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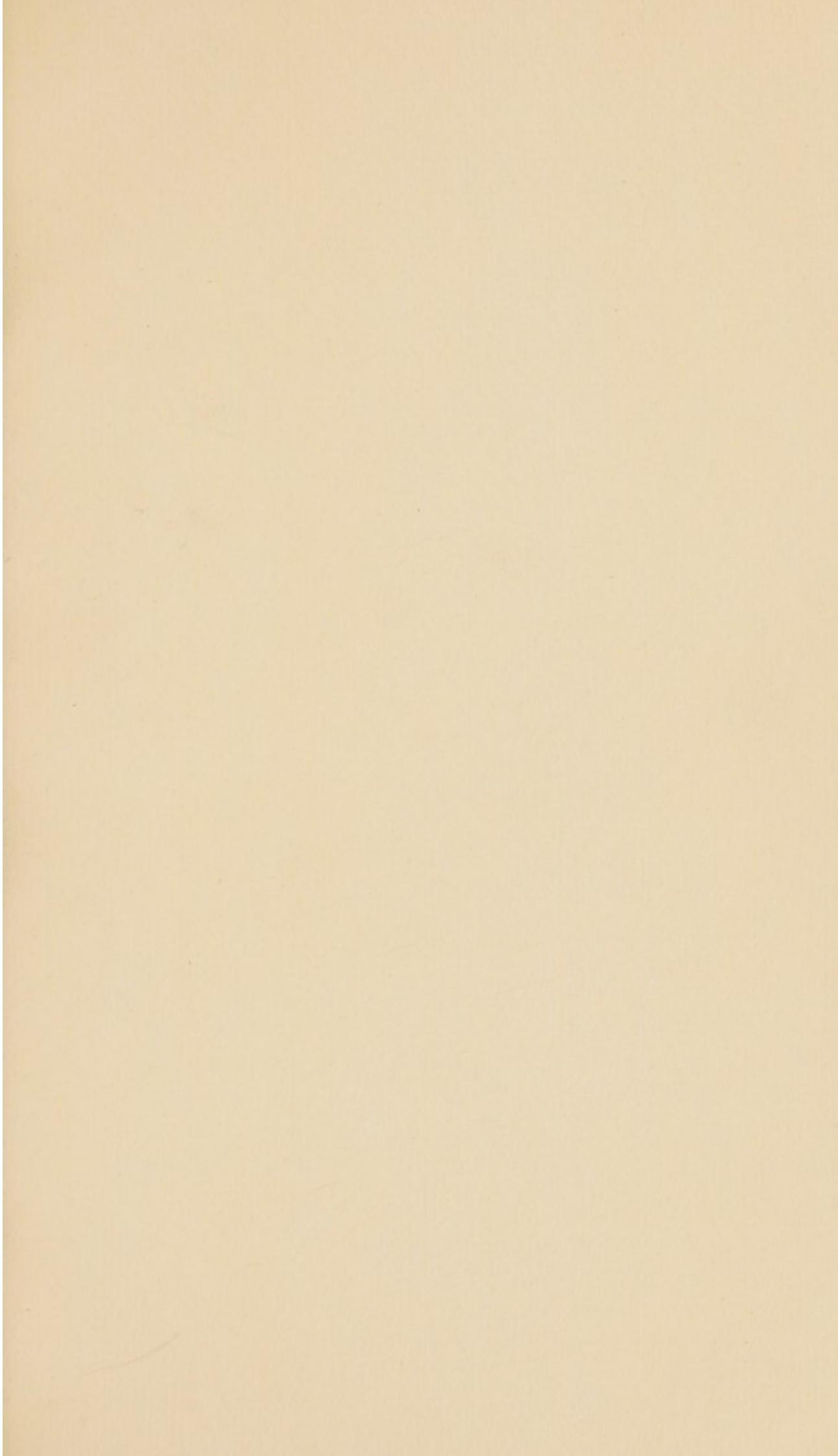
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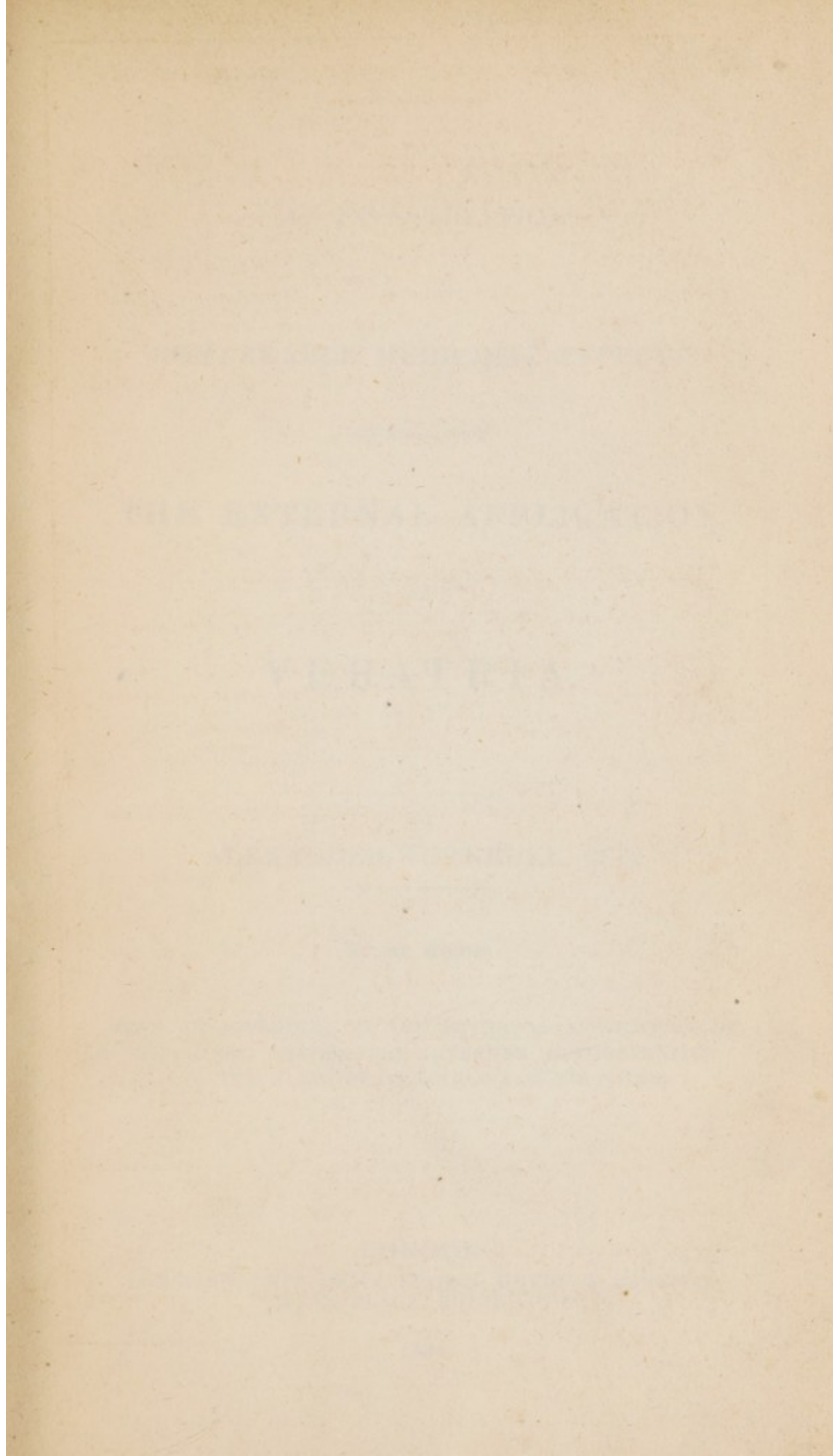
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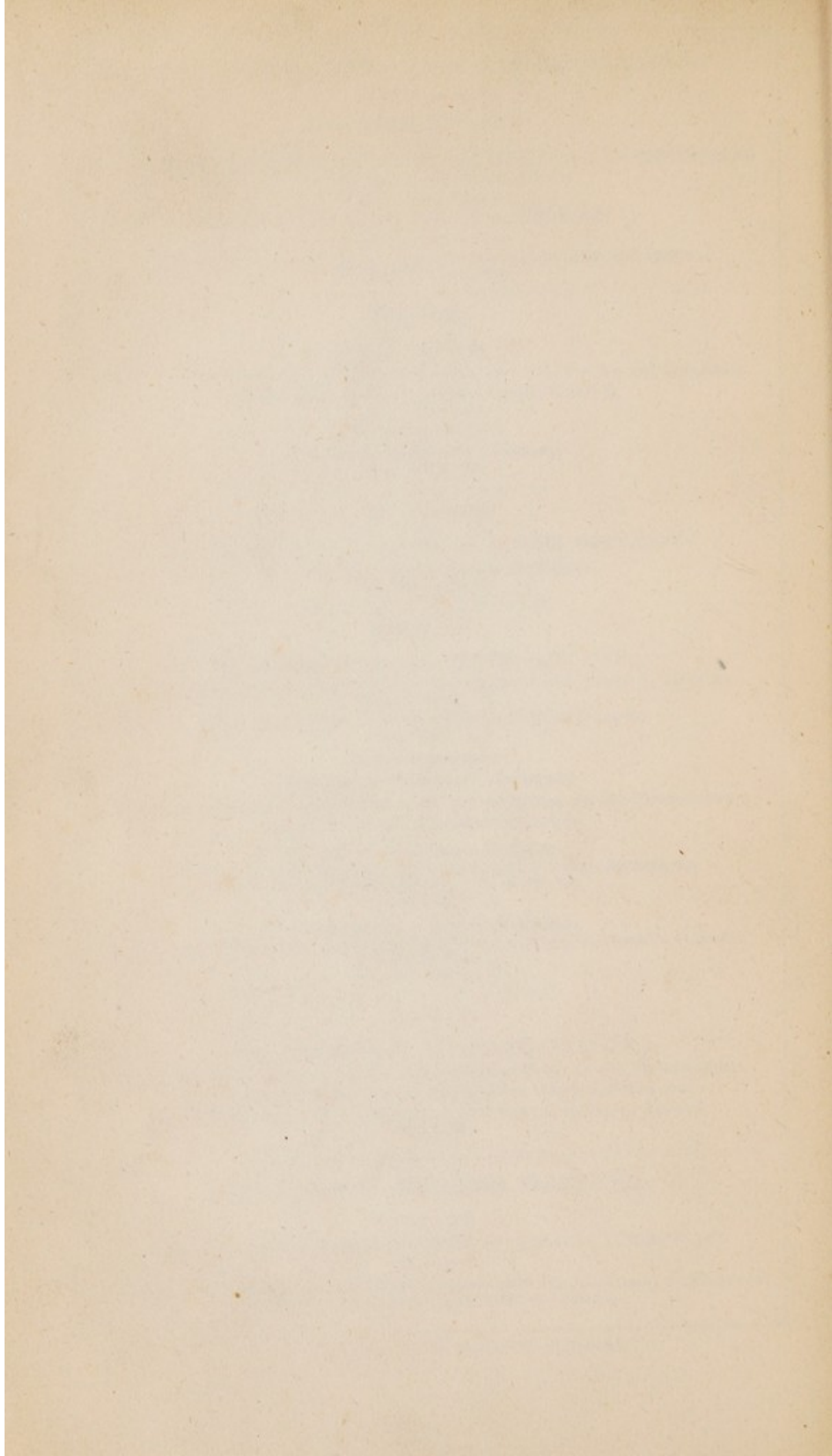
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1881

