OBSERVATIONS
ON
THE NATURE AND TREATMENT
OF
ERYSIPELAS,

ILLUSTRATED BY CASES;

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ALTHOUGH erysipelas, in its various forms, is a disease of frequent occurrence, and comes daily under the observation of the physician and surgeon, great difference of opinion still prevails respecting its nature and management. Regarding it as an affection essentially inflammatory, some adopt the antiphlogistic plan, including general and local bleeding; while others, conceiving that the part, the constitution, or both, are in a state of debility, endeavour to remove this by the free use of stimulants and tonics, more especially by bark, ammonia, and wine. The former appears to me the correct view and practice; I accordingly consider the latter notion completely erroneous, and the treatment founded on it, not only inap-

propriate, but injurious. Together with my opinions respecting erysipelas generally, I submit to the consideration of the Society some of the facts, from which those opinions have been deduced: I also offer some remarks, illustrated by cases, on the treatment of phlegmonous erysipelas by incisions, having learned by repeated trials to estimate highly the efficacy and value of the practice.

By erysipelas I understand inflammation of the skin, either alone or in conjunction with that of the subjacent adipous and cellular tissue. Like other inflammations it varies in degree. When it affects the surface of the skin, which is red, not sensibly swelled, soft, and without vesication, it is called *erythema*. *Simple erysipelas* is a more violent cutaneous inflammation, attended with effusion into the cellular substance, and generally with vesication; *phlegmonous erysipelas* is the highest degree of the affection, involving the cellular and adipous membrane as well as the skin, and causing suppuration and mortification of the former.

Description of the Affection. Simple Erysipelas.

In *simple erysipelas* the skin is preternaturally red and shining, having a light or rosy tint in the early stage and slighter cases of the affection; whence in some languages it has received the popular appellation of the *rose*; while in other in-

stances it is of a bright scarlet, or even a deep and livid red. The colour disappears on pressure, returning as soon as the pressure is removed. If the skin alone be affected, there is hardly any perceptible swelling, and no tension; yet some difference is perceived between the sound and the inflamed part by passing the finger over it. Erysipelas, however, is seldom confined to the skin*, except in the slightest cases; effusion soon takes place into the cellular texture, causing a soft swelling; and this may be considerable, together with much tension and a shining surface, when a large part of the body, or an entire limb, is involved. The inflamed part is hot and painful; at first a stinging or itching is felt, which soon becomes a sharp smarting and burning sensation, with acute pain on pressure. The pain is not so intense and unremitting as in phlegmon, nor is it attended with throbbing. This kind of inflammation often ends by resolution; the redness and other symptoms disappearing, and the skin recovering its natural state, with or without desquamation of the cuticle. Frequently serous effusion takes place from the inflamed surface, elevating the cuticle into smaller or larger vesicles, or into bullæ like those pro-

* Callisen asserts the contrary; "*Telam autem cellulosa non invadit Erysipelas, nisi cum phlegmone nuptum.*"—*Syst. Chir. Hod.* Vol. I. § 499. Yet the first character which he assigns to erysipelas generally is "*tumor diffusus partis cujusdam*"; an appearance which is caused by effusion into the cellular texture consequent on inflammation.

duced by blisters, or raising it by a soft yellow jelly-like deposit, which remains slightly adherent to both the cutis and cuticle, and exactly resembles the effect often produced by the common blistering plaster. The contents of the vesicles or bullæ are transparent, sometimes nearly colourless, but more commonly yellowish; sometimes they consist of a thin pus; or they may exhibit a bloody or livid discolouration (phlyctænæ). The fluid loses its clearness, becoming thicker, opaque, and whitish or yellowish. The cuticle gives way, the fluid escapes, and incrustations form, which soon fall off, leaving the skin sound; or they may lead to superficial ulcerations. Erysipelas sometimes produces gangrene, but this is a comparatively rare occurrence. So long as this inflammation is confined to the skin, it does not produce suppuration*; and the affection of the cellular structure is too slight for that termination

* "Erysipelas may end in suppuration; but this hardly ever happens in the genuine unmixed form of the complaint." S. G. Vogel's *Handbuch*; Ed. 3. Vol. III. p. 338. Among the characters which Callisen assigns to that tumefaction of a part which constitutes erysipelas, is "*nunquam in veram suppurationem abiens.*" *Syst. Chir. Hod.* Vol. I. p. 240. "In suppurationem nonnisi tunc transit, dum phlogosis ad subjectum textum cellularem protenditur, vel ad phlegmones potentiam exaltatur." Hildenbrand, *Inst. Pract. Med.* t. 3. p. 594. Speaking of spontaneous erysipelas, Rust says, "It never causes suppuration; nor does mortification take place except where the constitution is bad, or a concurrence of other unfavourable circumstances is observed." *Magazin*, Vol. VIII. p. 504.

in most cases of simple erysipelas. It may, however, become more severe at one point; and thus we occasionally see the formation of abscess under the skin towards the decline, or after the disappearance of the general erysipelatous redness. (See Cases 12 and 19.)

This inflammation generally attacks a considerable surface of the skin, the inflamed part being irregularly circumscribed by a defined line. It spreads quickly to the neighbouring skin, declining and disappearing in the part first affected; and this alternation is repeated until the whole surface of the head and face, of a limb, or of the trunk has been successively inflamed. (See Cases 2. 6. 10, 11. 14. 18, 19.) Thus we commonly see the various stages of erysipelas existing together at the same time in different parts of the skin; the portion last affected is red and swelled; another part is vesicated, while others exhibit incrustation and desquamation. Sometimes it leaves entirely the part first affected, to appear in a distant situation. Its origin, development, and complete termination seldom take place in one and the same spot. (See Cases 7. 12, 13.) The neighbouring absorbent glands are frequently inflamed, and red streaks are sometimes seen leading towards them.

The local symptoms, above described, are preceded and accompanied by fever, which varies

in its character according to the constitution, age, and general state of health. Shivering followed by increased heat, general uneasiness, lassitude, head-ach, loss of appetite, nausea, white or foul tongue, and constipation usher in a severe attack, and the general disturbance is of a decidedly inflammatory character in the young, strong, and those of full habit. Blood drawn from a vein exhibits in a greater or less degree the inflammatory character. This circumstance was noticed by Sydenham *, Cullen †, and Vogel ‡, and is particularly mentioned in several of the cases annexed to this paper. (See Cases 2, 3. 5. 7. 10, 11, 12, 13. 17.) It has nevertheless been denied by Callisen ||. Often, particularly when the head is the seat of erysipelas, the sensorium is principally affected, and the symptoms are of the kind called nervous, such as pain and oppression of the head, sleepiness, coma or delirium. The tongue in such cases becomes dry and brown; but this state of the organ is often owing principally to the circumstance of the patient breathing entirely through the mouth; the pulse is rapid and feeble, and there is great loss of muscular strength; in short, the symptoms at length are those called typhoid. In other cases the circulation and the nervous system are not much

* Obs. Med. Sect. vi. cap. 6.

† First Lines, § 707.

‡ Handbuch, Vol. III. p. 348.

|| Syst. Chir. Hod. Vol. I. p. 243.

affected ; but there is pain in the epigastric region, foul tongue with bad taste in the mouth, nausea, and constipation ; that is, so many indications of disordered stomach and intestinal canal, to which, as its cause, the local affection must be referred.

It is not to be expected that an affection, of which the obvious symptoms during life are merely vascular distension and redness with swelling, will produce much change in the affected parts recognizable after death. In simple erysipelas the red colour disappears as soon as the circulation stops. The cuticle, if not already separated by vesication, soon loses its adhesion to the cutis, and the surface of the latter, in an advanced stage of the affection, has a livid appearance. The texture of the skin presenting a reddish or brownish tint, is loaded with serum, and softer than in the natural state. Serous effusion is found in the cellular tissue ; and its vessels, as well as those of the skin, are distended. Sometimes we unexpectedly discover suppuration where the case has appeared during life to be simple erysipelas, and no symptoms indicating formation of matter have been noticed.

A patient, 57 years old, was admitted under my care at St. Bartholomew's, for an extensive laceration and detachment of the scalp, caused by falling down a flight of cellar steps. From the 3d of June to the 14th he was bled eight times

from the arm; all symptoms of excitement had ceased on the 15th, when the head was easy, the pulse quiet, and his state favourable in all other respects. On the 18th erysipelas appeared in the arm and neighbouring part of the forearm, the affected parts being tumid, bright red, and very painful. He died on the 21st, the erysipelas not having extended beyond the parts first affected. He had been bled three times in the arm. On examination after death, the veins were found perfectly healthy. The skin and adipous membrane of the inflamed part were pale and natural; a large effusion of yellow and somewhat thin, but good pus was found in the cellular structure connecting the adipous membrane to the muscles along the whole back and inner part of the arm. The matter did not form a distinct collection, but two or three tablespoonfuls were found in one part, and it was thence diffused through the cellular substance, without any definite boundary, and seemed to have gravitated into the place where it was found, in consequence of the position of the limb.

Phlegmonous Erysipelas.

Phlegmonous * differs from simple erysipelas

* The expression phlegmonous erysipelas is employed in two senses, which are somewhat different. The most modern authors denote by it the conjunction of an inflammation of the skin with a serious inflammatory affection of the cellular texture. (See Boyer, *Traité des Mal. Chir.* T. II. p. 7. Rayer, *Tr. des*

merely in the higher degree and deeper extent of the inflammation, which not only occupies the whole thickness of the skin and subjacent adipous and cellular tissue, but soon proceeds in the latter to supuration and sloughing, the skin itself being often involved secondarily in the mortification. Both the local and general symptoms are more strongly marked, and hence more serious effects are produced than in simple erysipelas. Rigors, feverishness, and disorder of the stomach precede the inflammation of the skin, which then shows itself from the first in a violent form ; or, the local complaint begins mildly, without much general disturbance, and gradually assumes a more serious

Mal. de la Peau, T. I. p. 112.) But it is also applied to those cases, in which the inflammatory symptoms are strongly marked, without any reference to the consideration, whether the local affection is confined to the skin, or extends deeper. In this sense it is employed by Cullen (First Lines, Part I. Book III. Chap. 6.), by Willan, and by Bateman, who also calls it acute erysipelas. The degree of disorder, which the circulating and nervous systems experience in erysipelas, does not depend merely on the confinement of the inflammation to the skin, or its extension to the cellular texture ; the seat of the disease is an important circumstance in this respect. Hence the most serious symptoms are observed when the head is affected, although this comes in most cases under the head of simple erysipelas. The authors cited above describe this as phlegmonous erysipelas. We are conducted from the slightest form of erythema to the severest phlegmonous erysipelas by numerous intermediate steps, which constitute an insensible gradation : the two ends of the series are widely different, but the middle boundary must be nearly arbitrary.

character. The redness is deeper than in simple erysipelas, often with a brownish or dark livid tint; the discolouration is often irregular, giving to the part a marbled appearance; the tumefaction is more considerable, the whole depth of the adipous and cellular textures being loaded with effusion, so that an arm or leg appears of twice the natural size; the sensation of heat and pain, at first slight, is aggravated to a very severe degree, and may be accompanied with throbbing. The swollen part at first yields slightly to the pressure of the finger, but subsequently becomes tense and firm. Vesications form on the surface, often minute and miliary, with purulent contents (see Cases 27, 28, 29); frequently however the skin does not vesicate. (See Cases 22, 23, 24. 26.) Suppuration and sloughing of the cellular membrane soon come on, the skin becoming livid and covered with phlyctænæ (see Case 36), and the febrile symptoms are aggravated. These changes are not attended with increased swelling, elevation, and pointing, as in phlegmon; on the contrary, there is rather a diminution of tension, a subsidence, and a feel of softness in the part. At first the cellular texture contains a whey-like or whitish serum (Cases 22 and 26), which I have sometimes seen in the eyelids almost of milky whiteness. (See Case 21.) The fluid gradually becomes yellow and purulent, and we often find it presenting all the characters of good pus, and very thick. The serum is diffused through the

cells at an early period, and a mixture of serum and pus often fills a considerable portion of the cellular texture without any distinct boundary. (See Case 36.) Frequently matter is deposited in small separate portions, forming a kind of little abscesses, which often run irregularly in the cellular texture. Such small collections are sometimes found where lividity or phlyctænæ have not preceded, and where no external changes nor any aggravation of other symptoms have announced suppuration. During this process of suppuration the cellular texture turns gray, yellowish or tawny (Case 28), and sometimes appears like a dirty, spongy substance filled with turbid fluid (Cases 22 and 29); then losing its vitality altogether, it is converted into more or less considerable fibrous shreds, of various size and figure, which come away soaked with matter like a sponge. The integuments over a large slough of this kind, being deprived of their vascular supply, become livid, and often lose their vitality*. The suppurating and sloughing processes go on to a great extent

