vegetable bodies, it is a process which seems in a great measure similar.

Adhesive inflammation, or the inflammation which ministers to adhesion, is a consequence of violence done to the blood-vessels. This inflammation produces a change in the constitution of the blood.

Blood, in the living animal, and in a healthful state, may be separated into three substances, forming one homogeneous fluid.

If blood is drawn from a blood-vessel, and suffered to grow cold, it readily separates into two parts; a coagulum and a fluid; the first floating or swimming in the latter.

The coagulum is called crassamentum; the fluid, serum.

The crassamentum contains two parts of the blood; red globules, and the coagulating lymph. Wash away the red

globules,

globules, and the coagulating lymph remains. The coagulating lymph is of a jelly-like substance, white and semi-transparent; and, on inspection, is found to be fibrous. The fibres are sensible to the galvanic influence.

This separation of the three parts of the blood, which while the blood is in a healthy state, is only to be artificially effected, follows naturally upon the inflammation produced by violence on the vessels.

In a cut or incised wound, blood is at first effused in an undivided state; but, as soon as inflammation supervenes, a division takes place. Of the blood which is poured out from a wound, a portion remains between the lips; of this portion, in its divided state, the serum and red globules are absorbed, or escape,* and only coagulating lymph is left. This lymph,

 which,

* Mr. John Hunter, who has examined the component parts of the blood, and made many experiments concerning them, observes, that when you wish parts to unite by adhesive inflammation, you should not apply your adhesive plasters close to each other, but leave a space between the strips or straps.

At the time when our troops were in Holland, a great number of wounded men were sent to York Hospital; on seeing the frequence of apparent secondary hæmorrhage after amputation, I became desirous of satisfying myself whether the fluid effused consisted of blood in its undivided state, or of a fluid composed only of the red globules and serum. For this purpose, after amputations, I placed the stump on a pillow, with the extremity projecting beyond it, and a saucer to catch the droppings. In some instances, I collected two, three, or four ounces of the fluid; some of which I gave to my friend, Dr. Pearson, requesting him to analyze it,; but, unfortunately, his professional avocations did not allow him leisure to bring the question to that test. Meantime, from the non-coagulation of the fluid, I concluded, that I had to do only with serum and red globules, escaping from the wound, according to the hint of Mr. Hunter; and, whatever might be

the

which, from its glutinous substance, is an immediate cause of the holding together of the lips of the wound, and becomes presently the *means* or medium of permanent adhesion.

INOSCULATION;

OR,

MANNER OF ADHESION.

It remains only to speak of the *manner* in which adhesion is effected, through its *medium* of coagulating lymph. Much has been said and written on adhesive inflammation; but, in truth, we do not clearly understand what actually takes place in this extraordinary union. A part is divided; and being brought into contact, the cut surfaces are united by coagulating lymph. Is this the lymph separated from the red particles and serum, which has escaped between the interstices of the straps; or, does this serve as a bed for the vessels to shoot into, and inosculate? * Or, does it become organized by vessels shooting

the accuracy of this explanation, I found myself justified, by the fullest experience, in the important practical inference, that the effusion of the fluid in question, commonly confounded with secondary hæmorrhage, does not require a removal of the dressings; its appearance being unconnected with the bleeding of any large artery, and the consequent necessity of tying. *Query:* Is the fluid in question composed of serum, as above; or, is it a peculiar secretion? In secondary hæmorrhages, the fluid invariably coagulates.

* Inosculation, or anastomosis, is the process by which nature re-establishes the communication between those divided vesssels, of which the mouths are *closed*, and *not* again united. This consists in the reciprocal shooting *out* of new vessels from the sides of the divided parts of

ing into its substance? Or, is coagulating lymph poured out by the arteries, when the part is inflamed? Or, does galvanic attraction take place? By one of these or other means, a perfect adhesion and incorporation of parts is established.* This,

of the vessels; which new vessels also reciprocally shoot *into* the sides of the opposite divided parts. While a pupil of the late Dr. Marshal, my friend, Mr. Sawrey, injected with fine injections, a stump which had been left after amputation some years before; and, upon dissection, observed, that the arteries had grown from where the ligature had been applied, shooting out lateral branches, as a tree of which the top has been cut off. I had an opportunity of making a similar dissection, in the case of a stump of ten years standing, and the appearance was the same. Veins also must have grown in a similar manner, or circulation could not have been carried on.

* Dr. Balfour, whose doctrine of adhesion extends to parts which have been wholly separated, and in one of which circulation has ceased, is of opinion, that Taliacotius gained nothing by the elaborate apparatus and tedious process, by which he preserved the original circulation in the graft, till adhesion to the new stock had taken place. He thinks the same precaution, observed in the Indian method, equally unnecessary; and offers the following theory of adhesion after total separation:—"What, then, is the process which Nature "follows in re-establishing a connection betwixt the animal system, and a part that has "been entirely separated from it? It is agreed upon, as the result of observation, however "inexplicable the facts may be, that when two recently divided surfaces, both of which are "still connected with the system, are applied to each other, with a view to immediate "adhesion, or reunion by the first intention, a layer of gluten is first interposed between "them. It is reasonable to suppose, that both surfaces contribute equally to the formation "of this layer, which, soon after, is seen to be penetrated with blood-vessels. These "vessels, however, are not unconnected, in any stage of their existence, with the surfaces. "They do not begin in the substance of the layer, and advance to the surfaces. They begin "at the surfaces, and advance towards each other; or, more properly speaking, they are the "blood-vessels which had been divided, now elongated, through the medium of the orga-"nizable fibrin, for the purpose of reuniting the parts. Not so with parts that have been "entirely separated from the system, and in which circulation has ceased altogether. The "fibrin,