PREFACE

TO

THE SECOND EDITION.

DURING the few months which have elapsed since the first edition of this work was published, the author has been engaged in prosecuting the subject treated of. Several of the cases he has submitted to the action of the veratria, have been of a more severe and complicated nature than those he has hitherto met with, and the result of his more extended experience is, that in the larger proportion of instances, the effects of the remedy have been such as to remove the disease entirely; and that in others much benefit has been derived, whilst in some it has had no effect.

As the cases previously published, have appeared sufficient to illustrate the general effects of the veratria, the author has not thought it necessary to augment the number of these in the present

edition, more especially as he has been enabled, through the kindness of several gentlemen who have made use of it, to insert a number of instances in which the treatment has been followed by success. A few alterations only, have been made in the text, where the statements contained in it have not been borne out by subsequent experience.

In the last edition, it was distinctly stated, that veratria was not to be considered as a *specific* in the affections in which its employment was advocated, but in many cases this caution does not appear to have been attended to; and the author has seen some of these, where the affection for which it had been used, was evidently only one symptom of a disease that had not previously been observed, and in which, consequently, no benefit was derived from its employment. It is also of the utmost importance, that the friction should produce a full sensation of tingling in the part over which it is made, otherwise no good effect will be produced, and the author is aware of examples where inattention to this fact also, has itself been the cause of failure in the treatment. These circumstances he has thought it necessary again to point

out, to shew that the veratria ought not to be exclusively relied on, but that it ought to be carefully and considerately used, like any other powerful remedy.

To this edition, there has been added an Appendix, containing an account of delphinia, a substance possessed of properties similar to those of veratria, and of equal power as a therapeutic agent. A short statement has also been introduced, regarding the internal administration of the salts of veratria and delphinia. These are subjects which have not hitherto excited attention, but it is hoped that enough has been said to recommend them to the notice of the profession.

48, *Russell Square*, June, 1834.

not to show that the venous ought not to be
 exclusively relied on, but that it ought to be care-
 fully and considerably used, like any other power-
 ful remedy.
 In this edition, there has been added an Ap-
 pendix, containing an account of delphinia, a sub-
 stance possessed of properties similar to those of
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 garding the internal administration of the salts
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AN INVESTIGATION
INTO THE
REMARKABLE MEDICINAL EFFECTS RESULTING FROM
THE EXTERNAL APPLICATION OF
VERATRIA.

THERE are various individuals of the family of plants, known by the name of *colchicaceae*, which are used in medicine. They have been long acknowledged to be possessed of active properties, nearly allied to each other; and the chemical discoveries of later times have explained the similarity which had been observed to exist in their effects upon the animal economy, in health and disease, by demonstrating that these depend upon a peculiar principle common, in some degree, to all, and which has been distinguished by the names of *veratrine*, *veratria*, and *sabadilline*. This new substance was discovered by M. M. Pelletier and Caventou, in the year 1819, in the seeds of *veratrum sabadilla* ;* and about the same time by Meissner and Van Mons, in Germany. It has

* Journal de Physique. 1819.

hitherto been obtained only from *veratrum sabadilla*, *veratrum album*, and *colchicum autumnale*, but there can be little doubt of its existence in many other plants of the same natural order.

Until very lately, the veratria, obtained according to the process employed by its discoverers, was considered to be a simple body; but from a memoir recently given on the subject by M. Couerbe,* it appears that it is in reality composed of three distinct and easily separable principles, on which he has bestowed the names, *veratrine*, *sabadilline*, and *mono-hydrate of sabadilline*. This fact is of considerable importance in the study of the medicinal effects of the veratria of commerce, as some kinds of it, when applied externally, are found to be possessed of properties by no means so active in the removal of disease as are to be observed in others, although to the eye they may appear precisely similar; and this difference may, and in all probability does arise, unless, as sometimes happens, there be an admixture of impurities, from the presence or absence of some one or other of these principles, in greater or less quantity: it is to be hoped, however, that the researches concerning its chemical constitution, which are now in progress, will ere long enable the practitioner to make use of a medicine, the nature of which he will be better acquainted with, and upon the effects of which he may be able to rely with the greatest

* Journal de Pharmacie. Octobre, 1833.

confidence. As these three principles have not as yet been made separately, in a quantity sufficient to become the objects of investigation, it is intended to restrict the following observations exclusively to the veratria in common use.

The veratria of commerce varies in colour from a light brown to nearly white, and is in the form of a fine powder; it is without smell, but when accidentally or otherwise brought in contact with the mucous membrane of the nose, it induces violent and even dangerous sneezing; when applied to the conjunctiva, it produces great irritation, accompanied by an abundant flow of tears, which does not subside for some hours. Its taste is extremely acrid, but destitute of bitterness; and it acts very strongly upon the mucous membrane of the stomach and intestines: if introduced into the stomach, it proves highly emetic and purgative, for even in old subjects a quarter of a grain acts powerfully upon the bowels; and in some experiments the effects have been so violent as to shew that death would have followed the administration of a few grains. Occasionally it happens that during the preparation of veratria, some of the particles floating in the air are inhaled, and when such is the case its effects are generally purgative.

M. Andral, jun.* found that when it was applied immediately to the tissues, violent and speedy inflammation was the consequence: that when thrown in small quantity into the veins, it acted

* Magendie: Journal de Physiologie, tom. i.

upon the large intestine; and that when introduced in a larger proportion, either into the veins or intestine itself, tetanus followed. From these circumstances, veratria was very properly considered to be a medicine possessed of extreme activity, and it seems to have been some little time before it was thought safe to introduce it into practice; and although it has been employed by some individuals, yet such does not appear to have been the case to any great extent.

Veratria has been prescribed both internally and externally. For internal use, it is given in the form of pill, or in solution, in dropsy, gout, rheumatism, &c.; and externally, it is applied either in solution, in alcohol, or made into an ointment with hog's lard; the latter form is the one which has been most generally employed; but where unctuous applications are objected to, an embrocation made by dissolving from ten to twenty or more grains of veratria in an ounce of boiling alcohol, if applied in the same manner as the ointment, will prove equally efficacious.* The ointment may be made with similar proportions of the alcaloid to an ounce of lard, and of this, a piece, the size of a large nut, may be rubbed with the hand from five to fifteen minutes night and morning, as nearly as possible, over the seat of the disease, until relief from the urgent symptoms be experienced; care being taken to observe that the skin over which

* In cases where the skin is irritable, the proportions of Veratria employed must be smaller than those now given.

the friction is to be made be free from injury, otherwise considerable irritation of the part will ensue; and for reasons already given, the person who applies either form must be careful not to insert even the smallest quantity under the eyelids.