* Baron Dupuytren, who has particularly noticed this kind of secondary gangrene in his clinical lectures, explains the reason why it does not occur in the head. The seat of phlegmonous erysipelas, or, as he calls it, *diffused phlegmon*, in that situation, is the cellular texture between the fronto-occipital aponeurosis and the pericranium. The sloughing of that texture does not affect the nutrient vessels of the scalp, which lie exteriorly to it, immediately under and almost in the integument itself.

when an entire limb is affected, sometimes completely detaching the skin, and often separating it through a large space; occasionally penetrating deeper, passing between the muscles, causing inflammation of them, suppuration between them, and often sloughing of the tendons. When the substance of a limb is thus generally inflamed, the joints situated in the affected part do not escape. Inflammation of the synovial membrane, effusion of matter into the joint, and ulceration of the cartilages take place*. An inflammation of such extent and violence cannot fail to excite the most serious sympathetic affections, among which may be mentioned disturbance of the nervous system, causing symptoms of typhoid character, inflammation of the lungs or pleura, of the intestinal mucous membrane, producing diarrhœa, or of the peritoneum, and inflammation or suppuration of other organs. The combination of the primary and secondary affections is speedily fatal†. If,

* In a case observed by Mr. C. Hutchison the cartilages of the femur and tibia were absorbed; at least there was a complete ankylosis of the knee. *Practical Observations*, 2d edit. p. 115. Pus in the ankle-joint; the articular cartilages absorbed, and the tibia carious. *Bibl. Med.* Sept. 1827. p. 331. In another case the elbow and shoulder-joints were inflamed, and the articular cartilages ulcerated. *Ibid.* p. 333.

† The mortality under this affection has sometimes been truly alarming. Of fifteen cases which occurred in Plymouth Dock-Yard, during August and September 1824, twelve ended fatally. In the bodies of those who were examined after death, the following morbid appearances were found; viz. sero-puru-

however, the patient should recover after tedious suppurations and discharge of sloughs, the parts, which have been inflamed, are so changed in structure, and skin, fascia, muscles, tendons, and bones are so unnaturally agglutinated and fixed, after the extensive destruction of the connecting cellular texture, that the motions of the part are permanently and seriously impaired.

The affected part, which is at first firm and almost brawny to the feel, becomes softer when diffused suppuration and matter mixed with sloughs are under the skin. Hence examination communicates a peculiar kind of sensation, compared by Mr. Pearson* to that "which is excited by a quagmire or morass", and which others have denominated "boggy". I do not understand what kind of feeling a quagmire, morass, or bog would

lent effusion into the thorax, with inflammation of the lungs; similar effusion into the abdomen, inflammation of the mucous membrane of the ilium and colon, and of the liver. In one case there was an abscess with a pint of pus round the kidney; and in another, the kidney was converted into a fluid like thick cream. The head does not seem to have been examined in any case.—Dr. Butter's Remarks on Irritative Fever, &c. Devonport, 1825. Sero-purulent effusion into the chest, inflammation of the lung, and of the mucous membrane of the ilium and colon, were the appearances observed in some fatal cases described by Messrs. Moulin and Guibert in the *Nouvelle Bibl. Med.* Sept. 1827.

* Principles of Surgery, Ch. X.

communicate to the hand ; nor do I think that such comparisons would elucidate the matter, if it were obscure, which it is not.

Phlegmonous erysipelas spreads, like the simple species, to new parts successively ; we notice a visible advance of the redness and swelling every day, and thus the affection is in different stages in the different portions of the inflamed part. The absorbent glands are generally more or less swollen, and the absorbent vessels are frequently inflamed in the commencement of the affection.

Seat and Nature of the Affection and Diagnosis.

The practice of making incisions into the inflamed textures enables us to see that the vessels are enlarged and more numerous in the early part of the disease, and that the cellular texture is loaded with a yellowish serum. (Cases 23. 26. 28.) Portions of that texture then assume a light yellow, or a dirty colour, which is the precursor of mortification. (Cases 22. 26. 29.) The actual occurrence of suppuration and sloughing must of course be immediately observable. The matter often extends irregularly or is diffused in the cells of the part. Thus the skin and the cellular substance are the seat of this inflammation, which, in examination after death, is generally found not to extend beneath the fascia. I have observed, as

Mr. Copland Hutchison remarks*, that the cellular texture connecting the adipous membrane to the fascia or muscles, suppurates and sloughs more readily than the adipous substance itself. Mortification frequently occurs in the former when the latter is still quite healthy, or at least only affected by vascular distension. Small detached depositions of matter are however commonly found in the adipous membrane, in a severe attack of the disease, and these are contained in sinuous tracks leading to some distance, as we find from the escape of matter on pressure. In the passage already quoted, Mr. Hutchison speaks of the "aponeurosis of the muscles", and the "aponeurotic expansion" as being the principal seat of the disease; and he adds that he is persuaded it is "confined chiefly to membranous parts, such as the aponeurotic expansions, skin, sheaths of tendons, muscles, &c."† If, which is doubtful, Mr. Hutchison means that the fasciæ or aponeu-

* "My own observation has afforded me convincing proofs that, in the species of the disease now under consideration [phlegmonous erysipelas] its active and destructive influence will be found more especially directed to the skin, and the reticular or condensed cellular substance forming the aponeurosis of the muscles, &c. In the genuine erysipelas phlegmonodes, pus is seldom formed in the substance of the adipous part of the tela cellulosa, exterior to the aponeurotic expansion, that is, between the membrane and the skin, its most common position is beneath these parts, and in immediate contact with the muscles." *Practical Observations in Surgery*, 2d edit. p. 113.

† *Ibid.* pp. 113, 114.

roses, properly so called, are the seat or principal seat of the disease, I cannot agree with him, having always found them unaffected in examinations after death, and seen no symptoms referrible to such an inflammation during life. They may indeed become involved in the disease, when it is violent; and they must suffer partially when it extends to the intermuscular cellular structure; but they are not primarily affected in these cases, while, in the majority of instances, they do not suffer at all.

Mr. Earle expressly says that “the disease under consideration exerts its influence principally on the subcutaneous tissue and *fascia*”^{*}; and the same opinion is held by Mr. Arnott, who calls traumatic erysipelas, “inflammation of the skin, cellular substance, or fasciæ from local injury”[†]. When phlegmonous erysipelas, attacking the scalp, proceeds to suppuration and sloughing, these changes do not occur in the aponeurosis of the fronto-occipitalis muscle, but in the loose cellular substance connecting it to the pericranium, which becomes one general deposit of matter mixed with large ragged cellular sloughs. The abundant cellular membrane of the eyelids, which, like that under the fronto-occipital aponeurosis, is completely free from fat, is another frequent seat of suppuration in erysipelas. In both these cases, as

^{*} London Medical and Physical Journal, Vol. LVII. p. 1.

[†] Ibid. p. 199. See also pp. 204. 207. and 211.

well as in the scrotum and penis, it is clear that cellular and not aponeurotic structure is the seat of this inflammation. The cases of diffuse inflammation of the cellular texture, related by Dr. Duncan, jun., are analogous to those of phlegmonous erysipelas, so far as the changes in the cellular texture go. He says "that no particular notice was, in any of our dissections, paid to the state of the fasciæ, but at least there was no such change in it any where as to attract our attention."* He mentions an instance, where the tendinous septa between the ribs remained unaffected, when the muscular substance and all other textures had disappeared.

A consideration of the origin, development and effects of erysipelas, of all its phenomena, whether local or general, leads us irresistibly to the conclusion that the nature of the affection is inflammatory. In its four leading characters of redness, swelling, heat, and pain, and in its effects of effusion, suppuration, and sloughing, it agrees with what is called common or phlegmonous inflammation; while the general disturbance, preceding and accompanying the local affection, is often exactly alike in the two cases. Erysipelas then is merely a particular modification of cutaneous or cutaneous and cellular inflammation. If we were

* Transactions of the Medico-Chirurgical Society of Edinburgh. Vol. I. p. 612.

to class these according to their natural affinities, we should place erysipelas between the exanthemata and phlegmon. It is less diffused than the former, not so circumscribed as the latter. The exanthemata are confined to the skin; erysipelas affects both skin and cellular structure; while phlegmon has its original seat in the latter, the skin being secondarily involved.

The difference between erysipelas and phlegmon, however, is not merely in the original seat or degree of the disturbance; there is also a difference in kind. We may indeed say generally that phlegmon is a more violent inflammation than erysipelas, but sloughing of the cellular substance is more frequent in the latter than in the former. The most striking and important distinction between the two affections is that inflammation is confined to one spot in phlegmon, and is distinctly circumscribed in its seat, while it is diffused in erysipelas, and spreads without limit. This difference seems to depend on the adhesive character of the inflammatory process in the former; the substance called coagulating, coagulable, or organizable lymph, effused around the inflamed part, forms a boundary between it and the sound portion, which is altogether wanting in erysipelas. In the latter the effusion is serous, hence, when matter is formed, it is not confined to one spot, but becomes extensively diffused in the cellular tissue. We cannot at present explain the cause of this dif-

ference, that is, we do not know how it happens that coagulating lymph is poured out in the one case, and serum in the other. We are equally ignorant of the essential nature in many other modifications of inflammation, which are yet obviously distinct. No one could overlook the differences between inflammation of the finger from a wound, that of whitlow, of chilblain, of erysipelas, of gout; yet who could explain the differences of vascular action which cause these distinctions?

We must therefore admit, what even superficial observation will teach, that erysipelas is a peculiar modification of inflammation in the skin and cellular texture. I can however by no means agree with those who regard it as a distinct species of inflammation, and as capable, in that character, of affecting various parts of the body as well as the skin. Some writers have referred to erysipelas certain inflammations of the conjunctiva, mouth, and fauces, of the respiratory and alimentary mucous surfaces, of the serous membranes in the head, chest and abdomen, and of the brain, abdominal and thoracic viscera *. The

* “ *Internum quoque et ad viscerum superficiem residens haberi erysipelas, a Veteribus creditum, a Recentioribus vero in dubium vocatum est. Novimus tamen, non modo in viventibus, encephalitidem, otitidem, peripneumoniam, enteritidem, singulasque inflammationum species, comparente ad externam corporis superficiem erysipelate protinus disparuisse;—hoc ipsum vero ab externis genitalibus, sine interruptione phlogosis, per vaginam ad uterum; a facie ad fauces, asperam arte-*

proof of such an opinion would consist in shewing that the same peculiarities, which distinguish erysipelas from other inflammations of the skin, are found in certain inflammations of the parts just

riam, pulmones cæterasque ad partes internas manifeste penetrasse;—sed etiam in cadaveribus ad urethram, vesicam, vaginam, uterum, ovaria, intestina, ventriculum, hepar; in pectore ad pleuram, bronchia, pericardium, cor ipsum, ac vasa majora; in calvaria ad meninges, ad cerebrum ipsum, frequentius certe erysipelatosam, quam phlegmonosam occurrit inflammatio. Ex mammarum schirro, dexterrimâ licet manu, per cultrum ablato, erysipelas in singulis fere corporis externi partibus, ac tandem lethalis peripneumonia successit: post quam pulmones undique correptos erysipelate, ex flammeo rubentes, nec duros, sed copioso sero innatantes conspeximus; ac pars plurima certe peripneumoniarum malignarum cum erysipelate pulmonum incedit; nec durus, nec cocto similis hepatis ac ponderosus in cadaveribus pulmo in illis detegitur. Nullum ergo de *interni erysipelatis* frequentia dubium superesse potest; licet signa characteristicæ, quæ hanc potius, quam phlegmonosam affectionem ad viscera indicent: nisi ab externo et retropresso erysipelate, aut a manifestâ interni hujus mali ad externam partem non interruptâ continuatione,—ex epidemica per sectiones pathologicas confirmata morbi indole,—ex cachectica subjecti constitutione ac prona in erysipelas natura,—ac demum ex causis inflammationi veræ parum faventibus, desumatur; adduci non queant.” J. P. Frank, *De Curand. Homin. Morbis*. lib. III. p. 28. Joseph Frank also admits the existence of internal erysipelas. *Præceps Med. Universæ Præcepta*, Ed. 2. Part I. Vol. II. p. 145. Callisen enumerates the mucous membranes among the parts subject to erysipelas, but he does not attempt to describe the affection in these structures. *Systema Chirurgiæ Hodiernæ*, Vol. I. § 499. Dr. Weatherhead has endeavoured to prove that puerperal fever is “purely an erysipelatosus affection.” *Essay on the Diagnosis between Erysipelas, Phlegmon, and Erythema*; Appendix, p. 51.

