of the disease be checked. If the brothers are marked subjects of the disease their marriage should be prevented.

J. H. Musser.
R. M. Pearce.

HÆMOPTYSIS.—Etymologically considered, the word hæmoptysis signifies the expectoration of blood, without regard to its source or quantity. Practically, however, the term has come to indicate the expectoration of pure, or of almost pure blood, emanating from the respiratory organs, viz., from the larynx, trachea, bronchi, or lungs. The expectoration of rusty, prune juice, or greenish sputa, in pneumonia; of blood-streaked sputa in bronchitis; of jelly-like masses, as in cancer; or of chocolate-colored material in hepatic abscess, does not, therefore, properly constitute an example of hæmoptysis in the ordinary acceptation of the word. The term is, however, applied by some authors to the expectoration of blood in sufficient quantities to be microscopically discovered, even if the sputa containing it be largely composed of other constituents.[1] The spitting of blood which, having been extravasated at points more or less remote from the respiratory organs, and having reached the pharynx, has gravitated into the air passages (as in hæmatemesis, and in buccal, œsophageal, or nasal hemorrhages), may be designated as pseudo-hæmoptysis or spurious hæmoptysis. The expectoration of blood follows bronchorrhagia and pneumorrhagia in so large a proportion of cases that only hæmoptysis due to these causes will be considered in this place, the reader being referred, for information regarding laryngeal and tracheal hemorrhages, which are comparatively rare, to the articles in this HANDBOOK treating of diseases of the larynx and trachea. An absolute discrimination between bronchial and pulmonary hemorrhage being very difficult, and of slight importance from a therapeutical standpoint, will not be insisted on in the present article. Furthermore, as the etiology and pathology of hæmoptysis are fully discussed under other headings (the various diseases of the heart, lungs, bronchi, larynx, etc.), it seems best to omit, in the present article, all discussion of this part of our subject.

SYMPTOMATOLOGY.—The clinical history of hæmoptysis embraces: I. Prodromal Symptoms; II. Actual Symptoms, or those of the attack, and III. Consecutive Symptoms, or sequelæ.

I. *Prodromal Symptoms.*—Premonitory symptoms are often absent in hæmoptysis, particularly if it be due to traumatic causes, to the rupture of an aneurism, or to incipient phthisis.[2] Under these circumstances the hemorrhage occurs either without an evident exciting cause, while the patient is quiescent, or it is precipitated by some physical effort, such as lifting, riding, running, or dancing. Subjective precursory phenomena generally precede hæmoptysis from active or passive congestion, and in cases of recurrent hæmoptysis. The most noteworthy premonitory symptoms are cold extremities, accelerated pulse, vertigo, cephalalgia, epistaxis, thoracic oppression, constriction, distention or warmth, a dry hacking cough, vague general discomfort, slight dyspnœa, and cardiac palpitation. An objective prodromal symptom is cerebral congestion, accompanied by flushing of the face, throbbing of the carotids, and augmented rapidity and force of the pulse. Important suggestions relative to the possible occurrence of hæmoptysis may be derived from the previous history, particularly if this includes evidences of phthisis, of cardiac disease, or of one of the dyscrasiæ. Prodromes may be observed several days before a pulmonary hemorrhage, recurring at irregular intervals before the attack, or they may directly precede the hæmoptysis.