M. Magendie appears to have been the first person who suggested the external application of veratria in rheumatism, gout, and anasarca;* but his proposition does not seem to have been complied with, neither does he himself appear to have been fully aware of its great importance in a medicinal point of view; and indeed the weakness of the preparations recommended by him, even had they been made use of, must have prevented the very striking effects produced upon certain diseases by the veratria, when more freely employed, from coming under his observation.

The first circumstance which must strike every person who prescribes the external use of this medicine, is the very remarkable difference which is found to exist between its effects upon the body when so applied, and those which result from its internal exhibition. We have seen that when applied to any of the mucous membranes, even in the smallest quantity, it produces the most violent irritation, and that when introduced into the stomach, it operates as an emetic and cathartic; but when rubbed upon the surface of the body to the extent of six or eight grains a day, for several weeks or even months together, no such conse-

* Magendie. Formulaire, 1827.

quences follow ; for although the constitution has evidently, during the greater part of the time, been under the influence of the veratria, so far from acting in that manner, it has been observed to calm irritation, remove pain, and produce considerable elevation of spirits. The general health and appearance begin to improve, the appetite remains unimpaired or even becomes better, the patient experiences no nausea ; and the bowels, instead of being acted upon in the manner in which the internal exhibition of the medicine would lead us to anticipate, are either altogether unaffected, or such a degree of constipation is induced as to render the use of purgatives necessary to keep them in their usual state.

When the veratria is applied externally in dropsical diseases, the emetic and cathartic effects which result from its internal employment in these affections are exchanged for a diuretic operation, so singular and beneficial as to bring about the removal of the effused fluid in a time much shorter than it can be accomplished in by any other known medicine ; and it has done so in many cases after every other means had been previously tried without avail ; but in diseases unattended by aqueous effusion, no effect upon the kidneys has been observed.

The skin over which the ointment has been rubbed, in general shews no mark of irritation, even after the friction has been continued for some length of time : sometimes an evanescent blush

pervades the surface, and in rare instances a quantity of eruption has appeared upon the part, but these bear only a small proportion to the cases in which no such effects are produced. When the quantity of veratria rubbed in, exceeds a few grains, the patient generally experiences a considerable degree of warmth and tingling in the part, and until this takes place, the peculiar effects of the medicine do not usually manifest themselves; the circumstance, therefore, is one worthy of attention, and may serve as a criterion whereby to estimate the extent to which the friction may be carried without producing inconvenience, and also to judge of the degree of purity of the veratria employed; for when, as is sometimes found to be the case, the medicine is mixed with impurities, these sensations are not produced, and its action is by no means either so certain or powerful as when it is free from adulteration. This last observation appears necessary to prevent the practitioner from laying a charge of failure against it in cases where the impure veratria may have been made use of in compounding the prescription.*

* Pure veratria is entirely soluble in alcohol, and burns without leaving any residuum; but, perhaps the simplest and best test is to dissolve four grains in a drachm of alcohol, and to rub a small quantity of this solution on the wrist or forehead: when the veratria is good, the heat and tingling manifest themselves after the friction has been continued for two or three minutes, and the length of time required to produce this effect affords a tolerably correct estimate of the efficacy of the medicine.

After the ointment has been applied a sufficient length of time to put the constitution completely under its influence, the feeling of heat and tingling extends itself from the place where the friction may have been made, over the whole surface of the body, and in some instances involuntary twitchings of the muscles of the mouth and eyelids are induced; but these symptoms disappear so soon as the rubbing has been discontinued for a day or two, and no disagreeable consequences follow to the patient.

The sensibility of the parts over which the application has been made, is increased to such a degree as to render them peculiarly susceptible of the presence of certain stimuli, particularly electricity or galvanism; these agents have in some instances been applied along with the veratria ointment, but have given rise to sensations so acute as to render their further employment almost insupportable, and that without the slightest perceptible alteration of the surface. It does not appear altogether necessary that the friction should be made exactly over the seat of the disease; for two cases have lately come under observation, in which the individuals who rubbed the ointment imbibed as much by the hand as proved sufficient to cure them of painful affections in distant parts of the body, under which they had been labouring for a considerable length of time before.

Such are a few of the more remarkable effects

resulting from the application of the veratria to an entire surface, and in the great majority of cases these will be found sufficient for every purpose which they are intended to serve: in some affections, however, in which the symptoms are more severe, or which are seated in parts only thinly covered by integuments, the attempt has been made to apply it directly to a part denuded of the cuticle, but although the effects upon the disease were much greater than when the surface remained unbroken, yet the extreme irritation which followed the practice rendered its repetition nearly impossible.

Having presented to the attention of the reader these few introductory remarks, we shall next proceed to the consideration of the diseases, in the treatment of which the veratria has been found of such essential service; but before doing so, it may be proper to say a few words on the cases to be described. In an inquiring age like the present, it behoves an individual, in laying before the profession any new plan of treatment, especially if that be applicable to diseases which have heretofore been considered either very obstinate or incurable in their nature, not to say more in its favour than the facts brought to light during its investigation warrant; for experience teaches us that many remedies, the prudent use of which might have rendered the most essential service to medical science, have suffered, often irremediably, in con-

sequence of the rash and inconsiderate praises heaped upon them by their discoverers. On this account it is intended to do nothing more than merely to state the cases as they have occurred, in the hope that they may not be thrown aside as savouring too much of the marvellous, but that they may induce other labourers in the same field, to pursue the course of investigation which has now been opened up, and which, judging from the success to which it has already led, if carefully and cautiously followed out, cannot fail to be of the highest benefit to the profession, and to suffering humanity, by placing in the hands of the practitioner one of the most energetic remedial means that chemistry has ever furnished to medicine, and one which, in the diseases admitting of its employment, may be had recourse to at all times, with the greatest safety.

CHAP. I.

EXTERNAL APPLICATION OF VERATRIA IN
AFFECTIONS OF THE HEART.

THE first class of diseases in which the use of veratria has been found decidedly advantageous, comprehends many of those anomalous affections of the heart and circulating system, in which the symptoms, though sufficiently distressing to excite alarm in the patient or his friends, are nevertheless wanting in some particulars, the presence of which is necessary, to make out the case to be one of confirmed organic disease. It is not intended for a moment to insinuate that any permanent advantage has arisen from its employment in cases where structural alteration has already taken place; but the result of a pretty extensive experience in such affections, warrants the hope that an alleviation of the sufferings of the patients may be effected, to an extent sufficient to render life not only more easy, but also to enable those who are labouring under them to pursue their necessary avocations.

These diseases are generally characterized by difficulty of respiration, accompanied by cough, expectoration, inability of remaining long in a recumbent posture, startings from sleep, swelling

and coldness of the extremities, palpitation, a rapid small irregular pulse, accompanied by anxiety and a sensation of pain, or rather of constriction in the region of the heart; occasional faintness and sense of suffocation. It has been successful even in worse cases: for one of angina pectoris (to be related immediately), appears to have received most marked and permanent advantage from a few rubbings with the ointment.

The ointment best adapted for use in affections of this class, consists of fifteen or twenty grains of veratria mixed carefully up with an ounce of lard, and of this a piece the size of a nut should be rubbed over the region of the heart for five minutes once a day. In all the cases which have come under observation, a few such applications have generally proved all that was requisite either to effect a complete cure, or at least, to cause a cessation of the symptoms for a considerable time; the friction may then be employed at longer intervals, and should any slight accession take place, it may be removed by a repetition of the same means.

During the action of the veratria, the pulse increases in strength and becomes more regular in character, the extremities return to their natural warmth, and the swelling when any does exist, rapidly disappears; the lips also regain their usual colour, and the general health and appearance of the patient are materially changed for the better; almost at the same time the distress and anxiety

which had previously existed wear away, and the sleep becomes regular, refreshing, and undisturbed; the cough and expectoration diminish daily, the fluttering action of the heart is exchanged for regular and uninterrupted pulsation; the faintness and sense of suffocation vanish, and the patient is in an almost incredibly short space of time restored to health. Although this be the usual progress of the action of the veratria in these diseases, it nevertheless sometimes produces effects of a different kind, at least, during the time of its employment. It has happened that from one application the symptoms, and particularly the palpitation, have been increased to such a degree as to render it impossible to induce the patient to submit to a second; but what is not a little singular, the irritation has subsided in a day or two, and along with it, every trace of the disease itself has disappeared.

During the whole period the constitution is under the influence of the medicine, the functions are but little altered, with the exception of the secretion of urine, which is, upon the whole, more actively carried on than at other times; and this latter circumstance, in all probability, depends upon the existence of watery effusion somewhere in the body, a condition which appears necessary before the veratria can produce a diuretic effect.