enumerated, and that such affections may hence be distinguished from ordinary inflammations of the same organs. No attempt of this kind has been made: on the contrary, nothing can be more vague and unsatisfactory than the arguments by which Frank, in the quotation below, attempts to support his opinion. Since the distinguishing characters of erysipelas are clearly referrible to the peculiarities of the cutaneous and cellular structures in which it occurs, we could not expect to meet with the same affection in parts so differently organized as serous membranes and the viscera *. The texture of mucous membranes presents in-

* Vogel observes, that erysipelas may recede and affect the brain, lungs, liver, stomach, bowels, &c. He adds, "It is difficult to determine in what respect internal erysipelatous inflammation differs from true inflammation. When erysipelas recedes, we know the fact well; but the appearances hence arising are not different from those of true inflammation, and the treatment is the same." *Handbuch der Prakt. Arznei-Wissenschaft*, Ed. 3. Vol. III. p. 340.—"Quæ a nonnullis medicis adhuc conservatur erysipelatis in internum et externum partitio, rationalis nosologiæ principiis prorsus repugnat; si enim derma unicum et exclusivum erysipelatis substratum largitur, ejusque functio læsa et desquamatio essentialem characterem constituit, eo ipso existentia erysipelatis interni excluditur, quod, præclari Richterî verbis utendo, verum non ens dici potest: 'Die Rose an innern Theilen ist ein unding.' Metastaticæ phlogoses membranarum internarum, quæ post erysipelas derepente repressum enascuntur, huic quidem analogum processum phlogisticum sistunt, a respectivo tamen organi affecti textu modificantur ita, ut absente dermatis typo, etiam erysipelatis characterem amittunt." *Hildenbrand, Inst. Pract. Med. tom. III. p. 604.*

deed some traits of analogy to that of the skin, and there is a corresponding conformity in some of the morbid phenomena. Thus, so far as organization is concerned, we might suppose that mucous membranes would be susceptible of erysipelatous inflammation; but we see nothing that is clearly referrible to this head, either during life or in examinations after death, although these membranes and the skin exert over each other, in many cases, a powerful sympathetic influence.

An erysipelatous ophthalmia has been described, but the cases thus denominated bear a very faint resemblance to any form of cutaneous erysipelas; while in erysipelas of the face, which closes the palpebræ, the conjunctiva either does not suffer at all, or merely experiences a slight sympathetic irritation. Erysipelas of the face does not usually extend into the mouth, although it is not unfrequently preceded or accompanied by inflammation of the mucous membrane of the fauces; and those affections of the fauces which have been called erysipelatous have only one character in common with erysipelas, namely, redness. The swelling and vesications of erysipelas are not found in these inflammations, which, on the other hand, are frequently attended with ulceration, with the formation of an ash-coloured or tawny substance adhering to the surface, and with superficial sloughing; occurrences either very unusual, or not belonging at all to erysipelas. Who has ever seen the

changes that erysipelatous inflammation would produce in the mucous lining of the air-passages, of the œsophagus, stomach, or intestinal canal? As nothing like proof has been offered of such inflammation occurring in the serous membranes or the viscera, it is not necessary to refute the notion.

Mr. Earle* and Mr. Arnott† have proposed, on the contrary, to restrict the use of the term erysipelas: they would employ it to denote inflammation of the skin only, and would remove the species called phlegmonous altogether from the catalogue of erysipelatous diseases. Mr. Earle calls it “diffused cellular inflammation,” an appellation that would be ambiguous, inasmuch as the adjective might denote either the seat or nature of the inflammation. Mr. Arnott observes, that “inflammation of the cellular substance” would be the proper name, the epithet “diffuse” being unnecessary. Mr. Earle states, that the inflammation of the cellular texture is the primary and principal affection, that of the skin a secondary effect dependent on the former‡. Mr. James, on the

* Observations on Diffused Cellular Inflammation, with Cases. London Med. and Phys. Journal, Vol. LVII. p. 1.

† Cases of Erysipelas, &c. Ibid. p. 193.

‡ Professor Rust has taken the same view of the subject. He describes phlegmonous erysipelas under the name of *E. spurium*, or *Pseudo-Erysipelas*; and he says that the inflammation of the skin is the consequence (reflex) of a previously developed and more deeply-seated affection. *Magazin*, Vol. VIII. p. 511. He afterwards states that the original affection

contrary, considers the inflammation of the skin to be the first in order, and that of the cellular substance to be consequent*. I have not observed this succession; it seems to me that, in these cases, inflammation attacks both the skin and the cellular texture at the same time, although in other instances the latter may be the seat either of acute or chronic inflammation, in which the skin participates either slightly or not at all†. Indeed, so intimate is the connexion between them, that the latter becomes immediately involved in any considerable attack of even simple erysipelas. Mr. Arnott, who has examined the subject at much greater length, and whose paper contains many interesting facts and remarks, proposes "that the term erysipelas should be restricted to that febrile affection of the system, accompanied with inflammation of the integuments of the face, to which it has most usually been applied, and that, until we have better evidence for so doing, the expres-

is a "degeneration of the cellular structure, a true mortification (*necrosis telæ cellulosæ*)." p. 513.

* "The disposition to spread is very remarkable, and this probably is connected with the circumstance that the skin is primarily affected; for there is much stronger disposition to the adhesive inflammation in the cellular membrane than in the skin. It also seems probable, that the inflammation spreading over the skin, *leads it* in the subjacent cellular membrane." *Observations on Inflammation*, p. 237.

† See Cases XXXVII. and XXXVIII., and Dr. Duncan's very interesting paper on "Diffuse Inflammation of the Cellular Texture", in *Trans. of the Med. Chir. Society of Edinburgh*, Vol. I.

sions ‘erysipelas’ and ‘erysipelalous’ should not be applied to affections of the skin in other parts of the body”*. Mr. Arnott is led to consider erysipelas of the face a peculiar affection, and to separate it from other inflammations of the skin by a distinct appellation, in consequence of its being preceded and accompanied by a fever attended with a peculiar affection of the sensorium, of its determinate course, and of its being probably derived from contagion.

The affection of the sensorium and the fever seem to me to arise from the brain participating in the inflammatory excitement of the contiguous and connected parts. Should we not expect *à priori* that erysipelas of the head would produce much more severe sympathetic effects than that of a limb? Making the necessary allowance for slight difference of structure, the inflammation itself is exactly alike in the two cases; there is no difference in the appearance of the skin during life, nor in the changes observed after death. The facts related and cited by Mr. Arnott lead, on the first view, to a strong suspicion of contagion; but in order to justify on this ground the marked distinction which he has drawn, it would be necessary to show that erysipelas of the face is, and that erysipelas of other parts is not, contagious; neither of which points is hitherto proved†. Since

* London Med. and Phys. Journ. Vol. I.VII. p. 210.

† The facts collected by Dr. Wells (Observations on Erysi-

inflammation of the cellular membrane in another form has been usually denominated phlegmon; since, in the affection now under consideration, inflammation of that texture co-exists with an inflammation of the skin, bearing all the characters of erysipelas; and since it generally leads to supuration and sloughing, which are comparatively rare in simple erysipelas, I consider the name phlegmonous or phlegmonoid erysipelas peculiarly appropriate. A further strong reason for retaining it is, that it is used by most of the medical and surgical writers of all countries.

There is another objection to this innovation in nomenclature, namely, that the new denomination proposed in place of the old and well understood name of phlegmonous erysipelas, properly belongs to another class of cases. Dr. Duncan, Jun. has published, in the first volume of the *Medico-Chirurgical Transactions of Edinburgh*, under the title

pelas, in *Trans. of a Society, &c. Vol. II.*), Dr. Stevenson (*Trans. of the Med. Chir. Society of Edinburgh, Vol. II.*), and Mr. Arnott (Cases of Erysipelas, in *Lond. Med. and Phys. Journal*, March, 1827), clearly prove that erysipelas of the face is sometimes contagious. All these cases, with one ambiguous exception (the first case mentioned by Dr. Wells), are instances of erysipelas of the face from internal causes; I speak of the original affection. I have lately met with an instance, in which erysipelas of the face, caused by a seton in the neck, seems to have affected two individuals by contagion, producing erysipelas of the face in one, and of the lower extremity in the other. See Case 19.

of "Cases of Diffuse Inflammation of the Cellular Texture, with the Appearances on Dissection and Observations," a very interesting series of facts accompanied with nosological and pathological illustrations. These are instances of acute spreading inflammation of the cellular structure, extending along a limb to the trunk, or commencing in the latter, consequent on external injury, or appearing spontaneously, attended with fever, and causing extensive diffused suppuration, sloughing, and frequently death. The appearances on dissection, as accurately detailed by Dr. Duncan, are nearly similar to those found after death in phlegmonous erysipelas, so far as the cellular structure is concerned, except that in the former the suppurative process extends more deeply, passing between the muscles, and the muscles themselves are changed in colour, sometimes quite dark and so soft as to be easily lacerated. The absence of cutaneous inflammation is particularly remarked by Dr. Duncan: "In some cases the secondary inflammation runs its course and terminates in extensive suppuration without any redness of the skin being perceptible; and in all true cases of this disease the cutaneous inflammation is secondary, and the result of the progress of the disease from the cellular tissue to the skin. Thus in No. 25, the skin of the whole side was generally inflamed, and the cuticle separated, but this was the part to which the disease had last extended, and in which it was least advanced, while the skin of

the axilla, and over the pectoral muscles and scapula, where the disease first appeared, and had made the greatest progress, was never even discoloured; the same observation was made in almost all the other cases. In the hospital nurses there was no affection of the skin, although the existence of most extensive cellular suppuration and gangrene was positively ascertained in one of them by dissection.”*

In order to show how different inflammation of the cellular structure is from phlegmonous erysipelas, and to point out what confusion would result from giving to the latter a name appropriate only to the former, I shall relate one instance of acute and another of chronic inflammation of the cellular structure. (See Cases 37 and 38.)

I am quite at a loss to discover in this affection those marks of debility which some have so much insisted on. Erysipelas, like any other inflammation, may occur in old and feeble persons, and the effects of the disease, when aggravated by injudicious treatment, or protracted from any cause, will soon weaken the most robust; but however weak the patient, the local disturbance is one of excitement; there is increased activity in the circulation of the part, clearly marked by all the symptoms. Indeed, speaking of the part, I am unable

to recognize debility as the cause of any inflammation whatever, and in reference to the seat of disease, I regard the expressions of passive and asthenic inflammation, and venous congestion, as either unmeaning, or calculated to convey erroneous notions.