II. *Actual Symptoms, or those of the Attack.*—In an ordinary case of hæmoptysis, whether inaugurated by premonitory symptoms or not, the patient experiences a sensation such as might be referred to the trickling of a warm liquid beneath the sternum, perceives a saline, sweetish taste, and, on clearing his throat, expectorates blood without effort. Cough, attended by characteristic large, moist, tracheal and bronchial râles, now begins, or may have preceded the first bloody expectoration, and each paroxysm of coughing leads to the expulsion of a variable quantity of blood, which is generally fluid, arterial in color, of alkaline reaction, frothy from the admixture of air, and often mingled with mucus or muco-pus. If the quantity of blood be small, and its expulsion gradual, it is often venous, or even black in color, and more or less completely coagulated. Coagula emanating from the lung are usually of low specific gravity, on account of the air bubbles which they contain. Blood casts of the bronchi may be expectorated. The quantity of blood rejected varies within wide limits. In some cases only a few drachms are expectorated; in others, particularly in hæmoptysis from ruptured aneurisms, from phthisical or other cavities and in pneumorrhagia, several pounds may be rejected. If the blood is so abundant that it fails to find a ready exit through the buccal cavity, which rarely happens, it flows in an almost uninterrupted current from both nose and mouth, quickly producing syncope, or even convulsions and death. A certain quantity of blood is often swallowed, giving rise to hæmatemesis or to melæna. The uninterrupted duration of hæmoptysis is very variable, ranging from a few minutes to several days. A single attack sometimes occurs, but hæmoptysis is generally recurrent. The intervals between successive attacks vary from a few hours or days to months or years. Eichhorst affirms that malarial hæmoptysis recurs periodically at the time when a febrile paroxysm should be expected. A similar periodicity may obtain in amenorrhœal hæmoptysis. Hæmoptysis manifests a strong tendency to self-limitation, but it may, in exceptional cases, especially when dependent upon phthisis or on hæmophilia, recur so often as to cause death by exhaustion. Only in rare instances does the spitting of blood prove immediately fatal from rapid asthenia, or from asphyxia due to obstruction of the air passages.

The first sight of blood, especially in an initial hæmoptysis, engenders characteristic excitement and terror on the patient's part; but when a few safely surmounted paroxysms have demonstrated their comparative innocuousness, his mental equilibrium is often little disturbed by the onset of a new hemorrhage. In cases of moderate hæmoptysis the constitutional symptoms, aside from mental perturbation, betrayed by an anxious expression and by gentle tremor, are at first those of slight shock, *i.e.*, pallor, faintness or nausea, chilliness, and enfeeblement of the pulse. These symptoms are succeeded by congestion of the face and by augmented force and frequency of the heart's action, which phenomena gradually disappear after the cessation of the hemorrhage. In cases of more copious hæmoptysis the facial congestion gives place to returning pallor, the pulse becomes irregular and compressible, the respiration suspirious, the surface clammy, and the mind apathetic. Restlessness, tinnitus aurium, urgent thirst, falling temperature, nausea, muscæ volitantes, dimness of vision, increasing asthenia, transient syncope, and convulsive twitchings are symptoms which complete the clinical picture. In the worst cases of hæmoptysis the phenomena just enumerated appear in rapid succession, and death results either from syncope or from suffocation, due to obstruction of the air passages by fluid and coagulated blood. Hæmoptysis from hemorrhagic infarction generally ensues forty-eight hours, or even later, after the occurrence of pulmonary embolism, which, if the embolus be of septic character, is frequently announced by a chill. For the symptoms peculiar to hemorrhagic infarction, *vide* the article on *Lung, Infarction of the.* Hæmoptysis from the other predisposing and exciting causes described under the caption *Etiology*, as cancer, aneurisms, abscess, and gangrene, will, of course, be accompanied by the symptoms peculiar to these diseases. That pulmonary or bronchial hemorrhage and hæmoptysis are not convertible terms is shown by the fact that hemorrhages from the lungs sometimes occur without giving rise either to the prodromal or to the actual symptoms of hæmoptysis. These symptoms may be absent either if the

quantity of extravasated blood be insignificant and undergo reabsorption, or if it be so large as to preclude the possibility of its expectoration by causing sudden death.

The *physical signs*, aside from those due to the diseases causing hæmoptysis, are usually unimportant. If the attack be slight, there may be no physical signs, or moist râles may show the presence of blood in the alveoli, bronchioles, and bronchi. No additional signs will be discovered, unless considerable consolidation has been produced by the accumulation of blood in the air passages and the interstitial pulmonary tissues, when dulness, and, provided that the bronchi be unobstructed, broncho-vesicular or bronchial respiration and increased vocal fremitus may be found. If the bronchi are completely or considerably obstructed, there will be diminution or absence of respiratory and of vocal signs.