CASE I.

A Lady, fifty-five years of age, short, and thick-set, and of a florid complexion, was attacked seven years ago with what her medical attendants considered to be an inflammatory affection of the lungs, and for which she was profusely bled, and otherwise actively treated. The violent symptoms were by these means removed; but there still remained such a degree of weakness and affection of the chest, as to confine her almost constantly to her room for nine months afterwards. Since that time, she has recovered considerably, but has been under the necessity of remaining in an apartment, kept at an equable temperature, during the whole winter; and her state has been such, as to render it to all appearance probable that she would be obliged to pursue the same regimen for the remainder of her life.

Throughout the whole seven years she has had constant cough, attended with scanty mucous expectoration: a difficulty of breathing so great, as to prevent her sleeping at night, or even remaining in the recumbent posture for any length of time without bringing on distressing fits of coughing: respiration very much hurried, and the lips of a purplish hue: pulse so small, rapid, and irregular, as to render it difficult to ascertain the number of

its beats. Over the region of the heart, and over a great part of the anterior surface of the thorax, there was a very perceptible undulatory motion, altogether different from ordinary pulsation ; and the ear, applied to the chest over the same region, distinguished the heart's action to be extended, indistinct, and undefined in character. Along the whole length of the left arm, from the shoulder to the points of the fingers, she complained of pain and a feeling of numbness, which rendered the extremity almost useless : this symptom had lasted about four years. There was no very marked derangement in the digestive organs. The bowels were regular, the appetite pretty good ; but there existed a slight degree of flatulence, not however so great as to occasion much inconvenience, and there was nothing very particular in the appearance of the tongue.

The patient had previously been under almost every variety of treatment, but without receiving any benefit. Upon the supposition that there might be some accumulation in the bowels sufficient, though not to induce, at least to aggravate and keep up the symptoms, she was directed to use aperient medicine for a few days, but without producing any alleviation. She was then put under the influence of small and repeated doses of the tartrate of antimony, and along with this treatment, frictions with croton oil were applied over the chest and down the left arm, until a pretty free eruption

was brought out. Under this plan the patient, for the first time from the commencement of her illness, experienced decided relief; and it should certainly have been persevered in until a fair trial had been given to it, had not such a degree of debility supervened, as to give rise to considerable doubt whether or not it could be continued with safety; the cough and difficulty of breathing had very much diminished in severity, but the pain in the arm remained unabated, and at the end of ten days she would not consent to the further employment of the remedies, and they were in consequence given up.

Before the time at which this patient came under treatment, the very striking effects which the veratria, when applied externally, exercises upon the pulse, in removing irregularities and intermissions, and in diminishing its frequency, had presented themselves to observation; and although it was not anticipated that very great benefit could arise from its use in a case so apparently hopeless, it nevertheless appeared probable that, at least, a temporary relief from the violence of the symptoms might be procured, if the medicine only acted upon the circulation, without inducing such a degree of general debility as had resulted from the means previously had recourse to. A piece, as large as a nut, of an ointment composed of fifteen grains of veratria and an ounce of hog's lard, was accordingly directed to be rubbed twice

a day over the chest and along the affected arm five minutes each time, and the result very far exceeded the expectations formed. The first application relieved all the chest symptoms considerably. The cough and breathlessness, to a certain extent, subsided, and the pulse and action of the heart were greatly improved: the most decidedly beneficial effects however were produced upon the extremity; the pain and numbness had not altogether disappeared, but these symptoms were so much alleviated, as to induce the patient to state that, comparatively speaking, she had recovered the entire use of her arm. From this time the ointment was directed to be used every evening for about ten days, and then only occasionally, as it might be found necessary.

In about a fortnight from the first application of the veratria, the patient was able to leave her room and walk up and down stairs with facility; and the general improvement of her health was such, that she ventured into the open air, but in consequence of repeated and incautious exposure, the symptoms returned two or three times, though by no means with the same severity as before; and when such an occurrence took place, one or two rubbings with the ointment afforded complete relief. She is now in comparative health; her general appearance is good, the pain and numbness of the arm have entirely disappeared, the circulation is much more regular than it has

been for a great length of time, the cough and difficulty of respiration are almost gone, and she can now remain in the recumbent position, and enjoy a good night's rest; and the last time I saw her, she had walked about four miles without any inconvenience.

CASE II.

MR. B. aged thirty-six, of sedentary habits, and by profession a banker's clerk, was seized about ten years ago, without any apparent cause, with palpitation on the left side of the thorax, which was soon followed by pain and a sensation of tightness and anxiety over the region of the heart; his pulse became very irregular and intermittent; sometimes its beats were strong and full, at others small and weak; his breathing, however, has not been to any great degree disturbed, and he has been able to take free exercise, not only without inconvenience, but even with some benefit. During the course of his illness he has had no cough, but his respiration has been occasionally interrupted by deep unconscious sighs.

The digestive functions have been considerably impaired, the appetite bad, the bowels disordered, and an almost constant tendency to flatulence has been present. The nervous system has also been for some time under much derangement, marked by tremors in the hands, irritability of temper, disturbance of the mental powers, particularly of

the memory, which has suffered a good deal in its integrity; for some time past he has experienced a disinclination for exertion, and has gone through his business more as a matter of duty than of pleasure. His sleep has been disturbed and unrefreshing; and he has laboured under great depression of spirits, from the belief that his complaint, from the number of remedies he had tried without advantage, was incurable.

Under these circumstances, and considering from the account he had given, that to attempt a cure by the means usually employed in such cases, would only be a waste of time, and also in consequence of the success which had attended the previous trials made with the veratria, it was determined at once to employ it in his case; and with this view he was directed to take a little opening medicine, a practice always necessary to be pursued during the time the veratria is in use; and an ointment of the same strength as that applied in the preceding case, was ordered to be rubbed on, night and morning, over the region of the heart. As the patient lived at some distance he did not present himself again until the end of a week, when he returned to announce that he was quite well. The palpitation and nervous symptoms had entirely vanished, and he was then in the enjoyment of the best health and spirits. I have seen him once since that time, and he has not had the slightest return of his complaint.

CASE III.

MRS. L., a lady thirty-six years of age, and of a spare habit of body, residing in Bristol, has been suffering for five years from palpitation of the heart, attended by considerable difficulty of breathing. She dates the commencement of her disease from a severe inflammatory affection of the chest, occasioned by cold caught during her confinement. To relieve the chest symptoms, bleeding and other antiphlogistic measures were had recourse to ; but the palpitation continued to such a degree, as to render her incapable of taking any exercise without materially aggravating her symptoms. She has had many exacerbations arising from slight causes, and yet so severe as to render venesection necessary to alleviate the violent throbbing in the left side of the thorax. Her eyes are suffused, her memory much impaired, and she has a considerable degree of nervous irritability. Her breathing is difficult, accompanied by slight cough and a sense of partial suffocation, along with pain across the region of the heart and down the left arm, and these feelings are materially increased by walking or any other exertion. Her pulse is irregular and quick ; bowels costive ; feet generally cold ; and her sleep interrupted by the palpitation.

While labouring under these symptoms she was

put under the influence of small doses of tartrate of antimony and blue pill ; and at the same time an embrocation of croton oil was ordered to be rubbed over the chest and down the affected arm, until a free eruption was produced. So long as the patient continued this plan of treatment, and remained quiet, she experienced great relief ; but the palpitation returned nearly as violently as ever, upon slight exertion, and she now began to complain of a degree of debility which she had not before been subject to. Under these circumstances, she was ordered to have an ointment prepared with twenty grains of veratria to an ounce of lard, rubbed in the usual quantity over the region of the heart for five minutes night and morning ; and owing to the severity of the pain in the arm, frictions with the croton oil were ordered to be made along it, until a raw surface was obtained, and over this the veratria ointment was applied.

On the night after the first application the symptoms were very much diminished in intensity, but the veratria had occasioned a degree of heat and tingling in the arm, so great as to prevent her sleeping ; the pain, however, never afterwards returned. In three or four days she began to take exercise without inconvenience ; and at the end of three weeks she left town, and returned home quite well.

CASE IV.

MR. J., a clergyman, fifty years of age, large chested, robust, and of a sanguine temperament, has been affected with severe palpitation for the last seven years, accompanied by quickness and irregularity of the pulse, difficulty of breathing, loss of voice, cough, expectoration, and a most distressing sense of anxiety: he has sometimes been seized in the pulpit with giddiness, succeeded by throbbing in the neck and confusion of intellect, and these symptoms have occasionally gone on to such an extent as to oblige him to desist from his duties for two or three months at a time: his bowels are regular, and his digestion generally good.