This, in the case of accidental, simple, incised, or cut wounds, is the cure by *the first intention:* Nature trying this *first*, and resorting to no other if she finds this sufficient; and human aid being no way beneficially applicable, except in assisting to bring the lips of the wound into contact, and keeping them so. In the case of artificial incision, the cure is the same; and hence the practicability of causing the adhesion of a new nose to the face.

RESARCIRATION, GRANULATION;

OR,

FORMATION OF NEW FLESH.

We arrive at the second, and only additional physiological principle upon which the Nasal Operation proceeds, and which constitutes a particular, in relation to the formation of the new nose, hitherto untouched in this discourse, but for an ex-

" fibrin, in this case, must be effused from one surface only, that connected with the " system. The vessels of this only can be elongated; and those of the separated part must " be nearly passive in the process of re-establishing circulation. The separated part must " be considered in a state of suspended animation, still possessing excitability. When new " blood comes in contact with the open mouths of its vessels, it is probable that it is " absorbed by capillary attraction. This new blood, being the proper and natural stimulus " to its own vessels, must excite the dormant vessels to action; and upon this action must " depend the connection that is formed between them and the vessels projected from the " living surface. Circulation between the surfaces, being thus established, must be gradu- " ally extended through the whole part that had been separated, by the *vis a tergo*, and the " action of its own vessels."—Observations on Adhesion, &c. p. 39.

explanation of which the reader will eagerly inquire. We supply to the new nose only the common integuments of the forehead, which, it is to be confessed, may include a few fibres of the occipito-frontalis and corrugata-supercilii; but we supply no cartilage. In the first of the Cases before us, the reader will find me describing the integuments, even after adhesion had taken place, as lying like a curtain upon the face, and rising and falling with the breath; yet these empty integuments, without the support of cartilage, or of any substitute, come, with time, to project, like an ordinary nose, and possess fleshy substance. For this, we must look to a second operating cause.

When the wound inflicted on a part is not of a description to receive a cure by the *first intention*, that is, by adhesion; as well as when, from any cause, Nature is disappointed in that mode of cure, she resorts to a *second intention*, that is, *granulation*, or the production of graniform particles of new flesh, to fill up the void: thus to accomplish, by a second aim, the single purpose of producing the union of parts. It is by granulation, called, by Taliacotius, *resarciration*, or the formation of new flesh, that substance is given to the new nose.

RECAPITULATION.

Finally, we may reduce what has been said upon physiological principles within the narrow compass which follows; and therein convey the entire *theory* of the art under review. First, the

Nasal

Nasal Operation is the infliction of a wound or wounds, for the purpose of procuring adhesion between the integuments of the face and the integuments to be united with them : and the wounds are cured, and the added part is incorporated and nourished, by means of *inosculation.* Secondly, the new nose, which, as far as the hand of the operator is concerned, consists only in empty integuments, is filled and rendered substantial by a further process of Nature, in which flesh is produced in the manner denominated *granulation.*

AN ACCOUNT

OF

TWO SUCCESSFUL OPERATIONS,

&c. &c. &c.

CASE I.

In the month of September, 1814, I was applied to by an Officer in his Majesty's army, whose nose was in a mutilated state, and who introduced himself to me by saying, " Sir, " you see my unfortunate situation. I was informed, at " Gibraltar, that you had performed the operation for restoring " a lost nose. I am in the army; and, having been bred to that " profession, I wish to undergo the operation, in order to put " myself again in condition for active service."

I readily consented; but, at the same time, apprized my patient, that what he had previously heard, was founded in mistake. I had long wished for an opportunity of performing the operation; and, for the space of fifteen years, had constantly recommended it to my pupils. I

added, that I considered it as by no means dangerous, and that it might be practised in either of two methods: the one, the Italian, or, as it is commonly called, the Taliacotian, in which the part is supplied from the integuments of the arm; the other, the Indian, in which it is taken from the forehead.

The patient went to Egypt in the year 1801; but, becoming affected with a liver complaint, was obliged to return to Europe. At Malta, as well as previously in Egypt, mercury, the usual remedy in such a case, was employed. Being subsequently ordered home, he went to Ireland, where the same plan was pursued. Returning from Ireland to London, after being attacked by a sore throat, he consulted Mr. Heaviside, who was decidedly of opinion, that the sore throat was *mercurial*, and not *venereal;* and advised him to discontinue the use of mercury. Unfortunately, the gentlemen to whose care he committed himself were of a contrary opinion; and, hence, the mercury was persevered in. Very shortly after his consultation of Mr. Heaviside, his nose became affected: and, upon this, the mercury was increased; the practitioners being but the more convinced that the complaint was venereal. The consequence of this excessive use of mercury was, that the septum of the nose began to slough, &c. The patient's constitution being, at the same time, greatly injured, the mercury was at length laid aside. Thus relieved from the occasion of his sufferings, he gradually recovered his health; but with the loss of the septum, all the anterior part of the cartilage, and, in truth, the whole front of the nose, a small portion of the alæ, or sides

sides of the nostrils, excepted. The nasal bones remained entire.* *(See Plate I, facing the Title.)*