TREATMENT.—The indications for the treatment of hæmoptysis are: first, the arrest of an actual attack; second, the prevention of its recurrence by treatment of the causative affections; and finally, the relief of its consecutive symptoms.

Energetic therapeutical measures are not indicated in mild attacks of hæmoptysis. Inasmuch as local depletion exerts a beneficial effect upon pulmonary congestion, which is the cause of most slight hemorrhages, it is advisable not to interfere with nature's efforts for the relief of excessive intravascular tension, but to second them by measures tending to the accomplishment of the same end. Whether, therefore, the congestion be active or passive, perfect quiescence, in a semi-recumbent position, should be strictly enjoined upon the patient. The statement that hæmoptysis is useful in relieving pulmonary congestion, and that its occurrence, given the usual pre-existing congestion, is desirable, should be confidently made, and is usually effective in quieting the patient's apprehensions. The sick-room must be kept cool, well ventilated, and free from all persons whose demeanor would tend to excite misgivings in the patient's mind. The bed-coverings are to be so light as not to compress the chest. The patient should be frequently reminded persistently to restrain his desire to cough. Mild revulsive measures, such as the application of mustard leaves, or of dry cups, to the exposed parts of the chest, and of stimulating pediluvia, are in order, as is derivation by means of a gentle saline purgative. If the pulmonary hyperæmia be active, cardiac sedatives may be employed, one of the best being the tincture of aconite, in two-drop doses, every twenty minutes, until a reduction in the force and frequency of the pulse, or tingling in the throat and finger-tips is observed. Should the hyperæmia be passive, as in uncompensated heart lesions, the tincture of digitalis, in ten-drop doses, should be administered, every hour, for the purpose of strengthening the heart's action. In cases of more profuse or protracted hæmoptysis the same rules regarding the patient's position and surroundings should be rigidly enforced, and more potent therapeutical measures adopted. If the hemorrhage be occasioned by excessive active hyperæmia, the patient being strong and plethoric, or by so great passive congestion as to threaten cardiac paralysis, venesection, to eight or ten ounces, affords prompt relief. This treatment is particularly adapted to the initial hæmoptysis of tuberculosis, and to pulmonary hemorrhage from rarefaction of the atmosphere, from the inhalation of irritating substances, and from violent physical exertions.