He was ordered to take small doses of tartar emetic, and to have a blister applied over the chest; and this treatment was pursued with considerable advantage for the time, but when it was remitted he soon returned to the same state as before. As this seemed a fair case upon which to make trial of the veratria, it was ordered to be rubbed on in the manner already described; and with its accustomed success. By making use of the frictions once every night he became gradually better, and at the end of a week considered himself quite well: he was advised, however, to con-

tinue the ointment for a little longer, and then to leave it off by degrees : this was accordingly done about nine months ago, and he has remained ever since in perfect health, free from every vestige of his old complaints, and fully able for the discharge of the functions of his office.

CASE V.

ANGINA PECTORIS.

MR. W., aged fifty-eight, has been affected for seventeen years with palpitation, which, during the last seven of that period has been attended by great difficulty of breathing, occurring in paroxysms, and coming on especially whilst taking exercise on foot. The dyspnoea at these times has been so severe, and has been accompanied by such extreme pain across the chest, as to compel him to lay hold on the nearest object for support. The pain, during the fit, extends down the left arm ; and is of such intensity, that in the words of the patient, “ no language can describe it.”

For these and other symptoms he has, during the last ten years, applied to all sources for relief, and almost every possible remedy has been tried without procuring for him any ease. At the time he came under treatment, he had, besides the symptoms mentioned, a peculiar purple blush upon his

face, and more particularly over his nose and lips ; his voice was weak and quivering. Upon applying the ear over the region of the heart, a tremulous, confused, irregular pulsation was heard : the pulse was irregular and very intermittent : the left side of the chest appeared much larger than the right, and the ribs over the cardiac region seemed pushed out as if to afford a larger space for the heart's action. There was considerable distension of the abdomen, along with a very evident degree of enlargement on the right side, immediately under the margins of the ribs ; his bowels had been for some time in a very torpid state, and required active medicines to operate upon them ; the lower extremities were a little swollen, and the urine deficient in quantity. His sleep was unrefreshing, and often disturbed by fits of coughing, which generally ended in great exhaustion.

As it was evident, that in a case of such severity and duration, little more could be done than merely to relieve the sufferings of the patient, by endeavouring to mitigate the symptoms as much as possible, the treatment followed was addressed to that end. A course of medicine was prescribed, consisting of purgatives combined with antacids, for the purpose of clearing out the bowels and removing the distension of the abdomen. These means were employed alone, for about a week, and then, with the addition of a little squill to the pills previously ordered, it was persevered in for a fortnight

longer; at the end of which time he felt considerably better. The swelling in the legs had diminished, the digestion was improved, and, altogether, he was in a more favourable state of health than before.

During the previous treatment of this case, counter-irritation, by means of blisters, issues, tartar emetic ointment, &c., had been freely employed, and with so little effect, further than bringing about a temporary alleviation, that the patient would, on no account, consent to their repetition now, and he was therefore recommended to make use of the veratria ointment, but certainly without any great expectations of its producing a beneficial effect.

An ointment of the usual proportions was ordered to be rubbed, for five minutes, night and morning, over the region of the heart; and, in the course of three days, the feeling of pain and constriction across the chest had entirely disappeared. As the pain in the left arm still remained, he was ordered to use frictions with the ointment to it also, and almost immediate relief from that symptom, followed the application. In the course of a fortnight from the time the veratria was had recourse to, the most decidedly beneficial effects had been produced upon the disease: the pulse and action of the heart had become much more regular and natural, the difficulty of breathing had very much diminished, the complexion was completely changed,

and exhibited signs of an unimpeded circulation ; and this improvement went on gradually, under the occasional use of the ointment, along with a little medicine to act upon the bowels, so that, in about six weeks he could walk about, and go up and down stairs without inconvenience. As this case was one in which a cure could not be expected, the patient was left to himself, with directions to rub the ointment whenever a return of pain or uneasiness rendered its employment necessary. This, he accordingly does, and by its means, is enabled to pursue his avocations with ease and comfort. Before taking leave of this case it is proper to state, that it was one of those in which the veratria exerted its peculiar diuretic effects ; for, during the first week it was used, no less than six pints of urine a day were evacuated by the patient.

CASE VI.

Mrs. C., a lady betwixt fifty and sixty years of age, of a sanguine temperament and rather corpulent, has been ill about nine years. During the first three she suffered from dyspepsia and irregularity of the bowels, and, for six years, she has been affected with almost constant palpitation and difficulty of breathing ; which symptoms she de-

scribes as having been constantly on the increase, until at last she was obliged to confine herself to one floor of the house, from inability to ascend or descend the stairs, and to refrain from walking, under the impression that the exertion might prove fatal.

She has violent pulsation over the region of the heart, along with an irregular and intermittent pulse, and complains, at times, of severe pain across the chest, and stretching down the left arm : her lips are of a purplish colour ; her eyes dull ; her countenance sallow ; and she labours under considerable nervous irritability, accompanied by impairment of the memory ; she has a degree of fulness in the right side, under the margin of the ribs, and her feet are generally cold, and a little swollen. For these symptoms she had previously been treated by bleeding, blistering, purgatives, and, indeed, every thing possible appeared to have been done, without procuring any abatement of the disease.

From the disordered state in which the digestive organs evidently were, she was put under a plan of treatment similar to the one pursued in the preceding case, for about three weeks, but no diminution of the symptoms took place ; and then the veratria ointment, of the usual strength, was ordered to be rubbed over the left side of the chest, and down the arm, every night. The very first application afforded great relief to the palpitation

and difficulty of breathing, and the pain in the arm was also considerably alleviated. In the course of a few days all the symptoms were nearly gone; the ointment was, however, directed to be applied occasionally, for about a month; and at the end of that time, the patient could walk with ease, three miles at a time, and returned home quite well. It is now upwards of nine months since she discontinued the treatment, and she has had no return of the disease since.

CASE VII.

THE following case is given merely for the purpose of shewing the effect which the veratria has upon the circulation, in a disease attended by symptoms of great developement of the heart's action, occasioned by simple hypertrophy of the walls of the left ventricle, and not, of course, with any view of holding out a prospect of recovery in patients labouring under an organic alteration of this nature. Every one must have remarked the difficulty which there exists of moderating the pulsation of the heart and arteries, in this disease, and that, in consequence, it is no easy matter to procure even a temporary relief from the distressing sensations experienced by those who are affected by it. The cases of this kind, in which the

ointment has been resorted to, are not sufficiently numerous to warrant the assertion, that decidedly beneficial effects will result from its application in every instance; but it will, nevertheless, be allowed, that the subject is worthy of attention, from the fact of its having already proved successful in doing so.

Mrs. S., a lady about sixty years of age, has, during the last five years, suffered much from violent beating of the heart, attended by strong pulsation in the neck, throbbing and giddiness in the head, and a continued whizzing noise in the left ear, along with feelings of anxiety, and considerable nervous irritability.

The action of the heart is strong, constant, and concentrated in a space over the situation of the apex, and communicates a powerful impulse to any thing placed on it; the pulse is very full, throbbing, and incompressible; the carotid arteries beat violently, and the patient complains much of the noise in her ear, and of giddiness; she has also confusion of ideas, and a feeling of heat and fulness in the head. She has considerable anxiety, and her sleep is interrupted by palpitation. There is some pain in the region of the heart; and all these symptoms are materially augmented by exertion; but this, from the sensation of lassitude which she almost constantly labours under, cannot be made to any great extent.

The bowels are generally costive, and require the employment of active purgatives, which are the only

medicines capable of removing the uneasy feelings of the patient, to any degree; the digestive functions are very active, and the appetite preternaturally great. She complains neither of difficulty of breathing, cough, nor pain in the arm. In the previous treatment of this case nothing had been found useful, and as it did not appear that any bad consequence could arise from the external application of the veratria, it was ordered to be rubbed over the region of the heart, in the usual manner, after purgatives had been administered, for a few days, to regulate the bowels.

After the first or second friction with the ointment, all the symptoms were materially diminished in intensity; the palpitation had greatly subsided; the pulse had become much softer and weaker; the anxiety, the pulsation in the head, the feeling of giddiness, the confusion of intellect, and the sensation of whizzing in the ear, had all disappeared, and the general health and appearance of the patient were much improved; but still some of the symptoms remained, not, however, to such a degree as to occasion inconvenience, and she is now in a comfortable state, and able to follow her household employments; though exertion, to any great extent, cannot be used without aggravating her complaints. From the manifest benefit experienced from the veratria ointment, she uses it herself whenever, from any cause, an increase in the symptoms takes place, and with the effect of procuring immediate relief.

CASE VIII.

A gentleman, aged about sixty, of a weak constitution, of sedentary habits, and given to mental occupations, has laboured, for seven years, under slight palpitation, accompanied by feelings of anxiety and general langour, coming on at intervals, and increased by exertion; his pulse is feeble, rapid, and intermitting; palpitation over the lower part of the left side, not excessive, but attended with a painful sensation in the region of the heart, which is so augmented by walking, especially against the wind, as to compel him to stop and support himself on the nearest object. Respiration generally unimpeded, except under these circumstances. The circulation in this patient is peculiarly languid, the face pallid, and the surface of the body cold. The nervous system is easily excitable, and he finds that continued exertion of mind very much aggravates all his symptoms. Appetite good, digestion easy, but occasionally accompanied by flatulence; bowels rather costive.