In attempting to establish the distinction between erysipelas and phlegmon, we perceive a fresh proof that they are not different in their essential nature. In well marked cases the yellowish or rosy redness, the extensive soft swelling, the smarting and burning pain, the vesications and subsequent desquamation, the diffused suppuration and cellular sloughs of the former, present a strong contrast to the uniform deep red, the firm circumscribed swelling, the throbbing pain, and the limited suppuration of the latter. But between these extremes there is a numerous class of intermediate cases, in many of which we doubt whether the characters approach more nearly to the one or the other, while in some there is an apparent mixture of both. Thus we occasionally find cellular sloughs in abscesses, that must be considered phlegmonous, and we see circumscribed collections of matter in erysipelatous inflammations. Erysipelas is sometimes confined to one spot, while phlegmonous inflammation may extend in its circumference, attacking fresh parts successively, so as to produce a succession of suppurations, and thus spread over a large part or even the whole of

a limb. In chronic inflammations the distinction is more obscure; they often do not resemble the description either of phlegmon or erysipelas, but approach as nearly to one as to the other.

Phlegmonous erysipelas is easily distinguished from diffuse inflammation of the cellular texture, if we select strongly marked cases of each; but here again there is a gradual transition from one to the other form of disease. On the other hand the acute form of the latter affection is connected by the more chronic cases with simple œdema.

Nosological Arrangement.

As erythema, simple erysipelas, and phlegmonous erysipelas are merely three degrees of the same affection, they ought not to be separated in our classifications. Many writers have however disregarded their natural affinity, and placed them even under different orders of disease. Cullen, for instance, puts erythema among the phlegmasiæ, erysipelas among the exanthemata. These terms are differently employed by different authors, and are sometimes used indiscriminately; while those, who lay down distinctions, do not always observe them, so that some confusion has arisen in nomenclature. "When the disease," says Cullen*, "is

* First Lines, § 274.

an affection of the skin alone, and very little of the whole system, or when the affection of the system is only symptomatic of the external inflammation, I shall give the disease the name of *ERYTHEMA*; but when the external inflammation is an exanthema, and symptomatic of an affection of the whole system, I shall then name the disease *Erysipelas*." In the nosology he makes erythema * a species of the genus phlogosis, order phlegmasiæ. Now the first character of the genus is "pyrexia," and that of the order "febris synocha," to which is added "sanguis missus, et jam concretus, superficiem coriaceam albam ostendens." Under this species erythema he proceeds to include erysipelas as commonly described; that is, cutaneous inflammation ending in vesication and desquamation; carbuncle; chilblain, burn, the effects of other external irritants, intertrigo, and the stings of insects; phlegmonous and œdematous erysipelas. Although the leading characters of the exanthemata are thus expressed, "morbi contagiosi, semel tantum in decursu vitæ aliquem afficientes", Cullen has arranged under this order erysipelas†, which attacks the same individual repeatedly, and the contagious nature of which is, to say the least, very doubtful. The species are erysipelas vesiculosum (ordinary erysipelas), and erysipelas phlyctenodes (the shin-

* Synopsis Nosol. Method. Ord. II. Gen. VII. Sp. 2.

† Ord. III. Gen. 31.

gles*). The latter complaint is certainly not contagious, and may affect individuals repeatedly. Cullen seems to have been aware that his nosological arrangement of these affections was neither clear nor satisfactory ; for he mentions in his First Lines that “ it seems doubtful if this disease (erysipelas) be properly, in nosology, separated from the phlegmasiæ.”† And he says further “ with regard to erysipelas, nothing is more evident, than that it is not an exanthema like the others, because the fever does not cease upon the eruption,”‡ &c. It is difficult to understand what benefit can accrue to medical science from such attempts at arrangement as these.

J. P. Frank has placed erysipelas among the exanthemata, and erythema, under which he has included gutta rosea, chilblain, and intertrigo, among the impetigines §. Joseph Frank has separated them as distantly, and added nævi materni to the

* Other medical and surgical writers have classed the shingles (zona, herpes zoster) under erysipelas, viz. Cullen (*Synopsis Nos. Method. Gen.* 31.), Richter (*Anfangs-Gründe*, V. I. Ch. IV. § 182), Boyer (*Traité des Mal. Chir.* V. II. Ch. I. § 2), J. P. Frank (*Lib. III.* § 287), S. G. Vogel (*Handbuch der Prakt. Arznei-Wiss.* Ed. 3. V. III. p. 337), and Rust (*Magazin*, V. VIII. p. 505).

† § 707.

‡ MS. Lectures quoted by Dr. Thomson in his edition of Cullen's Works, Vol. II. p. 188.

§ *De Curandis Hominum Morbis*, Lib. III. § 279, et seq. § 395, et seq.

above list of affections referred to erythema*. Willan† and Bateman‡ class erythema with the exanthemata, and erysipelas with the bullæ. Yet vesication is not an essential circumstance in the disease, so that, if nosological arrangement were made to depend on the primitive form of the affection, erysipelas would not be found among vesicular diseases. M. Rayer, in his recent work on diseases of the skin §, has adopted the more natural method of placing erythema and erysipelas together, and has classed them with the exanthemata.

Most writers have admitted two other species of erysipelas; namely the *œdematous*, and the *gangrenous* or *malignant*; and others a still greater number. *œdematous* erysipelas is spoken of by some as erysipelas occurring in an *œdematous* part ||, while others place under the term those cases, in which, with erysipelatous redness of the skin, there is an abundant effusion of serum under it, so that the part pits on pressure. Gangrene is an effect produced either in simple or phlegmonous erysipelas, when very violent.

* Præcos Med. Universæ Præcepta, Part I. Vol. II. Cap. 6. and Vol. III. Cap. 20.

† On Cutaneous Diseases, Order III. Genus 6. Order IV. Genus I.

‡ Practical Synopsis, pp. 117 and 124.

§ Traité des Mal. de la Peau, Chap. I.

|| I. P. Frank, De Curandis Hominum Morbis, Lib. III. pp. 280 and 286. Boyer also employs the expression in that sense; Traité des Mal. Chirurg. tom. II. p. 8.

According to the various extent and form of the effusion under the cuticle, erysipelas has been distinguished as *miliare*, *vesiculare*, *pustulosum*, *bullosum*, or *phlyctenodes*. That which spreads successively from the point first attacked, has been called erysipelas *ambulans* or *erraticum*, while the epithets *saltans* and *volaticum* have been applied where it passes to a distant part of the body. The distinctions just alluded to are founded on differences in degree and modifications in form, and therefore hardly afford sufficient ground for establishing different species of disease. In one and the same case, and at the same time, there may be miliary and vesicular eruption, and bullæ; and such a case may be attended with sloughing. I think that every useful purpose would be fully answered by retaining the four names of erythema, simple, œdematous, and phlegmonous erysipelas.

If we were to construct a natural arrangement of diseases, we should perhaps find sufficient reasons for separating erysipelatos affections altogether from the febrile exanthemata. The latter form a natural order well characterized by the fever preceding the local disease, by their origin from a single specific cause, namely contagion, by their regular periods of efflorescence and decline, their definite duration, and by their generally affecting an individual only once in his life. Erysipelas arises from various causes, among which it is doubtful whether contagion is to be included;

it is often not preceded by fever; its course is various and uncertain; its duration indefinite, and it attacks the same individual repeatedly.

In a natural nosology, erysipelas would be classed among inflammations of the skin and cellular texture, and would follow erythema, to which we should refer slight superficial and partial inflammation, without vesication, generally without swelling or fever. This slight inflammation may extend into the cellular membrane, and be attended with swelling, as in the erythema nodosum of authors.

Of erysipelas, which may be called spreading inflammation of a considerable portion of the skin, with diffuse redness and swelling, sometimes preceded and generally accompanied by fever, it would be sufficient to admit three species; namely,—

1. ERYSIPELAS SIMPLEX; superficial spreading inflammation of the skin, with bright scarlet or rosy redness, and soft tumefaction of the part, generally with vesications and fever.

Synonyma.—*True or genuine erysipelas.*—*E. exanthematicum*, or *verum* (Rust, of erysipelas of the face).

Varieties.—*Acutum*, *chronicum*; *periodicum*, *habituale*; *perstans* or *fixum*; *ambulans* or *errans*.

ticum ; *saltans* or *volaticum* (disappearing from its original seat, and re-appearing in a distant part) ; *miliare*, *vesiculosum*, *bullosum*, *phlyctenodes* ; *idiopathicum*, *traumaticum*, *sympatheticum*, or *symptomaticum*, *bilosum*, *gastricum*.

2. E. ŒDEMATODES ; the swollen part dark red, an ditting on pressure.

3. E. PHLEGMONOSUM ; acute inflammation of the skin and cellular texture, with firm, general, and deep red swelling of the affected part, ending quickly in suppuration and sloughing.

Synonyma. — *Diffuse cellular inflammation* (Earle). *Inflammation of the cellular texture* (Arnott). *Diffuse phlegmon* (Baron Dupuytren). *E. spurium* or *pseudo-erysipelas* (Rust). *Phlegmon erysipelatosus*.

Causes.—There is really no difference, in this respect, between erysipelas and other inflammations. The habitual excitement of the vascular system, or the long continued disturbance of the stomach, alimentary canal, and liver, consequent on intemperance and excess, lay the foundation of inflammation generally, and it depends on individual peculiarity, or on local causes, whether the skin or other parts shall be the seat of disease. In most cases of erysipelas the biliary and digestive systems are more or less actively disordered, such

disorder appearing sometimes to produce the cutaneous affection, sometimes to be excited sympathetically by it. Hence Desault established the denomination of *bilious* in contradistinction to *phlegmonous* erysipelas: on which division it may be observed that the symptoms called bilious are commonly found also in the phlegmonous cases.

When it arises from internal causes, that is, when its appearance depends on the previous existence of disorder in another organ, it is called *sympathetic* or *symptomatic* (*secondary, consensuale, deutero-pathicum*). But, in a large proportion of cases, it is directly excited by external causes immediately acting on the part, and it is then called *idiopathic** (*primary, protopathicum*). Thus it is caused by external irritants of all kinds; by heat or cold, by blisters, issues, setons, caustics, or other acrid matters applied to the skin; by wounds, punc-

* The explanation which I have given of the epithets *idiopathic* and *sympathetic*, as applied to erysipelas, accords with the original signification of the words, and with the usage of the best modern writers. See Dict. de Médecine, Tom. XII. art. *Idiopathie*. Hildenbrand, Inst. Prac. Med. Vol. III. p. 604; Chelius, Handbuch, Vol. I. p. 60; Rayer, Traité des Mal. de la Peau, Tom. I. p. 108. It must be observed, however, that Callisen seems to use these terms respectively in the opposite senses: see Syst. Chir. Hod. Tom. I. p. 243; and that the epithet *idiopathic* is often applied, in this country, to erysipelas arising from internal causes. Pearson's Principles of Surgery, Ed. 2, p. 200 and 203, Arnott, in Lond. Med. and Phys. Journal, March, 1827.

tures, bruises, surgical operations, and all kinds of injury (*traumatic E.*). The mechanical or chemical irritation of wounds, ulcers, or other local diseases will cause it.

Neglect of previous preparation, inattention to diet, injudicious modes of dressing, continued exercise of the affected part, and an imprudent degree of general exertion, are frequent causes of erysipelas after operations and wounds, and in the course of ulcers and other local affections. When these several points are properly attended to, we shall not be much troubled with traumatic and hospital erysipelas.

Irritating plasters, a heating load of dressings, and tight bandaging, are common causes of erysipelas, whether in the case of wounds or operations. Light applications and keeping the part cool are simple but effectual preventives. The most frequent source, however, of this affection, after accidents or operations, is improper diet, that is indulgence in animal food, or fermented liquors; and the surgeon is, in many cases, more to blame than the patient. He frequently does not enforce the necessary precautions and restrictions, and often appears as anxious, under the absurd fear of debility, that the use of meat, wine, and beer should be renewed, as the patient or friends usually are. During the confinement consequent on a wound or operation, these articles should be pro-

hibited ; that should be the general rule, to which exceptions may be allowed under particular circumstances.