If the patient will not submit to the operation of phlebotomy, active congestion may be measurably controlled by a brisk saline purgative, by emetic doses of ipecac, as recommended by Trousseau and Graves, and recently advocated by Massina and Peter, but which must be avoided in hæmoptysis from cavities because of its tendency to prevent closure of bleeding vessels, or by the following therapeutic agents, which are useful in all varieties of profuse pulmonary hemorrhage. The most potent of these is cold, which is best applied by means of an ice-bag, of moderate weight, placed over the primary bronchi, or on that part of the chest to which the detection of râles points as the probable seat of hemorrhage. Small pieces of ice should be constantly dissolved in the mouth and swallowed. The best form of nourishment is cold milk, taken in quantities of eight ounces, at intervals of two or three hours. Physical examinations should be studiously avoided, as calculated to increase and to excite hæmoptysis, and as affording no important results. Ligation of the extremities, which is sometimes a very efficient hæmostatic measure, acts by retaining the venous blood in the limbs, while the arterial current is not arrested; but it must be cautiously employed, lest syncope or venous thrombosis be induced. These untoward results may be prevented by the simultaneous ligation of only two members, by leaving the ligatures in place for only a few minutes, consecutively, and by removing them so soon as hæmoptysis ceases. Ligation must, naturally, be undertaken only under the physician's immediate direction and supervision. Ergot is probably the most efficient hæmostatic remedy. It may be exhibited in the form of the fluid extract, in doses of one or two drachms, diluted with an ounce of water, every half-hour or hour, until the hemorrhage ceases or a decided diminution in the force and frequency of the pulse is observed. Should the stomach prove rebellious, half an ounce of the fluid extract, diluted with an equal quantity of lukewarm water, may be given by rectum, and repeated every hour until the physiological effects are produced. If it is desirable that the action of the drug be very speedily exerted, half a drachm of the fluid extract, or three grains of ergotin, dissolved in equal parts glycerin and water, should be subcutaneously administered, every half-hour, until the desired result is obtained. One grain of opium, or one-fourth grain of the sulphate of morphine, preferably in fluid form, must be immediately administered for the purpose of checking cough, and of inducing mental and physical quietude. The opiate should be repeated in doses of half the size mentioned, every two hours, until hemorrhage ceases or the physiological effects of the medicine are obtained. The most speedy and satisfactory method of administering the narcotic is by hypodermatic injection of the sulphate of morphine, particularly if simple emesis or hæmatemesis coexist with the hæmoptysis. Opiates are contraindicated when fatal accumulation of blood in the air passages is threatened. At such times expectoration should be encouraged and facilitated. Many authorities recommend that several teaspoonfuls of dry common salt be administered, if no other remedy be at hand, largely for the desirable moral effect resulting from medication in general, and partly on account of the unexplained but well-attested restraining effect of salt upon hæmoptysis. Inhalations of astringents, preferably of Monsel's solution, or of the *liquor ferri sesquichloridi*, diluted twenty-five times with water, and administered in the form of spray generated by an atomizer, are sometimes useful. The acetate of lead in two-grain doses, or gallic acid in twenty-grain doses, every three hours, is often administered internally, although the question of their value is still debatable. Bartholow extols the virtues of turpentine in hæmoptysis dependent upon hæmophilia and purpura.[3] It may be exhibited by mouth, in twenty-drop doses, in emulsion, or on sugar, or its vapor may be inhaled, for one-quarter hour, at intervals of two hours.

After-Treatment.—The objects of the after-treatment are the prevention of a recurrence of hæmoptysis, and the relief of its consecutive symptoms. The former indication is best fulfilled by the removal of predisposing morbid conditions, and by the avoidance of exciting causes. Many of the diseases predisposing to hæmoptysis, although, unfortunately, not amenable to curative measures, may be favorably influenced by judicious treatment. Pernicious malarial fever, of the hemorrhagic type, may be controlled by quinine and by other antiperiodics. Vicarious amenorrhœal hæmoptysis is to be combated by means tending to excite the normal menstrual flow, and scorbutic pulmonary hemorrhage by good food and vegetable acids. In cases of puerperal or marantic venous thrombosis, the utmost quietude should be enjoined, in

order that pulmonary embolism, resulting in infarction and hæmoptysis, may be averted. Acute and chronic pulmonary inflammations must be subjected to appropriate treatment, and earnest efforts made to establish a compensation for existing organic cardiac diseases.

The exciting causes of hæmoptysis most easily avoided are those producing active pulmonary congestion, such as violent physical efforts, mental excitement, great rarefaction of the atmosphere and the inhalation of irritating vapors and gases. The chief direct sequelæ of hæmoptysis are bronchitis, bronchopneumonia, anæmia, and asthenia. The first and second are to be treated in accordance with generally recognized methods. The anæmia and asthenia are to be combated with tonics, preparations of iron, nourishing food, moderate and regular out-of-door exercise in pleasant weather, and, if extreme, by alcoholics rationally administered. If no other cause for a given attack of hæmoptysis can be discovered, it should be regarded as a probable initial symptom of pulmonary tuberculosis, and appropriate prophylactic measures should be immediately inaugurated.

William H. Flint.

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[2] J. Hughes Bennett: Reynolds' System of Medicine, vol. vii., p. 124, Philadelphia.
[3] Bartholow: Prac. of Med., p. 378, New York, 1880.