In the previous treatment of this case the same measures were employed as in those already related, but without the least effect. He was ordered to take a little opening medicine for a week, and then to apply the veratria ointment over the region of the heart as usual. On the night after the first

friction had been used, the patient got no rest in bed from the excessive nervous irritation which it had given rise to ; his feelings of anxiety, and palpitation were so much augmented, that he would on no account repeat the application : these symptoms continued unabated for two days, at the end of which however the disease began to decline, and went on afterwards to do so until every vestige of it had disappeared, although no curative means whatever had been employed after the first application of the veratria ; and he still continues quite well.

CASE IX.

A Lady about sixty years of age, stout made, and of a ruddy complexion, was seized with a fit of fainting about sixteen years ago, in which she continued for an hour and a half, and ever since that occurrence she has been affected with palpitation of the heart, accompanied by frequent returns of the syncope. She now complains of palpitation, and difficulty of respiration, along with deep sighing, occasioned by a sensation of constriction, which she describes as extending over the chest, but unattended by cough ; and the angles of the mouth are slightly bluish in appearance. The action of the heart is violent and irregular, and she complains of oppression and weight over the

lower part of the left side of the thorax. The pulse is intermittent and irregular, and does not at all times correspond with the intensity of the heart's pulsations. She complains of occasional shooting pains in the arm, reaching to the points of the fingers; she is sometimes nervous and low-spirited, and at intervals nearly free from all those symptoms; but not for any length of time, for they return again from very slight causes.

The appetite in this patient is at all times pretty good, but the digestion is not performed with a corresponding degree of facility, which renders a careful selection of the articles of diet as well as attention to their quantity necessary; and notwithstanding that these precautions are attended to, there is considerable flatulence and pain in the stomach during the process. The bowels are habitually costive, and require the employment of active purgatives from time to time, to keep them easy; and the lower extremities are generally cold.

Almost every form of treatment that could be devised, had in this case been resorted to, during the long continuance of the disease; but the palpitations and faintings never ceased, although the general health by great care had been preserved tolerably good. To relieve the disordered state of the stomach and bowels, the patient was now directed to take opening medicine, combined with antacids, along with small doses of blue pill, for a

week ; and by these means the dyspeptic symptoms were, to a certain extent, removed, but the affection of the heart still remained nearly as violent as ever. The veratria ointment was then prescribed of the usual strength, and ordered to be rubbed every night over the left side of the thorax. She did not return till the end of a week from this time, and from her own account, as well as from examination, she then appeared very much better. During the interval the palpitation and syncope had been much relieved, and indeed the latter had not returned. The feeling of tightness and oppression was quite gone ; the pulse was materially improved in character, but still rather irregular. She was directed to persevere in the application of the ointment ; her health and appearance became gradually amended, and at the end of a month from the time at which the veratria was had recourse to, she was quite well.

CHAP. II.

EXTERNAL APPLICATION OF VERATIRA IN
NEURALGIC AFFECTIONS.

IN no class of diseases have the beneficial effects of the veratria ointment been more strikingly manifested than in that which it is now proposed to bring under consideration; for in none are the symptoms productive of more distress to the patients, and by no other means can the same degree of relief be afforded in so short a period.

The external application of the veratria has been made use of in neuralgic affections situated in every part of the body; and the cases which have hitherto been subjected to this plan of treatment have almost without exception yielded to its effects, even after having resisted every other for a length of time, amounting in some of them to many years. It is, however, in tic-douloureux that the most remarkable and speedy change is effected in the state of the patient, for often during the continuance of the first friction the paroxysm is brought to a termination, and does not again return; and if this be not the case, the following interval is at least of much greater length than

any that may have previously occurred, and the next accession of pain is much less severe, and more easily removed.

The principal considerations to be attended to in the employment of veratria in tic-douloureux, are connected with the part of the face, and the extent of surface, in the which the pain is situated, and the length of time the patient has laboured under the disease. With regard to the first of these, it has been found that in cases where the affection is not confined to one particular point, but has extended itself along the ramifications of the nerve in which it has its seat, the symptoms may be removed much more speedily, and by means of an ointment containing a smaller quantity of the veratria than when the contrary is the case; and this probably arises from the circumstance of their intensity in such instances being much less, and from the surface under which the disease is actually situated being greater than where one spot only is affected, thereby affording an opportunity of making the application over a number of affected points at the same time.

In cases, too, of long duration, there is more difficulty experienced in performing a complete cure, than in those of a more recent date; but this does not appear to arise from the ointment having less power in removing the existing paroxysm in these instances than in others, for it almost always affords immediate relief, but from

the habit of recurrence at stated intervals, which its previous long continuance seems to have impressed upon the disease: even this, however, may be broken through by a little perseverance; and a recovery be effected, if not as quickly, at least as certainly, as in less obstinate cases.

For those forms of the disease, which have been characterized as occupying the branches of the affected nerve, an ointment, made with twenty grains of veratria to an ounce of lard, must be rubbed, during the paroxysm, over the whole seat of the pain for fifteen or twenty minutes, or what is better, until the heat and tingling caused by the friction have been so great as to produce an impression on the feelings of the patient equal to that arising from the disease itself; and when such an effect has been brought about, the friction may be discontinued for a short time, to allow the irritation occasioned by it to subside, so as to enable the patient to form a judgment of the relative intensity of the pain now, compared with what it was before the ointment was had recourse to. In most instances the paroxysm will be found to have been cut short; but if any degree of uneasiness remain, the part must be again rubbed with the ointment until the peculiar sensations, arising from its use, again shew themselves, and this second application will, in general, be succeeded by a remission of the pain. Should an instance, however, occur of such obstinacy as to resist this repetition, the

patient should still persevere, until the paroxysm be subdued.

In the great majority of cases to which this form of treatment has been applied, the removal of the paroxysm has been effected with the greatest facility : and those in which a continuance of the friction, in the manner now recommended, is found necessary, are almost without exception cases in which the affection has been confined to one point ; and of all such, the most troublesome of cure are those where the pain is seated in the frontal nerve, at the place where it escapes from the supra orbital foramen ; but even these have yielded to an ointment of sufficient strength, without the use of any other means.

For the purpose of obtaining the full effect of the veratria as soon as possible in such instances, it has been used in the proportion of forty grains to an ounce of lard, and this may be done either from the very beginning of the treatment, or the quantity of the alcaloid may be augmented by five grains in each prescription until it attain to that amount. The former method is upon the whole to be preferred, because by it an immediate check is put upon the paroxysm in severe cases, without the necessity of continuing for a length of time the employment of weaker applications.

It may not be out of place to repeat here the caution already given, against allowing even the most minute quantity of the veratria to come into

contact with the conjunctiva, an accident which may easily happen during the application of the ointment in affections situated in the face ; as such a circumstance, although it may not be followed by danger, is nevertheless productive of so much irritation as to make it an object to guard against its occurrence.

The general instructions which have now been given, regarding the plan to be pursued in the treatment of *tic-douloureux*, are equally applicable to cases of neuralgia, situated in other parts of the body. These last, however, are not so difficult of removal ; and do not, so far as has been hitherto observed, require the ointment made use of to contain more than twenty grains to an ounce of lard. There is a form of this affection occurring in the loins, and extending down the thighs of women during the menstrual period, in which the application of the *veratria* is found of great service, as affording an easy and expeditious means of removing it.

In a few instances of *tic-douloureux* the attempt has been made to lengthen the interval between the paroxysms by means of friction, with an ointment containing twenty grains of morphia to an ounce of hog's lard, but without producing the intended effect. Several cases, however, of neuralgic and rheumatic pains, situated in other parts of the body, have been cured by the external employment of the morphia alone.

CASE I.

A Lady, fifty-five years of age, of a spare habit of body, has been affected for the last thirty-six years with tic-douloureux in the cheek, and in the forehead above the eyebrow, on the left side. From the commencement of the disease, she has had a paroxysm generally once a week, and at no time does she remember the interval to have been greater than fourteen days. Her sufferings during the continuance of the attack have been extreme, and have compelled her to confine herself to bed until its termination, and it has never lasted a shorter time than two days. In the intervals, however, she has been perfectly free from pain, and her general health has all along been tolerably good.

It appeared from the history of the case given by the patient, that throughout the long course the disease had already run, almost every kind of medical treatment had been put in practice without giving rise to any permanently good result; and in consequence of this circumstance, and as the symptoms appeared to admit of nothing but slight alleviation, if even that could be procured, she was ordered to keep the bowels open by the use of an aperient pill, and at the commencement of every paroxysm to take a small dose of acetate

of morphia, and to repeat it every hour until the pain abated. She persevered in these means for two months, and experienced considerable relief; but although the violence of the symptoms was moderated, neither any diminution of the length of the attack, nor any change in the duration of the interval, could be observed.