Considering, that if my attempt succeeded, I should introduce into the London practice an operation, the propriety of which I had for fifteen years recommeded to my pupils, I was the more anxious to have a case in which success would in all probability follow. Knowing, that in India, the operation was usually fortunate; but, from the observations of Dr. Ruddiman, given in these pages, on the facility with which, in that country, divided parts unite, I was led to think, that without adverting to the difference of climate, there were circumstances which rendered my prospects not equally favourable. In the case presented to me, the parts had sloughed from disease; in India, they were divided by art, leaving a healthy base. In this case, too, the constitution had been impaired by the liver complaint and its improper treatment. The question to be decided was, is this a fair case for trial? I wished to determine that point; and, therefore, under pretext of preparing for the operation, I made incisions near the remains of the alæ. The wounds healed; and, being satisfied, now, that I had healthy parts to act on, I had little doubt of

 complete

* The mischievous effects of the abuse of mercury are beyond description. In my daily practice, I witness consequences even more melancholy than those experienced by this patient. The value of mercury in medecine is incalculable; and, in Lues Venerea, *there is no cure without it.* In the mean time, the mistaken, or excessive, use of it is one of the greatest and most prevalent scourges to which society is at present subject. See the certificates of Messrs. Heaviside, Pearson, and Lamert, printed in the APPENDIX.

complete success. I relied on adhesion taking place before the cold weather set in. I next, after the practice of the Indian surgeons, to whom the whole merit of the method belongs, formed a nose of wax, and commenced a series of experiments on the dead subject. I operated in that manner eleven times. At this period of the undertaking, I consulted my friend, Mr. Sawrey, whose opinion coincided with my own. From him I received much assistance in planning and executing this new operation, and in its subsequent stages; as likewise from my friends, Messrs. M'Lochlin, Morris, and Domville, surgeons of Greenwich Hospital. I also performed the operation in my theatre on the dead subject, before my pupils, and a number of medical friends, who obligingly attended, and who unanimously agreed to the propriety of the operation. At length, on the 23d of October, accompanied by my friends, Messrs. Sawrey and Warren, and in the presence of Mr. Lamert, surgeon to his Majesty's thirtieth regiment of foot, who attended at the request of the patient, I proceeded to perform the operation.

The patient's forehead was unusually low, and, on that account, some days previously to performing the operation, I removed the hair, by the roots, from the scalp; the integuments of that part being required to form the septum or base of the nose. This portion of the integuments to be dissected, was my only subject of uneasiness; my fear being, that the hair would grow, and prevent adhesion.

Having

Having well ascertained the size of the graft required, by means of a wax model, which I then flattened, and laid on the forehead, I drew the outline round it with red paint. I drew lines, also, on the sides, where I was to make the incision, and a line beneath for the septum. This done, the patient leaped upon a table, and, laying himself on his back, with his head supported by a pillow, refused to be held; saying, "I hope "I shall behave like a man!" Nor did he make the smallest complaint during the operation.

I now made an incision on the right, and then on the left; and dissected out a sufficient quantity of the face, with some muscular fibres of the Compressor Nares, and the Levator and Depressor Labii Superiores Alæque Nasi, to receive what was to be dissected from the forehead. I made a simple incision for receiving of the septum, considering, that the inner part of the integuments would certainly unite with the upper part; and that if, when adhesion took place on the upper part of the lip, hairs should grow on the lower part of the integuments intended to form the septum, and the old and new parts, in consequence, should not unite, I could then, with greater safety, dissect the roots of the hair from the part, and bring it into contact with the lower part of the incision. My apprehensions, however, appeared, ultimately, to have been groundless; for both surfaces readily united, and an excellent septum was formed.

The parts of the face being prepared for the reception of the new nose, I began that part of the operation which belongs

to

to the forehead, by making an incision along the lines I had drawn. I then dissected the integuments, merely leaving the pericranium. The angular artery, on the left side, bled freely; but the loss of blood was very inconsiderable, and there was no occasion for tying the artery. The part which was dissected, and which hung down, became of a purple colour; and the patient, at this period, informed me, that his forehead felt extremely cold. I applied warm sponges, which afforded great relief, and which were continued during the remainder of the operation.

My next steps were to make the *turn* of the dissected parts, and, introduced the septum into the incision of the upper lip, where I confined it by ligature. After this, I brought the integuments exactly into contact with the integuments on the left side, and fixed them also by two ligatures; and, then I did the same on the right. I introduced lint to distend the nostrils, and applied straps of adhesive plaster to keep the integuments in contact. Every thing being thus done for the nose, my concluding care was to bring the edges of the integuments on the forehead, and between the eyebrows, as near together as possible, and keep them so by means of adhesive plaster.