HÆMOSTATICS.—Hæmostatic drugs are such as are employed to control hemorrhage. When the hemorrhage occurs upon an exposed surface or from some accessible cavity, ordinary surgical measures are usually resorted to; but if the bleeding is not amenable to surgical treatment or if it occurs in some deeply seated organ, it becomes necessary to make use of astringent and styptic drugs. These may be made to act directly upon the part by applying them to the bleeding point, or their hæmostatic effect may be obtained by internal administration.

Whenever bleeding occurs the efforts of nature are directed toward a spontaneous cure. There is at once a contraction of the injured vessel, the torn coats of the artery retract, and the escaping blood is coagulated by contact with the surrounding tissues and upon exposure to the air. Should the loss of blood be severe, there is a weakening of the heart's action and a lessening of the blood pressure which greatly aid nature's efforts. These changes afford us an indication for treatment, and it is upon these principles that we select our remedies and endeavor to overcome the trouble.

The local application of extremes of heat and cold is a very common and a very effective means of controlling hemorrhage. Ice almost immediately contracts the vessels and blanches the part, and the employment of very hot water produces in a similar manner a spasmodic contraction of the vessels, and exercises a more marked effect in coagulating the blood. The custom of applying cold to the thorax with the object of checking hemorrhage in the lungs, or to the abdomen when the intestines are the seat of the trouble, is of doubtful value, unless the bleeding vessels are close to the surface. Many hold that it may do more harm than good by driving the blood from the surface to the organs beneath. The application of heat to the spine, although less common, is probably a more rational mode of treatment, the heat being applied over the ganglia which control the nerve supply of the part. Both heat and cold are most effective when brought in direct contact with the bleeding surface. Lumps of ice may be swallowed in hæmatemesis, or inserted into the rectum or vagina if the intestinal canal or the uterus is the part affected. In the same way the application of hot water to the open wound, or a hot injection in uterine hemorrhage is always of service and much more desirable than a cold application if there is much depression.

The local actions of hæmostatics differ somewhat. Some cause a firm clotting of the blood and are termed *styptics,* while others produce their effect by acting more directly upon the vessels. Of the styptics, the best known are the salts of iron, especially the subsulphate and persulphate, alum, acetate of lead, and tannic acid, all of which, although they exercise a constringing effect upon the vessels, act almost entirely by causing firm, adherent coagulation, not only of the blood but also of the adjacent albuminous tissues. By the time when this mass becomes detached the bleeding points are obliterated and a healthy surface remains. The hæmostatics which act more directly upon the vessels are alcohol, oil of turpentine, a weak solution of acetate of lead, antipyrin, and suprarenal extract. Suprarenal extract, as well as its derivative adrenalin, is the most typical of this class, and is probably the most valuable local hæmostatic that we possess. It produces a most powerful contraction of the vessels, and this persists for a long time. A solution of adrenalin, 1 in 10,000, renders the conjunctiva or any of the mucous membranes almost devoid of blood. It has been much employed to secure bloodless operations upon the nose and throat, as well as to check hemorrhage from any mucous surface.

The effect of the internal administration of hæmostatics is not so definite, nor is it readily explained, but clinical experience has taught us that several drugs may be depended upon for their hæmostatic action. Ergot, hydrastis, oil of turpentine, and aromatic sulphuric acid have all proved of service. They act upon the muscular elements of the arterial coats, causing a marked diminution in the calibre of the vessels; their effect is particularly marked on unstriped muscular tissue.

Tannic acid and vegetable preparations the astringency of which is due to tannin, are much employed in this way and have been thought to be decidedly beneficial. Tannin, however, is never absorbed into the blood except as gallic acid, which does not coagulate albumen and possesses very slight astringent properties. Except in hemorrhages from the stomach and bowels, tannic acid probably exerts no true hæmostatic effect. In such cases the drug probably produces an astringent effect because it is brought into direct contact with the affected parts. The same argument applies to the use of the mineral astringents, as alum and acetate of lead, for they both actively coagulate albumen and are thought not to pass beyond the mucous membrane of the intestines. Lead, however, enters the circulation as an albuminate and has a decided action in causing muscular contractions. Its effect upon renal hemorrhage is marked, but upon other organs its value is not so certain. The action of alum is less certain; it is absorbed as an albuminate and exercises an astringent effect when excreted by the kidneys and skin Its beneficial action in hemorrhage from other organs is doubtful.