Under these circumstances, and as the general health of the patient was beginning to suffer from the employment of the morphia, it was ordered to be discontinued; and she was directed to take small doses of strychnia, for the purpose of removing, if possible, a paralytic affection of the levator muscle of the upper eyelid, and of the left side of the face, which had come on during the previous existence of the disease. This course was persevered in, until the convulsive twitchings, brought on by the medicine, became as strong as the patient could bear them, but without producing any effect upon the paralysis.

Her health was now much weaker, but her sufferings continued unabated; and as it became a duty to call into use any means which might afford even the slightest prospect of relieving the violence of the pain, she was directed, after the manner already stated, to rub over the forehead and on the side of the face, a portion of ointment, made with twenty grains of veratria to an ounce of lard, till every uneasy sensation was gone. In about fifteen minutes this effect was produced; but

the paroxysm again made its appearance within two hours, and by a renewal of the friction for a few minutes, it was again extinguished, instead of continuing two days as usual.

To this there succeeded an interval of perfect ease for ten days, when the attack again returned, but not by any means so violently as before. On this occasion the same plan was pursued as in the preceding paroxysm, and the relief afforded was still more marked, for the pain was entirely removed by the first application. From this time the patient had only one or two very slight accessions, but these were at once cut short by the use of the ointment for a few minutes. It is four months since the last attack came on, and she is at present quite free from the disease.

Not the least remarkable circumstance in this case was the rapid change which took place upon the paralysis, for immediately after the first friction had been made use of, it was observed to have diminished considerably; and by the time the patient was cured of the *tic-douloureux*, it had entirely disappeared, and has not since in any degree returned.

CASE II.

MR. C., aged forty, of a sanguine temperament, has laboured for sixteen years under tic-douloureux over the right side of the face and forehead, but particularly along the lower jaw as far as the mesial line, where it terminated; and when the paroxysms were severe, the pain also extended itself to the same side of the tongue. During the whole course of the disease, this patient has hardly ever been free from pain; and when an interval of ease did take place, his sufferings were renewed by the slightest causes, and more especially by mastication, which seldom failed to bring on an accession: his general health and appetite have been good, so much so, that he has frequently brought on an attack by inattention to proper rules for regulating his diet and regimen.

In the previous management of this case, under the supposition that the pain might depend upon decayed teeth, the patient had had several extracted without affording any relief. He was then bled generally and locally; blisters and embrocations were repeatedly employed; but still no abatement in the severity of the symptoms took place. Along with these means he had also used large doses of carbonate of iron, arsenic, mercury, opium, morphia, sulphate of quinine, nux vomica, &c. all

without effect; and when he came under treatment, he had been taking prussic acid in a quantity sufficient to affect the nervous system, and with as little success, as from the measures which had before been resorted to.

As it appeared, from the history of the case, that the patient had been in the habit of indulging his appetite for food and drink to a considerable degree, and as his digestive organs appeared somewhat deranged, he was directed to take small doses of blue pill with epsom salts; and along with these means the veratria ointment was prescribed, of the same strength as in the preceding instance; and from the fact of there being no distinct interval observable betwixt the paroxysms, he was directed to rub it over the seat of the pain twice a day, and to renew the friction at any other time, should the attack come on.

In the course of four or five days he returned, very much improved in every way. His general health appeared better; the disease had been greatly relieved, for instead of being almost always present, as had been the case for so long a time, it had been broken up into distinct accessions, and these were attended with comparatively little pain: he was therefore directed to discontinue the regular application of the ointment, and to employ it only when threatened with a renewal of the paroxysm: soon after this, he gave up the use of the internal medicines which had been prescribed for him, and

he went on gradually improving under the influence of the veratria alone; the intervals became longer, and the fits less and less painful, until at the end of four weeks from the time he came under treatment, he returned home perfectly free from pain; and although eight months have elapsed since then, he has had no renewal of his complaint, and is now in excellent health.

CASE III.

A Lady, forty-eight years of age, of a spare habit of body, has been affected with severe tic-douloureux, situated in the middle of the left side of the face, for a period of twenty-two years. She has made use of every possible medicine, particularly of carbonate of iron, which she had taken for three months in very large doses, but without experiencing any benefit.

The paroxysms are irregular in their duration, but never shorter than twelve hours, and they return generally at the end of three days, sometimes at the end of a week, but seldom longer; and during the interval she is not altogether free from pain.

A short time before this patient came under treatment she had had an attack of paralysis; from which, however, she had recovered, with the ex-

ception of a slight palsied appearance of the countenance. There were no very marked symptoms of derangement in the digestive organs, but it was thought advisable to put her under a course of medicine for a few days, similar to that made use of in the last case ; and the veratria ointment, of the same strength, was ordered to be rubbed on in the usual manner when the next paroxysm occurred. This was accordingly done ; and after the friction had been continued for a quarter of an hour, the pain ceased entirely, and never came on afterwards in the shape of a regular attack.

During five weeks from this date, the disease appeared occasionally in the form of slight twinges of pain in the part previously affected, but these were at once removed by rubbing on a little of the ointment. It then completely disappeared : it is now eight months since, and she has had no threatening of a return.

CASE IV.

A Lady, about thirty-five years of age, has suffered most severely, and almost without intermission for the last eighteen months, from tic-douloureux in the cheek and side of the forehead. She has, during all that time, been put under the effects of nearly every variety of medical treatment that could be

suggested, without producing any effect whatever upon the disease ; and the only remedy which has in any degree alleviated her sufferings is galvanism, but this also has failed in producing any permanent benefit.

This patient appeared to enjoy very good health ; so that, without any other treatment being put in practice, it was determined upon at once to try the effects of the veratria ointment. She was therefore ordered to rub over the affected part in the usual manner, an ointment made with twenty grains of veratria to an ounce of lard, which she accordingly did, and in ten minutes from the commencement of the friction, every vestige of the pain had disappeared ; and it has never since returned.

CASE V.

A Lady, twenty-five years of age, has been for the last seven years affected with severe tic-douloureux, confined to one point, exactly in the situation of the supra orbitary foramen of the right side. The paroxysms have varied in duration, from sixteen hours to two days ; and intervals, extending from ten days to three weeks, but never longer, have intervened between the attacks of pain, and these when short, have generally been followed by a recurrence of the symptoms in two or three days.

In this, as in the preceding cases, almost every means of cure appeared to have been already had recourse to, but, as usual, without procuring any permanent alleviation of the sufferings of the patient, except that small doses of acetate of morphia administered during the paroxysm, sometimes caused an immediate cessation; but it was attended with this inconvenience, that if it did not produce the desired effect, all the symptoms were immediately aggravated to a great degree.

The digestive functions in this patient appeared to be considerably impaired, her circulation languid, and her extremities cold, especially during the attack. On these accounts she was put under a course of laxatives, combined with blue pill, for about a week, which was the means of removing these symptoms, but without producing any change on the disease itself. As it appeared that carbonate of iron was almost the only medicine which she had not previously made use of, it was prescribed in pretty large doses, and persevered in until it evidently appeared to exercise no effect whatever upon the symptoms: it was then given up, and about six weeks afterwards the veratria was applied.

At the commencement of one of the accessions, she rubbed over the eyebrow and forehead of the affected side, part of an ointment made with twenty grains of the veratria to an ounce of lard; and after the friction had been continued in the usual

manner for about twenty minutes, the paroxysm was cut short. During the interval she was directed to apply, in the same way, an ointment made with morphia and hog's lard, in the same proportions as the other, twice a day, in order to prevent a return of the attack, but without producing the intended effect, for it again made its appearance in ten days.

With the view of making a decided impression at once upon the disease, an ounce of ointment containing forty grains of veratria was ordered to be employed as before, whenever a new accession of the pain took place; and in a few minutes after its first application, there followed a great increase of the symptoms, which continued for about two hours, and then subsided, leaving no trace of the affection behind, neither has any renewal of it taken place.*

CASE VI.

A Lady, aged twenty-six years, who has been subject to occasional attacks of hysteria since her fifteenth year, has also since that period suffered from tic-douloureux, situated in the left eyebrow and extending itself up the forehead, in the course

* Since the above was written, the pain has returned two or three times; but the patient by the use of the same means, is at present, and has been for some time, free from it.

of the ramifications of the frontal nerve. The paroxysms in general take place once a month; but if the patient happen to expose herself to sudden alternations of temperature, she is almost certain of experiencing a violent attack on the following day, and in either instance it continues with unmitigated severity for about twelve hours, and not unfrequently terminates in sickness and vomiting, occurring at intervals for two days after, along with a considerable degree of intolerance of light.

As no plan of treatment which she had hitherto made trial of, had had any effect upon the disease, she was, without any other means being employed, directed to rub at the beginning of one of the accessions, part of an ointment of the usual strength, and in the manner already described, over the seat of the pain, and to continue the friction until relief was obtained. She did so, and in less than half an hour from the time the ointment began to be used, the paroxysm entirely left her.