Simple erysipelas, and those cases more especially, which some writers have denominated the exanthematous, true, or genuine species of the complaint, are usually of the sympathetic kind, arising from internal causes, particularly from disorder of the *primæ viæ* or liver: hence the epithets *bilious* and *gastric*. As these causes are more or less permanent, they may produce repeated attacks of the disease, or render it of long duration: hence the expressions of *periodic*, *chronic*, and *habitual* erysipelas. The occurrence of erysipelas of the face may be traced in some instances to contagion.

Phlegmonous erysipelas is more commonly idiopathic ; it supervenes on the wound of venesection, on injuries of the superficial bursæ, as those of the patella and olecranon, on incised and lacerated wounds, and compound fractures. An inflamed state of ulcers, especially in the lower extremities, is a common cause of it. This frequently comes on when large ulcers or extensive wounds are healing rapidly, in persons confined to bed and allowed a full diet of meat and beer. It has often been produced by wounds received in dissection.

Treatment.—As this affection resembles other inflammations in its causes, symptoms, and effects, so

it must be treated on the same principles; that is, on the antiphlogistic plan. Venesection, local bleeding, purging, and low diet are the first measures, to which saline and diaphoretic medicines may be afterwards added. The earlier these means are employed the better : vigorous treatment in the beginning will often cut the attack short, and prevent the disease from spreading beyond its original seat. (Cases 7, 8. 10, 11. 13. 17.) As the skin and cellular membrane are of secondary importance, it is not so urgently necessary to arrest inflammation in them, as in the vital organs; neither does the same reason for very active treatment exist as in affections of the eye, where a slight change of structure may seriously impair the utility of an organ essential to our comfort and pleasure: but the extensive suppuration and mortification, which erysipelas sometimes produces, may render a limb in great measure or totally useless, or may even destroy life.

The disposition of erysipelas to terminate by resolution is another reason against resorting indiscriminately to active depletion. In many cases the disease passes through a certain course and ends spontaneously: it is sufficient to put the patient on low diet, to clear the alimentary canal, and then to use mild aperients and diaphoretics. When it proceeds, as it often does, from unhealthy conditions of the alimentary canal, the removal of the internal disorder leads to the cessation of the local

complaint. It must however be observed, that venesection is sometimes useful, both in curing the internal cause of erysipelas and in promoting the termination by resolution.

It will appear from the foregoing remarks, that in contending for the inflammatory nature of erysipelas, and for the propriety of treating it antiphlogistically, I do not mean to recommend that measures equally active, and, in particular, that bleeding whether general or local, are to be employed in all cases. In young persons, in the robust and those of full habit, in instances where the pulse is full and strong, or when there is head-ach and white tongue, in erysipelas of the head attended with symptoms denoting affection of the sensorium, and more especially in the very beginning of the affection, venesection will be proper, and it may be necessary to bleed largely, to repeat the evacuation, or to follow venesection by local abstraction of blood. (Cases 7, 8, 9. 11, 12, 13. 17.) Under such circumstances, the other parts of the antiphlogistic plan must be also employed, that is, the alimentary canal should be cleared by an active purgative, which may be followed by salines and antimonials, with the occasional use of milder aperients; and low diet should be enjoined. Nothing can be more different from such a case, than that of an elderly person with a small and feeble pulse, in the advanced stage of the disease. The interval between these extremes is filled by

numerous gradations requiring corresponding modifications of treatment. The antiphlogistic plan itself embraces a wide range in point of degree; from blood letting, local and general, with purging, vomiting, the free use of mercury and antimony, and low diet, to the exhibition of a mild aperient, with some saline medicine. (Case 19.) The treatment of erysipelas, like that of any other inflammation, must be modified according to the age, constitution, previous health and habits of the patient and the period of the complaint. In asserting generally that the antiphlogistic treatment is proper, I speak of the beginning of the disease, when the original and proper character of the affection is apparent; and I am decidedly of opinion that, in some shape or degree, such treatment will always be beneficial in that stage. In many instances active antiphlogistic measures are of the greatest service in lessening the severity both of the local and general symptoms. In others the administration of calomel with aperients, and of diaphoretics with low diet, will be sufficient. When the affection occurs in old and debilitated subjects, the powers of life are soon seriously impaired, and our efforts must be directed rather towards supporting them, than combating the local affection. I have often seen such patients labouring under erysipelas of the face in its advanced stage, with rapid and feeble pulse, dry and brown tongue, recovered, under circumstances apparently desperate, by the free use of bark and wine.

The cases of erysipelas, which I have seen in young persons, have almost all proceeded from external causes, and required antiphlogistic treatment. The tonic and stimulating plan has been injurious to such patients under all circumstances.

Local bleeding is sufficient in the milder cases of erysipelas, and is often necessary in the more severe ones, as an auxiliary measure. It may be accomplished either by cupping or leeches. The former, where practicable, is the most efficacious: a great objection to it arises from the painful state of the inflamed skin. Although leeches, when applied to the sound skin of some individuals, produce an effect analogous to erysipelas, they exert no similar influence over the inflamed skin, to which they may be applied freely and safely. (Cases 9 and 18.) The apprehensions expressed by Willan*, Thomson† and others are groundless‡.

* "I must however observe, that it is not safe to put either blisters or leeches on or near the diseased surface." *On Cutaneous Diseases*, p. 518.

† "It has been observed that punctures and leech-bites in inflamed cutaneous texture are liable to aggravate the inflammation already existing, or even to bring on the state of mortification." *Lectures on Inflammation*, p. 186.

‡ "The former [leeches] I have used in many cases, and I have never seen the dreaded mortification of their bites,"—"In many of the cases leeches were very freely applied to the seat of the pain, swelling and inflammation, and, although in some instances they were supposed to do harm, I am rather disposed to think that the subsequent increase of inflammation was the natural progress of the disease, which they were unable to

In order to produce any decided benefit, they must be applied in large numbers. Respecting the plan of taking blood from the part by small punctures with a lancet, which has been used extensively with so much success by Dr. Dobson, I refer to his own observations, printed in the present volume.

For the satisfaction of those who may hesitate to adopt a practice unless it should be sanctioned by authority, I may cite much testimony, both of fact and opinion, in favour of the antiphlogistic treatment. In the short chapter which he has devoted to the subject under the title of "*Febris Erysipelatosa*," Sydenham* has described the check: of this at least I am certain, that in none of the cases in which they were applied under my observation, did they show the least tendency to fester or become gangrenous." Dr. Duncan, Jun. in the *Medico-Chirurgical Transactions of Edinburgh*, Vol. I. p. 638.

* "*Ubi primum accedo, satis largam sanguinis quantitatem e brachio extrahi præcipio, qui quidem pleuriticorum sanguinem fere semper æmulatur. Die sequente blandam illam potionem cathartica mihi in praxi familiarem exhibeo. Peracta catharsi, partem adfectam sequenti decocto foveri jubeo.—Æger insuper ut jusculis tantum hordeaceis atque avenaceis, cum pomis assatis vescatur, volo; tum etiam cerevisia utatur tenuissima, et per horas aliquot a lecto sibi temperet. Hac methodo tum febris, tum alia symptomata, citissime ut plurimum fugantur. Sin aliter, rursus venam seco; quod et tertium nonnunquam fieri debet, interposito semper die uno, si prava nempe adsit sanguinis diathesis, et febris intensior.*" *Obs. Med. circa Morborum Acutorum Historiam et Curationem*, Sect. VI. cap. 6.

phenomena and course of the disease briefly but very clearly, and has recommended a simple plan of treatment, consisting of venesection, purgatives, low diet, and fomentation to the part. "I think," says Cullen, speaking of erysipelas, "that bleeding is as necessary here as in any phlegmasiæ, where we allow the fever to depend on the topical affection : and further, not only on the first appearance of suspicion, but at any time in the after progress of erysipelas, bleeding may be practised, and is necessary, in proportion to the degree of the fever attending, and to the violence of the topical inflammation." He again states, "upon this conclusion, the erysipelas of the face is to be cured very much in the same manner as phlegmonic inflammations, by blood-letting, cooling purgatives, and by employing every part of the antiphlogistic regimen ; and our experience has confirmed the fitness of this method of cure. The evacuations of blood-letting and purging are to be employed more or less according to the urgency of symptoms, particularly those of the pyrexia, and of those which mark an affection of the brain. As the pyrexia continues, and often increases with the inflammation of the face, so the evacuations mentioned may be employed at any time in the course of the disease."* He adds, that although erysipelas may occur in other parts of the body, and be accom-

* Works by Dr. Thomson, Vol. II. p. 188.

panied with pyrexia, the symptoms are less violent, and the complaint less dangerous than in the face, so that it does not require equally active treatment.

Richter* advises venesection in the more violent forms of the complaint, and states that it is indispensably necessary when the fever runs high, and more particularly when the head is the seat of disease. He considers bleeding contra-indicated by the presence of gastric symptoms. For the latter he resorts to emetics and the free use of purgatives.

The precepts of Vogel† on the same subject are nearly similar. He directs venesection and its repetition if necessary, together with the antiphlogistic treatment generally, when the patient is plethoric and the fever inflammatory. But he observes that blood is not to be drawn so freely as in true inflammations, because the fever of erysipelas is seldom, if ever, purely inflammatory.

J. P. Frank‡ recommends repeated venesection, followed by local bleedings in cases of inflammatory character, with full and strong pulse, especially when the head is affected. He thinks

* Anfangs-gründe der Wundarzney-kunst, Vol. I. § 188.

† Handbuch, Vol. III. p. 348.

‡ De Curandis Hominum Morbis, Lib. III. p. 54.

that the gastric symptoms need not be regarded, as they arise from inflammatory irritation. When the trunk or the extremities are the seat of disease, the lancet is not to be employed so freely. Joseph Frank * strenuously advises venesection in inflammatory cases, observing that leeches may be used if the protracted stage of the disorder should render bleeding inadmissible.

Dr. Duncan, Jun. has published in the Edinburgh Medical and Surgical Journal, Vol. XVII., under the head of "Cases of Erysipelas successfully treated, chiefly by Venesection," the details of ten cases, accompanied with judicious remarks on the treatment and nosology of erysipelas. Nearly all of these were treated by large bleedings, which in several were repeated: and the results fully bear out the concluding remarks of the author. "These cases, I think, sufficiently prove that there is nothing in the nature of erysipelas

* "*Venæsectione autem, quemadmodum in genuinis inflammationibus, utimur in ægro robusto et florido, in morbo recente, sub anni constitutione morbis inflammatoriis favente, sub pulsu constante, in morbo phlegmonoso cum sopore et delirio. Nec symptomatum sive gastricorum, sive nervosorum hepatis cum cerebro aut nervorum cum ventriculo consensui tribuendorum præsentia, hic a venæsectione nos absterreat. Si provento in morbo vires jam evidenter fractæ usum venæsectionis dubium redderent, ad hirudines, quocumque tempore, sub gradu mali minore phlebotomiæ locum facile tenentes, confugiendum foret.*" *Præceos Medicinæ Universæ Præcepta*, Ed. 2. P. I. Tom. II. p. 165.

essentially different from other inflammations. In ten cases occurring in immediate succession, the antiphlogistic treatment generally was employed with decided advantage. Two or three cases only were not bled, because they were so slight as not to require it; and wine was given to one patient only, in a state of extreme exhaustion from chronic disease. It cannot be said that these cases were all of that variety called phlegmonoid, which has always been considered to require some depletion; for, in their external appearance, they presented every variety of form; and they occurred in patients of both sexes, at different ages, and in opposite states of previous health; and, as I have repeatedly said, they were not selected as suited to the treatment employed, but were all that occurred. I am aware that something may have been owing to the constitution of the season or year, as all diseases are now considered to partake more of a phlogistic diathesis than formerly. But I cannot avoid coinciding with Professor Hufeland, that the alleged periodical change in the character of diseases, depends as much upon fashion in medical opinion, as upon real difference in their nature. Sure am I, that the continued fever, which we now treat antiphlogistically, is the very same that, thirty years ago, was treated with the most powerful stimuli."*

* Edinburgh Medical and Surgical Journal, Vol. XVII. pp. 560, 561. In the same Work, Vol. XXIV. will be found "A Case of Erysipelas of the Face successfully treated by W. Maclean,"

According to the statements in two works* recently published, it should seem that the surgeons and physicians of Paris adopt very decidedly the antiphlogistic plan of treatment, and disapprove of the use of tonics and stimulants. The authors alluded to recommend venesection, particularly in the beginning of the disease, and its repetition, when necessary; the free use of leeches to the inflamed part, low diet, acidulated and diluent drinks. Such are the means they advise in simple erysipelas, when it is violent and accompanied with fever, in erysipelas of the face and head, in phlegmonous erysipelas of the limbs, and in œdematous erysipelas, when the tumefaction has been produced by the inflammation. They advise the application of leeches to the epigastric region, where the cutaneous inflammation has been caused sympathetically by gastro-intestinal irritation.