In addition to the help obtainable from astringent remedies, it is possible to derive considerable assistance, in our efforts to control hemorrhage, from the use of sedatives and revulsants, which secure rest and lessen congestive states. Formerly these ends were attained by such drugs as tartar emetic, aconite, lobelia, and tobacco, and from a resort to venesection. Excepting in cerebral hemorrhage these remedies are now never resorted to. Instead, we place the patient in the most favorable position to secure bodily ease and functional rest of the implicated organ. If the lungs are affected, talking is forbidden; if the bleeding is from the digestive organs, food is restricted and rectal feeding substituted. Opium is always of the greatest service. In all forms of hemorrhage there are much restlessness and mental anguish, which interfere with all our efforts to effect a cure. Opium overcomes this disturbance by putting the muscles at rest and by calming the mental irritability. It also favors functional rest, not only of the organ affected, but also of the heart and circulation. It should be given freely (opium, from one to three grains; or morphine, half a grain). The only contraindications to its employment are cerebral hemorrhage, or those conditions which are characterized by extreme prostration and by the fact that the respiratory function is markedly weakened. Active purgation must not be neglected unless the bleeding is from the stomach or intestines. Such remedies as calomel, compound jalap powder, elaterium, and croton oil produce free evacuations, lessen all congestive states of the abdominal and thoracic organs, and reduce the general blood pressure. *Beaumont Small.*

HAIR DYES, INJURIOUS EFFECTS OF.—Although it is unquestionably true that the injurious effects of hair dyes have been grossly exaggerated, physicians should bear in mind the widespread habit of dyeing the hair, when called upon to treat certain obscure nervous symptoms and atypical lesions of the skin. This habit is not new, nor is it one of the passing fads of the day. It has been handed down to us from the most remote antiquity, and its votaries are to be found not only among the peoples of the East, but also among those of the western hemisphere. Thus, for example, we find that even the primitive American Indian found it expedient to dye his hair. Therefore, in view of the prevalence of the custom and when we consider the very few cases that are thereby injured, we are justified in coming to the conclusion that the evil effects have been grossly exaggerated.

The animal, vegetable, and mineral kingdoms have all been drawn upon to furnish their quota of substances for dyeing the hair and beard, until finally modern chemistry has been called upon to perfect the art.

It would be beyond the scope of this article to enter into a full description of the several hair dyes and the substances that have been employed for this purpose; it will suffice us to make a short summary of the ones most commonly used, such as pyrogallic acid, walnut hulls, indigo, henna, curcuma, hydrogen peroxide, potassium bichromate, silver nitrate, salts of lead, copper and iron, and last, but not least, chloride of paraphenylendiamin.

The injurious effects of hair dyes may be divided into three classes: First, injury to the hair, second, injury to the general system, third, local injury other than to the hair

In the first class we would place hydrogen peroxide, which at the same time that it destroys the pigment extracts the fatty matter from the hair and thus destroys its vitality.

As an example of the second class the most common, most talked about is, of course, chronic saturnine intoxication with its attendant train of symptoms, wrist-drop, colics, etc.; this being due to the absorption of the salts of lead by the hairy scalp. At the present time we see little of this condition, but years ago it was relatively common.

In the third group we must place a number of trivial accidents, such as staining of the skin with the salts of such metals as iron, copper, manganese, silver, cadmium, etc.

The stains of iron, manganese, and cadmium may be removed by weak solutions of acids, while the brown stains of copper and the black stains of silver will be made to disappear by the application of cyanide of potassium and iodide of potassium.

Chromic acid or acid chromate of potassium will dye the hair yellow, but they are both caustic and poisonous.