A brother officer of the patient having been in the room during the operation, and kept an account of the time by his watch, I am enabled to state that it occupied exactly a quarter of an hour; the dissection having employed nine minutes, and the ligatures six. After this, the application of the necessary bandages, changing the linen of the patient, sponging away the blood, and placing the patient in bed, consumed twenty-two minutes

minutes more ; making in the whole thirty-seven minutes. Short, however, as was the time, had it not been for my habit of frequently performing operations on English soldiers, I must have been astonished at the fortitude with which my patient went through this. When it was past, he observed, that " It was " no child's play—extremely painful—but there was no use in " complaining ;—that he felt little or nothing, after the dress- " ings were applied." His resolution is the more worthy of observation, because there was, in his case, no prior example of success, either in my own practice, or in England, to support his confidence in me, or mine in the certainty of the result.

The patient, being put to bed, enjoyed some sleep. The room was kept very warm, and a flannel laid on the patient's head. In the night, there was hæmorrhage, but not in any quantity. Perfectly quiet the next day. Pulse as before the operation. Much inclination for food, but allowed only barley-water and warm jellies.

On the third day, I took off the dressings. It will be supposed, that I felt exceedingly anxious on this occasion; for, though I had every reason to expect adhesion, it was possible that it had not taken place. The parts, however, adhered; and I had the high satisfaction to hear the officer, before alluded to, exclaim, from the foot of the bed, " My G—d, there *is* a nose ! "

Adhesion, agreeably with my most sanguine hopes, had taken place in every part; and the nose was of the same colour with the face. Meantime, it was perfectly flat, and rose and fell with every inspiration and expiration. This state of the nose,

together

together with the wound of the forehead, as it was left immediately after dissection, is represented in Plate III, in which *Fig.* 1, is the dissection or cicatrix on the forehead; *Fig.* 2, is the portion of integument dissected off to form the septum of the nose; and *Fig.* 3, the flat nose.* The flatness of the nose alarmed me with a fear of its preserving a very unsightly appearance; and, to remedy this, I thought of procuring the air-bladder of a fish, which I proposed to introduce into the nose, and then inflate, with the design of raising the point of the nose. My apprehensions, however, on this, as in other parts of the cure, were groundless. Nature worked with me, and raised the nose by her own means.

Fourth day. Cut away two ligatures, and dressed the forehead, which appeared in a very healthy state.

Fifth day. Nose in a very good state. Granulations formed on the forehead. Endeavoured to bring the edges of the wound as much into contact as possible, by means of adhesive plaster.

Sixth day. All the ligatures removed. Patient now allowed meat, but particularly desired not to masticate.

Seventh day. Patient, having a good appetite, ordered broiled kidneys, of which he ate one with impunity. In proceeding with the second, he suddenly felt a peculiar sensation, as if the new parts had separated from the old. I was immediately sent for. On examining the nose, I found, that on the

* In Plate III, for the convenience of readers unaccustomed to the use of anatomical terms, Figure 4 has been added, in which 5,5 are the *alæ*, and 6 the *septum* of the nose.