On the other hand, high authorities may be brought forward against the use of the lancet in erysipelas; these are principally of comparatively modern date. Some of them not only object to evacuations of all kinds, but recommend tonics

in which a bold antiphlogistic treatment was eminently successful; p. 285. And in the same volume, p. 287, is "An Account of Cases of Erysipelas treated chiefly by Leeches and Warm Fomentations," by W. H. Burrell, with some short but very sensible remarks.

* Roche et Sanson, *Nouveaux Elémens de Pathologie Medico-Chirurgicale*, Tom. I. p. 351. Rayet, *Traité Théorique et Pratique des Maladies de la Peau*, Tom. I. p. 221—241.

and stimuli, such as bark, ammonia, and wine. "I believe", says Dr. Fordyce, "there are many practitioners in this country who still adhere to the treatment of erysipelatous inflammation, and those of the mucous membrane, when pure, by bleeding and other evacuations, which *I have always found hurtful.*" * He mentions that he includes under erysipelatous inflammation "inflammation of the skin, when it only is inflamed, or inflammation of the surface of an ulcer, when the very surface only is sore and inflamed, or inflammation of the mucous membrane, where there is little secretion from the mucous glands." † "In all such cases which are pure, that is unmixed with phlegmonous inflammation, or increased secretion from the mucous glands, even in some cases of the latter intermixture, Peruvian bark is the most powerful remedy that can be employed, and is almost always successful. It should be exhibited in substance, if the patient's stomach will bear it, and in this disease it will almost always bear it, and in as great a quantity as the patient's stomach will bear, which is commonly to the quantity of a dram every hour." ‡

Dr. Wells §, who, like Dr. Fordyce, was phy-

* Transactions of a Society for the Improvement, &c. Vol. I. p. 293.

† Ibid. p. 291.

‡ Ibid. p. 293.

§ Ibid. Vol. II. p. 224.

sician to St. Thomas's Hospital, strongly recommends the same practice, and argues that the delirium and coma, which occur in bad cases of erysipelas affecting the head, do not depend on inflammation of the brain or membranes; and that, generally speaking, there is not an inflammatory state of the system in erysipelas.

Although Cullen speaks of erysipelas as not requiring evacuations in all cases, his representations do not seem to be founded on his own experience. "We have hitherto considered erysipelas as in a great measure of a phlegmonic nature; and, agreeably to that opinion, we have proposed our method of cure. But it is probable, that an erysipelas is sometimes attended with, or is a symptom of a putrid fever, and, in such cases, the evacuations proposed above may be improper, and the use of the Peruvian bark may be necessary; but I cannot be explicit on this subject, as such putrid cases have not come under my observation." *

His MS. lectures contain the following observations in reference to the same point: "I have heard of late, with regard to this subject, of different opinions of some very excellent physicians, some London practitioners, who tell us that the erysipelas faciei is to be cured by the bark. I

* First Lines, 1786. Vol. II. p. 233.

cannot pretend to judge till I see the particular cases, and I can imagine that there are cases which are not phlegmonic erysipelas, but on the contrary arise from the effusion of an acrid humour, which is remarkably disposed to turn into gangrene: but in this country I have not met with one case of this kind, and of fifty cases, I have seen forty cured by bleeding as plainly as any phlegmasia whatever. I have had cases which proved fatal, but these were few, and evidently with a communication to the internal carotid arteries; and perhaps they were only to be overcome by this same venesection.”* Again, in his *Materia Medica*, he says, “I have very constantly found erysipelas to be more or less of the phlegmonic kind; and in this country I have hardly seen it in any degree putrid. In erysipelas, therefore, I have found the bark generally hurtful; but from the account of authors, it appears to be sometimes of a putrid nature, although, as I judge, especially, perhaps only, when it accompanies other diseases of a putrid kind, and in such cases the bark may be a necessary remedy.”†

Dr. Willan almost proscribes the employment of bleeding in erysipelas. “All the ancient writers,” he observes, “except Galen, recommend blood-letting as a principal remedy in the treatment of

* Works, by Dr. Thomson, Vol. II. p. 189.

† Ibid. p. 191.

erysipelas. This practice must evidently be improper in the three forms of erysipelas last described [namely the *oedematodes*, *gangrenosum*, and *erraticum*], and even in the erysipelas *phlegmonoides* it does not always appear necessary. When the blood drawn is *sizy*, practitioners are often induced to bleed a second time; but we generally find, in London, that repeated blood-letting aggravates the symptoms and protracts the disease. In a comatose or apoplectic state the application of leeches or cupping-glasses at the nape of the neck may be advisable.” * Such are the observations of Dr. Willan respecting the treatment of a complaint, in which, by his own description, violent local inflammation, marked by intense shining red colour, burning heat and excruciating pain, is combined with severe febrile symptoms and serious affection of the brain, and produces extensive suppurations, ulceration, and mortification, thereby causing material injury to the muscles and tendons of the parts affected.

The sentiments of Willan are echoed by Bateman. “ Blood-letting, which has been much recommended as the principal remedy for the acute erysipelas, is seldom requisite; and, unless there is considerable tendency to delirium or coma, cannot be repeated with advantage, at least in London and other large towns. Local bleeding and blis-

* On Cutaneous Diseases, p. 507.

tering may be substituted in such cases, but not upon or very near the diseased surface.”* Dr. Bateman, however, enters his protest against cinchona and opium. “The administration of cinchona and opium in this form of the complaint (the phlegmonous) is certainly unnecessary, and appears to be of very equivocal safety, notwithstanding the authority upon which it has been recommended.”†

The objections of Cullen and Bateman to the use of bark are probably founded on their observation of the practice in medical cases. Mr. Hutchison‡ gives a similar testimony from his surgical experience. “I have never found bark (cinchona) of any service, except in that species of erysipelas styled *erysipelas erraticum*, and not always then.”

In the preceding quotation, Dr. Willan particularly objects to the employment of blood-letting in London, and he is followed by Dr. Bateman, who extends the prohibition to other large towns. How far this influence of London reaches; at how many miles bleeding becomes safe or proper; and what size or population of a town renders it inadmissible, are important questions on which we are

* Practical Synopsis of Cutaneous Diseases, p. 131.

† Ibid.

‡ Letter to Dr. Butter, published by the latter in his Remarks on Irritative Fever, p. 234.

left in the dark. Neither do we learn whether the same objection to venesection exists in Edinburgh and Dublin, or in the great cities of the Continent. I believe that the discovery has not been made in any of those situations ; I agree in opinion with Dr. Duncan, Jun. *, that this strange notion of erysipelas being so different in its nature in London and the country, as to require opposite treatment, is supported neither by experience nor argument ; and I consider that the subjoined cases prove it to be completely erroneous. The inhabitants of London, from the highest to the lowest, with few exceptions, indulge their appetites freely ; there are no small towns, nor any parts of the country, in which the consumption of animal food and of stimulating liquors is more general. These habits, of which the injurious effects are aggravated in many instances by sedentary occupations or indolence, produce their natural consequences, namely, a plethoric state of the system, and an abundance of inflammatory disease, both of which circumstances will be immediately recognized on attentive observation whether among the higher or lower classes. I have not the least doubt that inflammations are as common and as violent among cocknies as among countrymen ; and that they require the same treatment in both instances. The dread of depletion has been transmitted from one

* Edinburgh Medical and Surgical Journal, Vol. XVII. p. 561.

to another without examination or inquiry, and has led to an inert practice, under which disease has too often been suffered to proceed almost uncontrolled.

Dr. Carmichael Smith, at the same time that he objects to venesection, points out the dangers which attend the opposite plan of treatment. "In general we may venture to say that the lancet is seldom necessary for the cure of the erysipelas; but that we frequently experience the most salutary effects from the use of emetics, gentle laxatives, and neutral salts, especially when combined with camphor, sweet spirit of vitriol, absorbents, æther, &c.; that cases also occur, in which (particularly towards the conclusion) the strength of the patient requires to be supported by broths, wine, &c., and where the free use of the bark, with aromatic cordials, is necessary to check the tendency to gangrene. At the same time I think it a duty to declare that from the injudicious use of these medicines, in the beginning of the disease, I have often seen the tendency to gangrene accelerated, nay, evidently brought on by the very means used to prevent it."*

Mr. Pearson represents erysipelas to be an affection widely differing from inflammation†;

* Medical Communications, Vol. II. p. 190.

† Principles of Surgery, 1808, p. 187.

and respecting the treatment of it, even in the acute form, he says "that cases very rarely occur in large towns, where bleeding is at all admissible; and a repetition of the operation will very seldom be necessary or advisable."*

Dr. Thomson, speaking of inflammations of the skin generally, says that the constitutional symptoms attending them "are sometimes of the sthenic, though most frequently of the asthenic character. Hence it is that we have so seldom occasion to employ venesection in cutaneous inflammation."† He observes, on another occasion, that "the constitutional symptoms in the inflammatory affections of the cellular membrane, like those attending the inflammation of the skin, are usually of an asthenic character."‡ The term asthenic, as employed here by Dr. Thomson, is not very clear; and the context does not contribute to elucidate its meaning; for he says, in the same page, that phlegmon is the most common form in which inflammation appears in this structure; so that, by putting together the two passages, we should be led to infer that the constitutional

* Principles of Surgery, 1808, p. 211. He objects to loss of blood even in erysipelas consequent on wounds of the head, merely admitting that the abstraction of a few ounces by cupping may be allowed in the early stage, or that leeches may be applied if the brain is likely to be affected, p. 214.

† Lectures on Inflammation, p. 145.

‡ Ibid. p. 146.

symptoms of phlegmon are generally asthenic, although this affection has usually been regarded as the type of active inflammations; and the epithet phlegmonous is often used as synonymous with acute or violent.

The direct opposition, both in opinion and practice, which the preceding quotations disclose, must appear very extraordinary, and not calculated to increase our confidence in medical doctrines. I see no mode of reconciling the difference. It is true that erysipelas goes through a certain course, and ends by resolution in many cases, not requiring any active treatment. Bark and ammonia would probably not materially alter the character and progress of the affection: it may be reasonably doubted whether these remedies, more especially the former, have so much influence on the system, as we are inclined to believe.

Although Desault restricts the use of emetics to what he calls bilious, in contradistinction to phlegmonous erysipelas, I do not consider them sufficient, as the principal means of treatment in many of those cases. (See Cases 5. 7. 13. 17.) They are however useful after the abstraction of blood, where the tongue is furred and nausea or sickness is present. When the latter symptoms are not accompanied by much febrile disturbance, the emetic plan may be pursued, and followed by aperients and diaphoretics. The liquor antimonii

tartarizati may be given in the dose of half an ounce every half hour, until the stomach is cleared. This may be followed by calomel and aperients.

Under the like circumstances, that is, when a white tongue and other symptoms of disordered digestive organs remain after the use of evacuations, the local disease continuing, the free use of calomel alone, or combined with James's powder, is very advantageous: it acts copiously on the bowels, cleans the tongue, and improves the state of the stomach. Two, three, or four grains of calomel, either alone, or joined with two or three grains of James's powder, may be given every six hours, for one, two, or three days. The hydrargyrus cum cretâ might be used in the same way. (See Cases 2. 4, 5, 6. 8. 11, 12, 13, 14.)