The accidents brought about by pyrogallic acid and paraphenylendiamin chloride are more serious in character. Pyrogallic acid will sometimes produce, when used in sufficient strength anywhere about the face, a severe dermatitis with œdema, while if employed about the eyes it is apt to be followed by œdema of the eyelids, by conjunctivitis, and by extensive inflammation of the mucous lining of the nasal cavity.

Ever since the introduction of paraphenylendiamin chloride as a constituent of hair dyes many more instances of injuries due to hair dyes have been brought before the profession. The injuries that have sometimes followed the use of the drug include, among others, dermatitis of the hairy scalp, of the back of the neck, of the face, etc.—in fact, a dermatitis of that part of the skin that was brought in contact with the drug. In some cases the inflammation has extended to the neighboring parts, while Cathelmeau records a case in which the whole body was affected.

The character of the eruption varies from a slight erythema to a vesicular, papular, or pustular lesion; it may also be urticarial in character; œdema may be well marked, while pruritus may be intense. The eruption is sometimes accompanied by an elevation of temperature.

The *diagnosis* is sometimes attended with difficulty. Fournier gives as diagnostic points the suddenness of onset of symptoms, the rapidity of extension of the eruption, the enormous swelling of the eyelids. Sometimes the patients will aid us by connecting cause and effect. On the other hand, as in other conditions, too much reliance should not be placed on their statements, as they are apt to mislead us voluntarily or otherwise.

There is nothing special to offer in the way of *treatment;* these injuries should be treated exactly in the same manner as one would treat similar lesions in other conditions, provided that before the institution of any line of treatment the original cause be removed.

The *prognosis* is, as a rule, very good, although Brocq claims that in rare instances the condition proves rebellious to treatment. *N. J. Ponce de Léon.*

HAND.—Cresollius calls the hand "the minister of reason and wisdom." As the active servant of the brain, adjusted for the most delicate and varied uses, it has always been held in peculiar honor. The coat-of-arms of the surgeons' guild of the Middle Ages was a hand, with outspread fingers and an eye in their midst, typifying thus the noble art of chirurgie, which name was itself derived from χειρ, the hand, and ἐργον, work. Respect for this important member has even been carried so far that it has been supposed to contain a force within itself capable not only of intelligent action, but of transmission beyond the body. When we regard the high degree of muscular coördination which it possesses we readily see whence originates the first of these popular fancies, for the hand of the skilled musician, artist, or handicraftsman is a very different organ from that of the untrained and inexpert novice. The very word "handy" expresses this idea.

As to the second notion, it appears to be founded upon the extraordinary degree of tactile sensibility which the hand possesses. The laying on of hands has been a favorite method of healing from the very earliest historical period, and is still prevalent, not only where the royal touch is believed to be a sovereign remedy for "king's evil," but also among the so-called healing mediums.

The mesmeric passes were believed to be efficacious only when performed with the ends of the fingers, in order that the "force" might be drawn off into the patient's body. Von Reichenbach's patients saw flames of "od" force issuing from the ends of the fingers; many worthy people have no doubt that a nervous headache can be cured by some transfer of this force by means of passes over the brow of the sufferer; and we have lately had a revival of the old astrological theory of an "astral fluid" which is more transmissible from those with pointed fingers. Obscure nervous sensations felt in the fingers and along the nerve tracts are believed to be caused by this force or fluid. Owing probably to this superstitious reverence, we find that the physicians of the Middle Ages used the detached hand of a corpse for the scattering of tumors and the reduction of swellings.

The use of this strange remedy still survives. The author has recently found several authentic cases of such application. In one it was used for the cure of a white swelling, and in another for a protracted intermittent fever, a female homœopathic physician vouching for its efficacy. She explained this to the writer by stating that the "morbid processes going on in the dead hand attracted the disease and removed it" (!). Sometimes the virtue of the deceased is believed to have a marked influence. This was shown in the case of a well-known Catholic priest who died recently in Washington, and in that of a Carmelite nun in Baltimore. Many applications of the