Plate 3

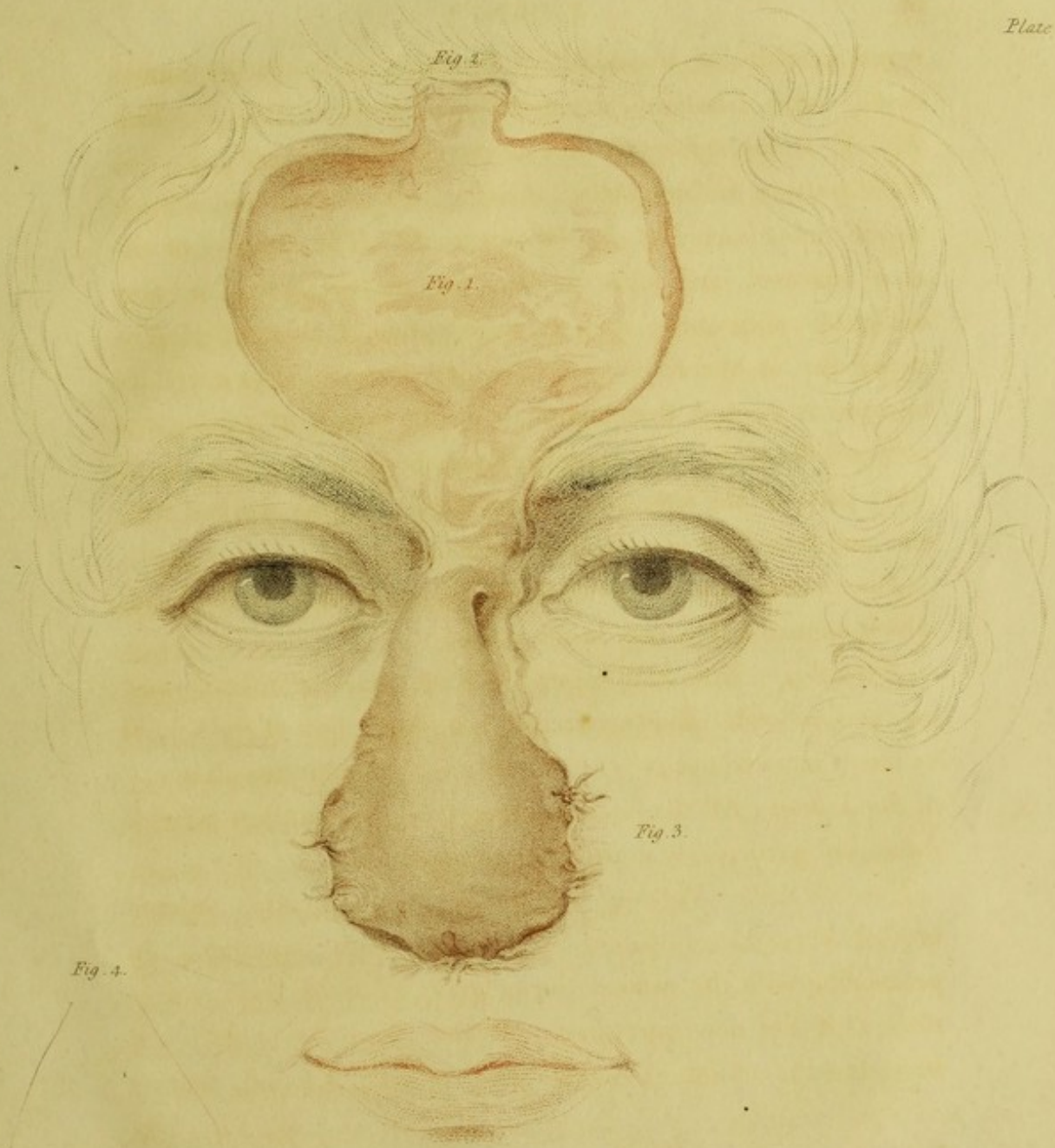

Fig. 2.

Fig. 1.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 5.

Fig. 6.

C. Turner Sculp.

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Plate 4.

Fig. 2

Fig. 1.

Fig. 3

C. Turner fecit.

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the left side, a small portion of the newly-united parts were divided. The greater part of the fissure was again made to unite; but a small part remained open, as it still does, though, with time, its filling up is not to be doubted. The open part is represented at *a*, Plate IV, figures 2 and 3.

Eighth day. Room exceedingly warm. The heat oppressed us all, and the patient was near fainting. At this time, the face lost its colour, and the nose with it; but, on ventilating the room, the face regained its usual complexion, and the nose also.

Ninth day. Nose became œdematous. See plate IV, figure 1.

Twelfth day. Nose very large, being much distended with œdema; and compression appeared to do more harm than good. At this period, Professor Assalini saw the nose. It was so large, that the Professor advised me to make an incision, and cut part of it away. I asked him, whether he did not consider it œdematous; that in time absorbent vessels, as well as arteries, would form, and that absorption might remove the deformity? On reflection, he had no doubt that this would be the case. Within a month afterward, the nose began to decrease in size.

Twentieth day. Nose inclined to rise on one side; but drawn down by adhesive plaster.

Four months after the operation, I made a dissection of the integuments on the bridge of the nose, which I united from the turn, which had disappeared, and confined them by ligature; being of opinion, that if, in this cold climate, I followed that

part of the Indian method, which consists in removing the turn, by which is carried on the circulation from the parent parts, the nose would slough; as seems to have been the case, in the story related by Van Helmont, and in others referred to by the early writers. In no other particular of importance, have I departed from the Indian method.

The œdema at length subsided, but left the nose very flat. Subsequently, however, granulations formed, and the nose experienced a healthy enlargement. To ascertain, from time to time, whether the nose, after being relieved from œdema, increased in its projection from the face, I caused the patient to place himself in such a situation as allowed his profile to be drawn upon a wall; and, by making the comparison every two or three days, I had the pleasure to see its gradual increase demonstrated.

In the present state of the nose (Plate IV, figure 3), though there is neither bony or cartilaginous septum, yet the anterior or projecting part is solid, and has every appearance of a natural nose. The nostrils are gradually growing bigger, and the secretion takes place as usual. The forehead was healed in three months; and the size of the cicatrix is that which is represented in the plate (Plate IV, figure 4,). I am happy to add, that the nose is improving every day, and that the trifling deformity which is still to be observed at letter *b*, is capable, as I trust, of being removed by a very simple operation.

CASE II.

At the battle of Albuera, in Spain, which was fought on the 16th of May, 1810, the right brigade of General Stuart's division was sent to the support of the Spaniards, who were driven back from the heights they occupied on the right of the line; and, while charging the enemy with the bayonet, a body of Polish horse lancers coming up unperceived (on account of the heavy storm of rain, which, with the smoke from the firing, prevented any thing from being distinctly seen,) their flank was turned, and they were charged in the rear. Some of the regiments, in consequence, were almost wholly destroyed, the enemy giving no quarter, and slaughtering the wounded and fallen.

At this time, Captain (then Lieutenant) Latham, of the third foot, seeing one of the colours of his regiment in danger of being taken from the ensign who carried it, by four or five of the lancers, sprung to the spot; and, in attempting to seize the colour, he lost an arm by a sabre-cut. Still persevering, with the other hand, he tore the colour from the staff; but not before he received five wounds, one of which took off part of his cheek and nose. One of the lancers now charged him

through the others, and, with his lance, hit him with such force in the groin, as to throw him to the distance of some yards, almost in a state of insensibility, but still with the colour in his possession.

A body of British dragoons at length approaching, the lancers made their escape; and, immediately afterward, the fusileer brigade coming also upon the ground, some of the men of that corps found the colour under the body of Captain Latham, whom they supposed to be dead. The finders sent the colour to his regiment, saying, they had found it under one of its officers, who was killed.