When the means now detailed have arrested the inflammation, the patient is probably reduced in strength, and may seem to require the aid of good diet and tonic medicines. Medical practitioners in general are anxious to begin the strengthening plan; they seem to have the fear of debility constantly before their eyes, and lose no time in directing the employment of bark, and recommending animal food with beer or wine. In this way relapses are frequently produced; the inflammation and fever are renewed, further local mischief is caused, and recovery is retarded. When indeed the redness

and swelling of the part are gone, when the pulse is quiet, and the tongue clean, that is, when the patient is well, there can be no great objection to the bark. The natural powers of the system quickly restore its strength, when the disease has been stopped by active treatment; in such cases strengthening medicine and regimen are not required. In others they must be used with the greatest caution. (Cases 2. 18, 19.) Sometimes they are at once obviously injurious; in others they do good at first, but soon cause a return of the complaint if persevered in. It is safest therefore to leave them off as soon as the state of the pulse, or of the other symptoms, which have indicated their employment, is changed. The subcarbonate of ammonia is the best medicine in those cases, in which we doubt whether stimuli should be employed or not. It may be given without any risk of reproducing inflammation, while in most cases it is decidedly advantageous. Five, six, or eight grains may be administered in a draught every three, four, or six hours. (Cases 6 and 10.) Dr. Peart* and Mr. Wilkinson† regard it almost as a specific in scarlet fever and erysipelas.

Bark comes next in order to the volatile alkali; and the sulphate of quinine is the most eligible

* Practical Information on Erysipelas, Erythema, &c. 1802.

† Remarks on Cutaneous Diseases, 1822. p. 16.

form of the remedy. Wine is sometimes necessary ; but it should be used very sparingly, and discontinued as soon as the necessity has ceased.

General experience has determined that local applications possess but little efficacy ; they relieve the patient's feelings however, if they do not contribute greatly to stop the disease. In the commencement, and before the inflammation is fully developed, cold applications are very agreeable by lessening the sharp burning heat of the skin. If their use is preceded and accompanied by a proper plan of general treatment, there is no fear that the diminution of the external affection will cause inflammation of any internal part. Warm applications, more especially fomentations, are very soothing when the inflammation is developed. To derive the full benefit from them, they should be used steadily for hours together, and the part may be covered with a warm bread and water poultice in the intervals of fomenting.

Dr. Peart recommended a lotion consisting of subcarbonate of ammonia and superacetate of lead, of each, one drachm ; rose-water one pint. This is highly extolled by Mr. Wilkinson.

The application of blisters to the inflamed surface, employed in France, has been sanctioned by the high authority of Baron Dupuytren. The

phlegmonous and the erratic species of the complaint, more particularly the latter, have been thus treated. In a surgical thesis, printed at Paris, the following summary of the treatment, adopted by Baron Dupuytren in erysipelas, is said to have been taken from his clinical lectures :—

“ If the skin be red, tense, dry and hot, with fever (*éréthisme général*)—if the tongue be dry and red, a blister or an emetic would do harm—bleedings and leeches are proper. In a bilious constitution, with the tongue covered by a yellow mucous coat, and bitter taste in the mouth, with pains in the head and bilious evacuations, an emeto-cathartic, or the tartrate of antimony in a large quantity of fluid is indicated. When the tongue is moist and slightly red, the skin moderately tense and hot, when there is local inflammation with little general reaction, the erysipelatous phlegmon should be brought to a crisis by suppuration, excited externally, by one or more blisters. If the local inflammation have a languid atonic character without symptoms of sanguineous or bilious plethora, if in short the state of debility be well marked, which will happen particularly in old subjects, we must immediately resort to tonics.”*

The author of this thesis observes, that the application of blisters is not safe when the head,

* De l'Erysipèle Phlegmoneux, par F. Olivet, p. 30.

chest, or abdomen is affected; that a blister applied to the neck caused delirium and death; and that a patient died on the following day in consequence of one having been placed on the chest. He states, that in the year 1818, these affections generally ended in suppuration, and that the use of blisters was not so advantageous in that year.

Rayer* disapproves the use of blisters: and Roche and Sanson speak of the practice in a manner which is not calculated to recommend it. "If the erysipelas is spreading (ambulant), if it threatens to affect successively a large portion of the skin, to last a long time, or to extend indefinitely, it is necessary to fix it by the application of a blister in its centre. But this method, which always occasions severe pain, which usually leads to the formation of an abscess, and which sometimes causes mortification of the part to which the blister is applied, must be employed with caution, and only in cases where the extension of the inflammation might lead to serious consequences."†

I have tried this treatment three or four times in simple erysipelas of the extremities, applying the blister on the boundary of the inflamed and

* *Traité des Mal. de la Peau*, p. 125.

† *Nouveaux Elémens de Pathol. Medico-Chirurgicale*, Tom. I. p. 352.

sound parts, so as to cover an equal portion of each. The inflammation stopped in these instances; but, as other means were employed at the same time, I could not determine how much of the benefit was due to the blister, which, however, did not cause suppuration nor any other unpleasant effect.

“ I perfectly recollect,” says Mr. Hutchison, “ one instance, which was in the person of an intelligent surgeon in London, where a blister was applied completely round the arm, so as to encircle it some little distance above the described line of demarcation, that stopped, or seemed to stop the progress of the disease; for the inflammation did not extend above the blister, and the patient recovered.”*

Compression, by means of bandages applied throughout the whole length of the inflamed limb, has been extensively employed in France by Messrs. Bretonneau† and Velpeau‡, the latter of whom has published numerous cases of erysipelas

* Letter to Dr. Butter, in his Remarks on Irritative Fever, p. 233.

† In his thesis *De l'Utilité de la Compression dans les Inflammations Idiopathiques de la Peau*, 1815.

‡ *Mémoire sur l'Emploi du Bandage compressif dans le Traitement de l'Erysipèle Phlegmoneux, de la Brûlure, et de plusieurs autres Inflammations aiguës des Membres*; in the *Archives Générales de Médecine*. Tom. II. pp. 192 and 395.

of all kinds and in all stages, treated in this manner with a degree of success so great and uniform as to appear almost suspicious; at least similar success does not attend the same treatment employed elsewhere, which on the contrary seems by no means free from danger. In a case related by Dr. Duncan it caused a serious aggravation of the inflammation, and death; and similar injurious consequences ensued in the only instance in which I have seen it tried (see Case 36). In the former patient, a maid-servant of thirty-six, after headache and other feverish symptoms, inflammation occurred in the fore-arm and arm, with redness, swelling, and acute pain, which were not relieved by venesection, purging, and fomentations. A bandage was applied firmly from the fingers to the elbow at first with relief. "The pain however soon became excruciating, and at the earnest desire of the patient the bandage was loosened. Above the bandage the arm was observed to be very much swelled and inflamed." On the following day "she had not quite so much pain, but the inflammation of the arm was become much darker, her pulse much weaker, and her countenance sunk. Several vesicles of considerable size containing a dark coloured fluid were scattered up and down the arm both above and below the elbow." Death ensued the next day*.

* Transactions of the Med. Chirurg. Society of Edinburgh
Vol. I. p. 543.

Treatment of Phlegmonous Erysipelas.

Venesection, and the application of leeches in large numbers to the inflamed part, together with the antiphlogistic treatment generally, may be advantageously employed in the early stage of phlegmonous erysipelas, in order to prevent the full development of the affection. The bleeding of the leech-bites should be encouraged by warm fomentations, and cold lotions may be afterwards applied to the part: when, however, the inflammation is more advanced, the latter must be exchanged for fomentations and poultices. After the bowels have been evacuated, calomel and antimony may be freely administered, accompanied with saline medicines. The local abstraction of blood is more serviceable than venesection; the latter therefore may be reserved for the instances in which the patient is young and plethoric, the pulse full and strong, or the head much affected.

If we do not cut the disease short in its earliest stage by this kind of treatment, or if, as very frequently happens, we do not see the case until the inflammation is fully established, perseverance in direct depletion is of little avail in checking its further progress. The inflammation will now pursue its course, both in the cellular membrane and skin, in spite of bleeding, whether general or local; suppuration and sloughing speedily supervene, and these destructive processes soon extend over a

large portion of a limb. Indeed I have found that venesection exerts but little influence over inflammation of the cellular texture, and therefore recommend its occasional employment, not so much with the view of arresting the local disorder, as on account of the feverish symptoms when they are considerable (Cases 26 and 29). I have repeatedly found both general and local bleeding fail to accomplish the former object, in proof of which, I may refer to Cases 20, 22, 23, 24, 25. Dr. Butter regards venesection as absolutely injurious. Of fifteen severe cases which occurred within a short period at Plymouth Dockyard, twelve died. Two out of the three patients who recovered were not bled; and twelve died out of thirteen who lost blood*. The mortality in these cases so far exceeded the ordinary rate, that I cannot regard them as a fair specimen of the affection, nor admit the propriety of applying to the treatment of erysipelas generally the inferences drawn from what occurred in them. It is to be regretted that Dr. Butter did not see these cases himself: he might perhaps have thrown some light on the causes of so unusual a mortality.

The most powerful means of arresting the complaint, is by making incisions through the inflamed skin and the subjacent adipous and cellular textures, which are the seat of disease. These inci-

* Remarks on Irritative Fever, p. 248.

sions are followed very quickly, and sometimes almost instantaneously, by relief and cessation of the pain and tension (Cases 24. 28. 30, 31.); and this alleviation of the local suffering is accompanied by a corresponding interruption of the inflammation, whether it be in the stage of effusion (Cases 21, 22, 23, 24. 26. 28. 30, 31.), or in the more advanced period of suppuration and sloughing (Cases 20. 22. 25. 27. 29). The redness of the skin is visibly diminished during the flow of blood from the incisions; in twenty-four hours it has usually disappeared, and the skin itself is found wrinkled from the diminution of the general inflammatory tension. The immediate relief, although very desirable to the patient, is however of less consequence than the decided influence of the practice in preventing the further progress of the disorder; and this important result has never failed to occur, within my experience, when the case has been a proper one for the practice, and the state of the patient has admitted of its being fairly tried. The cases already referred to furnish the clearest evidence on these points.

The treatment by incisions is suited to various stages of the complaint; but it is employed to greatest advantage at the beginning, since it prevents the further extension of inflammation, and the occurrence of suppuration and sloughing (Cases 30, 31. 24. 26. 28.). The redness and swelling gradually subside; the surface of the cut granu-

lates, and it heals rapidly. At a more advanced period, the incisions limit the extent of suppuration and gangrene; and at a still later time, they afford the readiest outlet for matter and sloughs, and facilitate the commencement and progress of granulation and cicatrization. When the matter has been fully discharged, and the sloughs, whether of the skin or cellular membrane, have separated, a healthy granulating surface is left, and no great difficulty is experienced in effecting cicatrization, unless the destruction of the skin should have been very extensive, when the cicatrix forms slowly, and is liable to give way again.

To preclude the possibility of misconception on a practical point of so much importance, I beg to observe that I do not advise incisions in erysipelas generally, but confine their employment to cases of the phlegmonous kind. We cannot however determine our treatment merely by reference to the name of the affection. Diseases appear quite distinct in nosologies, but we find them shaded off and so blended in nature, that it is frequently very difficult to mark out their boundaries. The presence or absence of inflammation of the cellular texture will not afford the criterion we are in search of on this occasion; indeed the difference between simple and phlegmonous erysipelas is rather in the degree than in the seat of the affection. Simple erysipelas seldom takes place without some inflammation of the cellular membrane. We may

trust to the antiphlogistic treatment already described in doubtful cases, in the milder instances of phlegmonous erysipelas, and in the very early period of the more severe ones. It is important, however, to decide the point quickly, and to make the incisions without delay where we judge them necessary, as they stop the progress of the disorder, and prevent the occurrence of suppuration and sloughing.