Through some mistake, Ensign Walsh, who carried the colour, was at first mentioned as the officer who saved it, and whom it was found under: but Mr. Walsh, who, after being severely wounded, had been made prisoner, was, the next day, on the retreat of the French, left behind, and at liberty to rejoin his regiment; and it was then discovered by whom the colour had really been preserved. On this occasion, the brother officers of Captain Latham, in acknowledgement of his gallantry, presented him with a medal, which, through the sanction of His Royal Highness the Commander-in-Chief, he is permitted to wear. His Royal Highness was, at the same time, pleased to promote him to the rank of Captain.

The transaction above related, having recommended Captain Latham to the notice of the Prince Regent, His Royal Highness, as will afterward be more particularly mentioned, was pleased, in

in the month of January last, to place that gentleman under my care.

In the state in which the nose was left by the sabre of the enemy, all the interior was exposed, as in plate III, fig. 1. Exclusively of the disagreeable appearance produced, Captain Latham suffered from repeated colds and inflammations.

The right side of the alæ remaining, the patient preferred a cicatrix in the middle of the nose to an amputation of the sound part. I consulted my friends, Mr. Astley Cooper, Mr. Sawrey, and Mr. Anderson, surgeon to the captain's regiment, who were of opinion with myself, that the integuments taken from the forehead would unite with those which covered the side of the nose.

I made an incision on the forehead, as in the former case; as also similar dissections. On making the dissection on the forehead, there was a very considerable hæmorrhage; so much so, that I was compelled to tie an artery. When the flap hung down, instead of the part appearing purple, as in Case I, an artery bled as freely as the temporal artery when opened. This, however, subsided; and there was no occasion for a ligature.

The parts were brought into contact, as in Case I, by means of five ligatures: the only difference was, that the right side of the integuments, instead of being received into an excavation, was brought into exact contact; and that the lip was not divided, but the lower part of the septum dissected away, and the new part brought into contact, and detained there by ligature.

Adhesive

Adhesive plaster was applied to the forehead, as before, and the usual dressings.

The patient had some fever the first night, but with a little sleep. More hæmorrhage than in Case I.

Second day. Free from pain. Little fever.

Third day. The part felt very uncomfortably. Removed the dressings. Much inflammation. Inner part of the integuments united; but the skin did not adhere. Cut away the ligatures, and brought the skin together by adhesive plaster.

Fourth day. Considerable suppuration from the internal parts. Forehead in a very good state. Adhesion complete between the eyebrows.

Sixth day. Parts became œdematous, as in Case I. On the side in which the new nose was inserted, the nostril drawn upward toward the cicatrix on the face, as in plate V, fig. 1. The patient having lost great part of his cheek on that side,* I had great difficulty in applying adhesive plaster to the contracted part; it occasioned inflammation, that part being exceedingly irritable.

Tenth day. The skin, which had been disunited by the swelling of the parts, restored to perfect union. Œdema not so considerable; and, in this case, pressure seems of advantage.

In

* The integuments, muscles, and part of the os malæ, or cheek bone, were cut away by the sabre. These were a considerable time before they were completely cicatrized, as a considerable sloughing took place. The cicatrix at length formed, will be seen on reference to plate V, fig. 1. The newly re-formed parts are exceedingly irritable, and have frequently broken out.

Fig. 1.

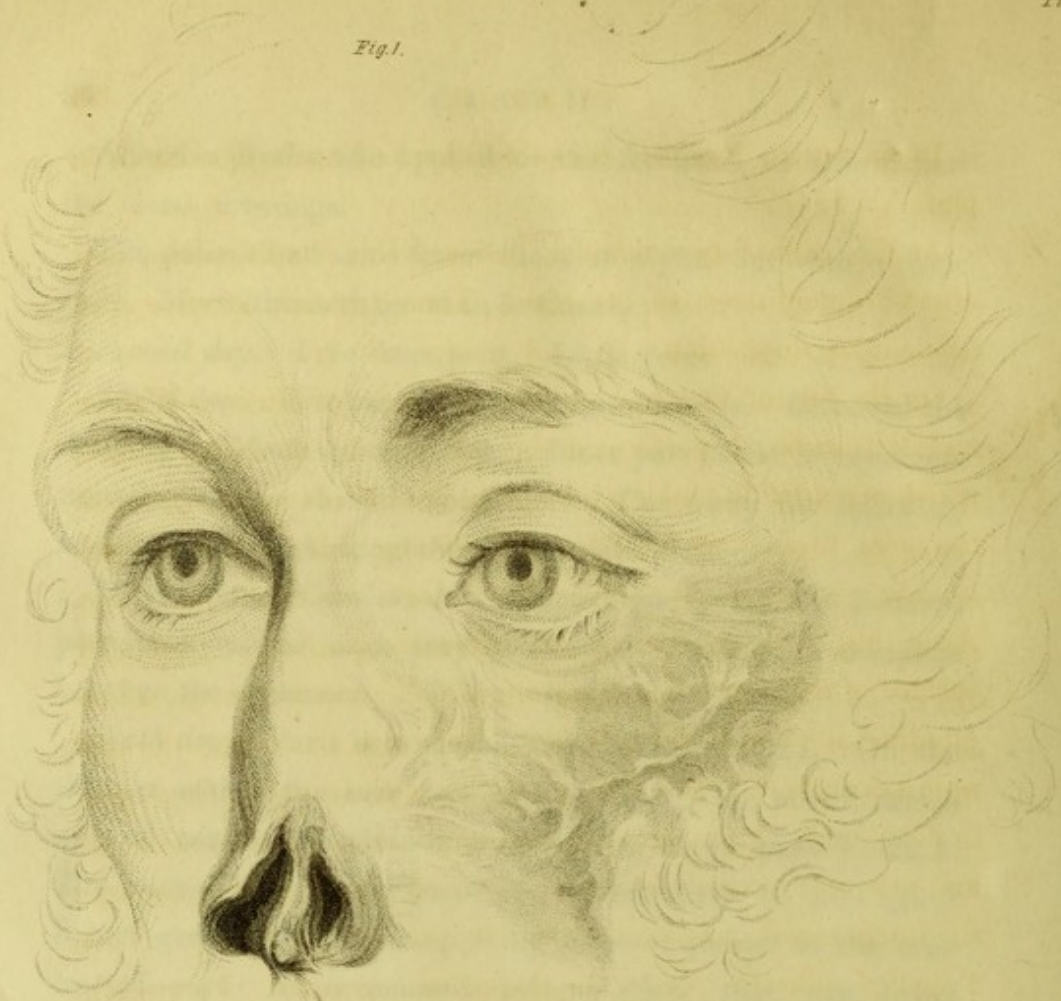


Fig. 3.

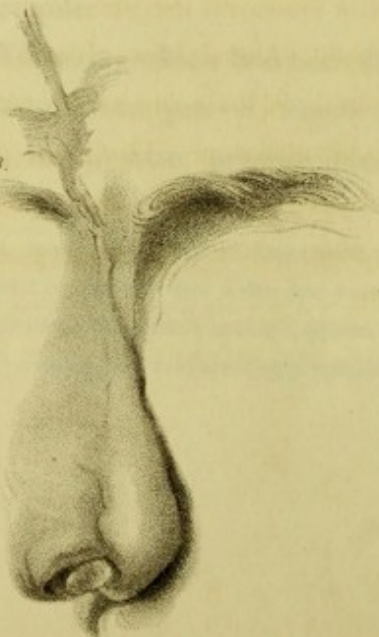
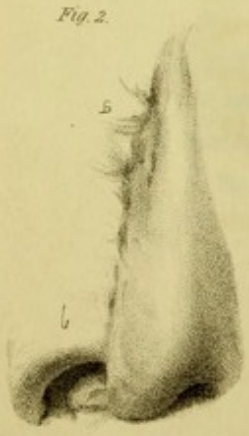


Fig. 2.



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C. Turner sc.

In six weeks, forehead completely healed, and a cicatrix as in plate V. fig. 3.

At the end of two months, œdema less considerable; and afterward continued to decrease. There remains, however, an œdematous disposition.

On the 7th of October, in the presence of Messrs. Warren and M'Lochlin, I performed the second part of the operation, which consisted in making a longitudinal incision upon the top of the nose, from *a* to *b*, (See plate V, fig. 2;) and then, continuing the dissection across the bridge, under the new nose. After this, I dissected away a considerable portion of the under surface of the new nose, also from *a* to *b*; and then made a longitudinal incision in the new nose, from *a* to *b*; so that the new nose was made to fit as nearly as possible the excavation I had made in the old nose. I now brought the longitudinal incisions of the old and new noses exactly in contact, passed two silver pins through the integuments, and united them by the twisted suture. Then I applied adhesive plaster to the remaining parts. Forty-eight hours after the operation, I removed the dressings; and, finding that a perfect adhesion had taken place, I withdrew the pins, and applied adhesive plaster. A little suppuration followed from the lower pin, but of no consequence. The parts were perfectly recovered in two days. In ten days, the time usually allowed, complete adhesion had taken place. A dissection of the new nostril remains to be made.

Captain

Captain Latham has enjoined me not to conclude this account of his Case, without recording some particulars of the generosity and benevolence of His Royal Highness the Prince Regent, which are intimately connected with it, which it is his pride to acknowledge, and for which he feels that he can never be sufficiently grateful. It will appear, from the following copy of a letter which I had the honour to receive from Major-General Bloomfield, by the hands of Captain Latham, that His Royal Highness not only condescended to place that gentleman under my professional care; but, further, to direct me to provide, at His Royal Highness's private charge, for the personal accommodation of my patient, during the cure. In addition to this liberality, since the operation has been performed, and it has been proper that Captain Latham should have the benefit of the air, His Royal Highness has been pleased to cause one of his carriages to attend him daily for that purpose.

(COPY.)

Major General Bloomfield is commanded by the Prince Regent, to request that Mr. Carpue will give the unfortunate case of Captain Latham, who will hand him this letter, his utmost attention and care. The particular gallantry displayed by Captain Latham has invited an additional interest in His Royal Highness.

Major-

Major-General Bloomfield is further commanded to request, that Mr. Carpue will make such arrangements for the accommodation of Captain Latham as may give facility to the professional attendance of Mr. Carpue, the whole expenses of which will be defrayed by His Royal Highness.