The efficacy of the treatment in phlegmonous erysipelas naturally leads us to suppose that it may be employed with advantage in some cases, respecting which it may be doubted whether they come clearly under that technical denomination; and experience has already furnished proofs that such an expectation is well founded. My friend Dr. Tweedie, who had seen some of the cases recorded in this paper, and had employed incisions in phlegmonous erysipelas at the Fever Hospital, adopted the practice with his usual discernment and promptitude, in Case 30, at the very outset of the inflammation. The narrative will be perused with interest, as exhibiting a severe attack of that formidable inflammation, which is caused by injuries received in dissection. It was suddenly and completely arrested by the incision. In Case 31 we have an example of a local affection precisely similar, although apparently of different origin, arrested in a manner equally decided by the same means. These cases are peculiarly interesting

from the early period at which the incisions were made, and their marked salutary influence. The beneficial effects of free incision, at the earliest period, in the inflammations, which occur so frequently in the fingers and hand, are known to every practitioner. They effectually prevent those serious consequences which the extension of inflammation in the hand and forearm so often produces, where this effectual measure is neglected. It is hardly necessary to allude to their well known influence in checking the progress of suppuration and sloughing of the cellular texture in carbunculous inflammations.

When erysipelas attacks the face, it is not attended with that serious inflammation of the subcutaneous structures which requires incisions. Moreover, the disease in this situation has a tolerably regular course, ending either in resolution, vesication, or desquamation; it should be treated therefore on the plan pointed out for simple erysipelas, under which I should arrange it. However, the abundant cellular structure of the eye-lids not unfrequently becomes the seat of more severe inflammation, proceeding to suppuration and sloughing, and even causing partial mortification of the skin. Here incision may be advantageously resorted to, as exemplified in Cases 20 and 21.

We may have in the scalp either simple erysipelas affecting the skin, and the texture exterior

to the aponeurosis, or a form of the complaint, which may be called phlegmonous, in which the cellular tissue under the aponeurosis is inflamed. The former is to be treated by the ordinary antiphlogistic means. In the latter there is at first a soft but considerable swelling, with slight discolouration of the integuments, which pit on pressure. Suppuration and sloughing soon come on, with great disturbance of the head, and violent fever; and these destructive processes spread over the whole head. The skin inflames and ulcerates at various points, giving issue to matter and sloughs. By having recourse to incisions at an early period we prevent the progress of this very serious affection, and the same proceeding is necessary at a more advanced stage, either to limit the suppurative and sloughing processes, or to provide a discharge for matter and large masses of dead cellular membrane. The advantage, or rather the necessity of incisions in this affection will be rendered obvious by a consideration of the local peculiarities, and does not require further explanation.

The limbs, especially the lower, are the most frequent seat of the affection, which is at least very uncommon in the trunk. After the incisions have been made, the part may be covered with warm fomentation cloths until the bleeding has ceased, when a warm bread poultice may be applied. If discharge does not soon take place from

the wound, it should be dressed, under the poultice, with lint thickly spread with the yellow basilicon ointment, or with some other stimulant. (Cases 22, 23. 25. 28.) When suppuration has already occurred, the matter finds a free discharge at the incision: large portions of the cellular membrane often slough, and come away with copious discharges of matter, and it is sometimes necessary to extend the incision, in order to promote their separation. (Case 29.) When this is at an end, and more particularly when the skin has been extensively detached by sloughing of the cellular membrane, pressure by bandage is very serviceable in promoting the healing process.

The incisions, when made during the existence of active inflammation, are followed by profuse bleeding both from arteries and veins, which probably has an important share in arresting the inflammatory disturbance. The benefit however cannot be wholly ascribed to this cause, for it takes place even when the loss of blood is much less; and it is so immediate, that we cannot refer it to the suppurative process which afterwards occurs in the surface of the wound. The relief has been ascribed to the removal of that tension which always exists in a greater or less degree; we observe, indeed, that the edges of the wound usually gape asunder, and that the surrounding skin not only loses its deep red colour, but soon becomes wrinkled on the surface; two changes which suf-

ficiently explain the great and sudden benefit usually produced by the incisions. The circumstance of the blood being directly taken from the inflamed part may account for its having an effect in lessening the inflammation, which would not be produced by taking a much larger quantity from the arm; and it will probably explain another fact, viz. that a very considerable bleeding in this way is not only safe but advantageous, when the circulation is so much reduced that general bleeding would be altogether inadmissible. This will be seen in some of the cases annexed to this paper (see Cases 25. 27, 28.); and it was remarkably exemplified in a patient whom I saw with Mr. Earle, by whom the details of the case have been already published *. This patient, who had pricked his finger in opening a body, was taken ill in the house of his father, an experienced and judicious practitioner, and was attended throughout by his brother, also in the profession, and by two very sensible and well-informed professional friends. Pain came on in the finger during the night after the accident, and the first phalanx had lost its vitality in the course of the next day. In spite of leeches, venesection, aperients, opiates, antimonials, &c. &c. inflammation spread from the finger to the shoulder with the most excruciating pain and the worst constitutional symptoms, such as entire want of sleep, de-

* Medical and Physical Journal, January, 1827.

lirium, brown tongue, altered countenance. On the sixth day Mr. Earle had informed me of this gentleman's danger, and that he did not expect him to recover. On the eighth day he said that he was much worse, and he requested that I would see him, not with the expectation that any thing could be done, but as a satisfaction to the friends, and some diminution of his own responsibility. The situation of the patient certainly justified the apprehensions thus expressed. The limb was greatly swollen, tense, bright red, and acutely painful from the hand to the shoulder; the pulse rapid and small, the countenance anxious and haggard. The treatment by incisions, or leaving the patient to certain death, seemed to me the only alternative that the case presented; and Mr. Earle readily acceded to my proposal of the former, although he said that he had had no experience of the practice. Three incisions were accordingly made; one in the arm, and two in the fore-arm. The limb having been laid in a folded sheet, was covered over by the bed-clothes, when, after some time, the patient was observed to become faint. It was now found that he had lost an enormous quantity of blood, and that a small artery required the ligature. The blood was carefully collected in a wash-hand basin, and was estimated by the father at three pounds and a half; he feels certain that it exceeded three pounds. Before the incisions were made he had given up all

hopes of his son's recovery; so complete and sudden was the relief they afforded, that in six hours after, he had discarded all ideas of danger. The cure, indeed, proceeded from this time uninterruptedly, and I believe that the motions of the hand and fingers were perfectly restored. The patient, his father, and brother, Mr. Earle, and the immediately attendant professional friends, are all convinced that he owes the preservation of his life entirely to the incisions. Mr. Wardrop saw the case a few days after they had been made.

As the free bleeding from the incisions is often of great advantage in relieving the overloaded vessels, and arresting the inflammation, it need not be checked so long as the pulse is unaffected by the loss of blood. But the great extent to which the hemorrhage may proceed renders it necessary that we should act very cautiously, especially in elderly persons, or in those whose strength is already impaired by the disease or previous treatment. The patient should be closely watched by the surgeon in such cases, until the bleeding has ceased. Should it become necessary to stop the further loss of blood, this may be readily accomplished by tying any bleeding vessels, by placing the limb in an elevated position, or by pressure. The necessity of the caution now inculcated will be rendered apparent by Cases 32 and 33. These, with the two following, namely, 34 and 35,

are all the instances that have come to my knowledge, of unfavourable termination where incisions had been employed.

Although this practice has been probably adopted heretofore, being incidentally alluded to by O'Halloran * and Pott† and more directly mentioned by Vogel‡, we are indebted for its recent introduction into this country to Mr. Copland Hutchison, who strongly recommended it in a paper written expressly on the subject, first published in the Fifth Volume of the Transactions of this Society, and subsequently re-published, in a somewhat enlarged form, in his "Practical Observations in Surgery." In the latter work he says, "These incisions may be made about an inch and a half in length, from two to four inches apart, and varied in number from four to eighteen, according to the extent of surface the disease is found to occupy." || Since this multiplicity of cuts must be painful and alarming, it is important to know, as I have found by repeated experience, that a

* Complete Treatise on Gangrene and Sphacelus, 1765.

† Works, 1783, Vol. I. p. 22.

‡ "There can be no doubt, that in very acute erysipelas incisions into the part are more efficacious than any other measure, in giving issue to stagnant fluids, and dispersing the mischief. Attention ought to be paid at the same time to the state of the juices, and suitable internal remedies ought not to be neglected. In this way suppuration and other bad consequences may often be prevented." Handbuch, Vol. III. p. 358.

|| Second Edition, p. 118.

single incision carried through the middle of the inflamed part, in a direction parallel to the long axis of the limb, is quite sufficient. I have seen severe phlegmonous erysipelas of the entire leg and thigh, when the aspect of the limb from enormous swelling, general redness, and vesication, was really appalling, suspended in the most decisive manner by a single incision along the middle of the calf. (See Case 28.) Mr. Guthrie* has found that one or two long incisions accomplish every useful purpose, and has therefore adopted that plan. As the numerous short cuts, or the single longer incision will equally answer the end, the selection may be left in each case to the patient or the surgeon. The incision should divide the skin and the cellular texture down to the fascia ; it is not necessary to penetrate the latter. A double-edged bistoury is the most convenient instrument for the purpose.

Mr. Hutchison has strongly recommended incisions in the early period of phlegmonous erysipelas, on the important ground of their efficacy in arresting the disease, and preventing the extensive suppuration and sloughing which cause so much mischief, and sometimes even loss of life. He had frequently seen at the Deal Hospital the injurious and fatal effects of the disease under the ordinary treatment ; and he had the opportunity of con-

* On Gunshot Wounds, Third Edition, p. 108.

trasting with such results the effect of his own treatment, which was uniformly successful. Mr. George Young had employed the same method with equally favourable effect. "Having," says he, "frequently witnessed the great loss of time and the serious injury to the constitution of the patient, occasioned by delaying incisions until much matter has accumulated beneath the fascia, and having noticed that small openings (such as are usually made) do not admit the ready escape of pus, I have long been in the habit of making very free incisions, as early as I could detect fluctuation; and from this practice I have derived much quicker cures. But since I read your paper I have not waited until I could detect fluctuation; I have made free incisions when the diffused tense swelling, and general redness, with high constitutional irritation, have led me to conclude that the usual attempts at resolution would be fruitless. On these occasions I have, however, with one exception, always found some small quantity of pus; the incisions have bled freely, and the cure has been effected in a few days. In one instance only (it was in the forearm) I could not discover any pus: nothing but a stream of blood followed the incisions. The symptoms, which had been very severe, quickly subsided, and the wounds healed rapidly."* Others have recommended incisions at a more advanced period, for the purpose of dis-

* Letter to Mr. Hutchison, in his *Practical Observations*, p. 138.

charging matter*, or limiting the extent of supuration.

* “ Si l'empâtement de la partie fait reconnaître que la supuration est formée, il faut sans attendre que des points partiels de fluctuation viennent indiquer les lieux où le pus s'est rassemblé, et pendant que ce liquide est encore infiltré dans le tissu cellulaire, pratiquer des incisions profondes et nombreuses, qui facilitent le dégorgement, font cesser l'étranglement dans les parties où le tissu cellulaire est bridé par les aponévroses, et préviennent autant que possible la gangrène de ce tissu.” Roche et Sanson, Nouveaux Elémens, &c. Tom. II. p. 352.

“ Si la gangrène s'est déclarée dans un ou plusieurs points d'un membre frappé par un vaste erysipèle phlegmoneux ; si le cerveau, l'estomac, ou l'intestin, sont le siège de lésions sympathiques plus ou moins graves, débridez largement la peau enflammée, répétez la saignée, et combattez l'inflammation partout où la gangrène ne s'est pas encore établie. Les toniques, les antiseptiques, les cordiaux, les décoctions de quinquina, de polygala, &c. aggraveraient les lésions du cerveau et des organes digestifs. Le débridement et les émissions sanguines peuvent seuls arrêter les progrès de l'affection locale, qui a suscité et tend à entretenir les lésions sympathiques.” Rayet, Traité des Mal. de la Peau, Tom. I. p. 123.

As soon as change of colour appears in the inflamed part, or any fluctuation is to be felt, Rust directs that incisions should be made, going to the bottom of the mischief, and followed up wherever it extends. In this way he says that the incisions will sometimes reach from the heel to the hip, and that the free discharge, thus procured, for matter and cellular sloughs, is the only way to arrest the further progress of the mischief, and save the patient's life. Magazin, Vol. VIII. p. 521.