Pavillion,
January 20th, 1815.

APPENDIX.

No. I.

THE loss of the nose, in Case I, through the injudicious use of mercury, has been attested in the two following certificates:

(COPY.)

I do hereby certify, that ——— ——— consulted me in 1809, on account of his general state of health, which was at that time considerably impaired (in my opinion) by a long continued injudicious course of mercury, taken for a severe liver complaint, contracted while on service in Egypt; and to the improper use of which I greatly attribute the ultimate loss of his nose.

J. HEAVISIDE.

George Street, Hanover Square,
22d June 1815.

(COPY.)

London, July 5th, 1815.

I have inquired particularly into the history of ——— ———'s state of health during the last fourteen years, and have learned, that he never employed mercury on account of a venereal complaint during that period, nor was he ever affected with Lues Venerea during any part of his life. It appears, that ——— ——— was directed to use mercury on account of a disease in the liver, during eight months, with very little intermission, and that his mouth has been frequently rendered sore, and a ptyalism excited during that period. From this representation, I feel no doubt in offering it as my decided opinion, that such an abuse of mercury is fully adequate to occasion the destruction of the bones of the face; and that it is my belief, that the loss of ——— ———'s nose is to be ascribed solely to the injurious agency of mercury.

JOHN PEARSON,
Surgeon.
Golden Square.

No. II.

Since the preceding sheets have passed the press, some additional facts, regarding the Indian operation, and particularly the case of Cowasjee, have come to my knowledge.

Lieutenant-Colonel Ward, of the India service, but at this time resident in London, was the commanding officer of Cowasjee, at the time when

when the latter was mutilated by the order of Tippoo Sultan, and also witnessed the operation performed for restoring the nose. This gentleman has done me the honour to communicate the following particulars.

Cowasjee and four other native soldiers, were made prisoners by a marauding party of Tippoo Sultan. The enemy cut off the hands and noses of all the five, and then sent them back to the English, with leaves bound over the stumps of their arms, to stop the bleeding, but with the remains of their noses as they were left by the knife. In this deplorable state, they entered Poonah. The wounds were healed, and pensions granted to the unhappy sufferers.

Some time had elapsed, when, one day, at Poonah, a native merchant came to the house of Sir Charles Warre Malet, the British resident at that city, offering for sale oil-cloth, and stating his place of residence to be four hundred miles from Poonah. A cicatrix or scar being observed on the centre of the merchant's nose, he was asked how he came by it; upon which he showed another scar on his forehead, and explained the operation he had undergone. He confessed, that he had been deprived of his nose by the executioner, as a punishment for adultery; and added, that his new one was the work of an artist who lived where he resided, and who frequently did the same for others.

Upon receiving this account, and immediately thinking of Cowasjee and his fellows, Sir Charles Malet caused the operator to come to Poonah, where he gave new noses to all the five.

It was understood at Poonah, that this operator was the only one in India; but that the art had been hereditary in his family, as we have seen it described in that of the Boianis or Boianos of Calabria, and in that of Branca in Sicily.

At

At page 41, I have proposed the question, whether the Indian operators, like the ancient ones in Europe, practised the restoration of the lips and ears, as well as that of the nose. The following letter, addressed to me by Colonel Ward, gives a decided answer as to the lips; the artist who came to Poonah having expressed a wish to operate on the eldest son of the British native-ambassador at the Paishwah's court, who had lost part of his upper lip, but who, it appears, did not submit to the experiment:

(COPY.)

DEAR SIR,

In consequence of the conversation I had with you last night about Cowasjee, who had a nose put on at Poonah, in the presence of Mr. Uhthoff and myself, when we belonged to the suite of the late Sir Charles Warre Malet, then ambassador at the above court, I beg to inform you, that the same people who put on the nose said, they were also in the habit of putting on lips; and wanted to perform that operation on the eldest son of our native ambassador at the Paishwah's court, who had lost part of his upper lip: but to this he would not although they told him they agree, had frequently done it with success.

I am,

Dear Sir,

Your obedient humble Servant,

J. WARD.

November 12*th*, 1815.

MR. CARPUE.

THE END.

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75, Great Queen Street, Lincoln's-Inn-Fields.

ERRATA.

Page	Line	
19,	19,	for *Mentz,* read *Messina.*
20,	13,	— *Schultze,* —— *Schultetus.*
21,	5,	— *Artiuum,* —— *Artuum.*
54, last line,		— *osserous,* —— *osseous.*
64,	17,	— *protubed,* —— *protruded*
65,	5,	— *right,* —— *left.*
73,	12,	— *adaption,* —— *adaptation.*
79,	4,	— *corrugata-supercilii,* —— *corrugator-supercilii muscles.*

DIRECTIONS TO THE BINDER FOR PLACING THE PLATES.

Plate I - - - - - -	to face the Title
II - - - - - - - -	page 16
III - - - - - - - -	- 88
IV - - - - - - - -	- 89
V - - - - - - - -	- 95

MR. CARPUE,

MR. CARPUE, if his professional avocations permit, intends shortly publishing ***AN ACCOUNT OF HIS METHOD OF CURING CONTRACTIONS****; with Engravings of Machines invented by him, for the use of the Army, and successfully employed at* ***York Hospital.***