On account of the presence, in this case, of considerable visceral derangement, the patient was treated by gentle laxatives for a short time in the way recommended in those previously mentioned, and she was ordered to repeat the friction with the veratria whenever the pain returned. But this was found to be unnecessary; for nine months have now passed without any second paroxysm having occurred.

CASE VII.

A Lady, thirty years of age, has been for several years labouring under tic-douloureux, seated in the right orbit, and extending along the course of the frontal nerve as far as the top of the head. The paroxysms have been so violent as generally to confine her to bed for a day or two at a time, and have made their appearance with the greatest severity at the menstrual period, but in other respects she has all along been in the enjoyment of good health. She was ordered to rub the veratria ointment, when the attack came on, over the whole surface occupied by the pain until relief was experienced : this she accordingly did on the first appearance of it : in a few minutes it was cut short, and never afterwards returned.

CASE VIII.

HEMICRANIA.

A Gentleman, aged thirty-five, of a spare habit of body, subject to nervous feelings, and accustomed to sedentary occupations, has for the last seven years been seized with excruciating fits of pain, confined to the right half of the head, and return-

ing by regular paroxysms at the end of about every third week. A short time before each attack comes on, he suffers much from restlessness and irritability, his pulse becomes augmented in frequency, and he complains much of impairment of memory; and after it has ceased, he does not return to his usual state of health for two or three days.

For this affection he was directed, during the paroxysm, to make use of frictions with the veratria ointment, of the usual strength, over the seat of the pain; he first applied it to the forehead, and one rubbing was all that was requisite to remove the pain in that situation, but it still continued unabated in violence in the remainder of the affected region: to this part he was also ordered to apply the ointment; and the pain there, in like manner, yielded to one application: this took place several months ago; no second return of the symptoms has taken place, and he is now in good health.

Along with the hemicrania, there existed in this patient a considerable degree of irritability of the heart; but a few frictions with the same ointment, made over the left side for five minutes every night, along with an occasional aperient pill, sufficed to remove this symptom permanently.

CASE IX.

NEURALGIA IN THE BACK.

Mrs. F., about thirty-eight years of age, had for the period of four years suffered from intense pain, confined to one spot in the loins, and which was not increased by motion. It came on in paroxysms, so frequent in occurrence, and of such duration, that she never experienced a longer interval than two days betwixt them. And her sufferings were augmented to such a degree during the period of gestation, that she was compelled to confine herself to bed for a great part of the time.

To bring about the removal of this affection, the patient had previously submitted to bleeding, generally and locally; and blisters, tartar emetic ointment, frictions with stimulating embrocations, along with plasters of various kinds, had been made use of, but without in any degree alleviating the pain: she had also taken internally almost every medicine calculated in any way to procure an abatement of the disease, but still no relief could be obtained.

When this patient first put herself under treatment, several of the remedies previously had recourse to were again employed; and along with these, frictions with croton oil were ordered over the seat of the pain, until a free eruption came out,

but without effect. As a last resource, the veratria ointment made with twenty grains to an ounce of lard, was directed to be applied in the usual way, and in a very few minutes every vestige of the pain had disappeared. She has been since entirely free from it, and is now in the enjoyment of the best health.

CASE X.

NEURALGIA IN THE BACK.

A young Lady, about twenty-four years of age, has been affected with most violent pains in the loins and thighs, during the menstrual period, for about eight years. The pain has in general continued, without intermission, for three days, and has then subsided of its own accord.

Many attempts have been made in this case to effect a cure; the patient has taken opium, preparations of morphia, Dover's powder, and other sedative remedies, but without experiencing any permanent benefit, for at each monthly period the pain has manifested itself with the same severity as before. From the effects which the veratria had been already observed to have upon similar diseases, an ointment made with twenty grains of the alcaloid to an ounce of lard, was directed to be made use of over the loins, with the effect of immediately removing the pain, and it has not again returned.

CASE XI.

THE eleventh case happened in a Lady about thirty-three years of age; and except that the disease had in this instance continued for nine years, its previous history, course and termination, were so precisely similar to those of the preceding case, that any more particular relation appears quite unnecessary.

CASE XII.

AN elderly Gentleman, rather corpulent, and of sedentary habits, had suffered severely for nine months from a fixed pain seated in the lower part of the spine. It had continued during the whole time almost without intermission, and at last nearly prevented him from remaining in the erect posture. The veratria ointment was directed to be rubbed over the affected part, and immediately removed the pain; the patient was, however, ordered to apply the frictions, night and morning, for two weeks, to prevent a return, and he has since had no symptoms of the complaint.

CASE XIII.

Mrs. A., a middle-aged lady, has suffered severely for about five years from a painful affection in the situation of the os coccygis, which is much increased by sitting, or riding on horseback. For the cure of this disease, she has been under every variety of treatment, both internal and external, and has spent much time at the principal watering-places, but still the pain has continued the same.

She was directed to make use of friction with the veratria ointment over the affected part, and the first application afforded complete relief. At the end of twelve hours the pain again came on, but was a second time as easily removed ; and as there seemed to be a tendency to a recurrence of the symptom, the ointment was ordered to be repeated night and morning, until the disease had ceased again to appear. In the course of ten days the patient was quite well, and has since continued to be so.

The preceding cases will serve to illustrate a few of the more important forms of neuralgia, as they occur in different parts of the body, and in the treatment of which the veratria ointment has been applied. Many others of a slighter character,

and of easier cure, might have been cited, but it has been considered better to relate only such as are of a more severe nature, as it is in the treatment of these that the new remedy becomes the most valuable acquisition; for in milder examples there are other means, which may be employed successfully without resorting to its use. Before taking leave, however, of this part of the subject, it is necessary to mention that there is still another class of affections, nearly allied in character to that already treated of, and seated in the great cavities, which receives most marked benefit from frictions with the veratria applied over the seat of the pain. Many cases of this kind have been cured by means of it, but in none is the relief experienced more grateful to the feelings of the patient, than in painful sensations occurring along the course of the rectum, coming on after each stool, and continuing for some minutes with great severity: such affections are by no means uncommon, and appear to be confined to the nerves of the part; and for their removal, all that is in general necessary is to rub the ointment along the sacrum, during a few successive attacks, and the pain will shortly disappear.

CHAP. III.

EXTERNAL APPLICATION OF VERATRIA IN
RHEUMATISM.

FROM what has been said in the foregoing chapter on the subject of the external employment of veratria in neuralgia, it will not be requisite to introduce here any further remarks, except such as are exclusively applicable to the effect produced by it upon rheumatism in its various forms.

In the acute stage of the disease, it does not appear to have been before made use of; but if any inference can be drawn from two or three cases, which are the only ones that have hitherto been treated by it, the effects produced are no less marked and beneficial in this than in the chronic form. The ointment in those instances was rubbed directly upon the inflamed surface; and instead of producing any additional irritation, the inflammation and swelling rapidly subsided, and the pain was quickly subdued.

It may be a question, in how far it would be useful to apply the veratria ointment at the very outset of the inflammatory stage; for in the cases already alluded to, it was not employed until the usual antiphlogistic remedies had been resorted to; and from certain facts, which have been ob-

served in its operation, it appears that the disease must have existed for a short time before the veratria can take effect upon it ; but further experience on this point will soon decide the question.

From the extent of surface affected in acute rheumatism, and from the quantity of ointment which is on that account required for the friction, the proportion of veratria ordered in the prescription should not be so great as in the diseases already treated of ; for in this, as in other affections, the strength of the ointment should always bear a certain relation to the space over which it is to be applied.

In cases where the rheumatism is general, or where it is seated in several joints at the same time, ten grains of veratria to an ounce of lard will make an ointment sufficiently powerful for every purpose ; but where it is confined to one or two joints, or where it has assumed the chronic form, the quantity employed may be varied according to circumstances, from ten to twenty or more grains, and the friction may be continued in either case as long as the patient can bear it ; or if it be requisite to specify a fixed portion of time—as a general rule, it may be stated, that in the earlier stages of the disease fifteen minutes, and in long standing examples twenty, will be enough to remove the existing pain.

When the case to be treated is decidedly chronic in its nature, much perseverance is requisite, par-

ticularly if extensive organic changes in the parts have taken place ; the best directions are, to rub the affected joints every night for the time specified, until the pain has disappeared ; and at any future period, when from change of weather, or other causes, it again returns. In slight acute affections, arising from cold, one application, continued until the heat and tingling manifest themselves, in general effects a cure.

The directions which have now been given will, in most cases, prove sufficient to enable the practitioner to make use of the veratria ointment in the more topical forms of rheumatism, as well as in those already pointed out : and little more appears requisite than simply to enumerate such as it may be applied in with the most evident advantage.

In lumbago, sciatica, rheumatic affections of the muscles over the chest, or in other parts, a removal of the symptoms is effected almost immediately by the first friction ; and in more obstinate cases, a few more will, in general, have the desired effect.

CASE I.

MR. G., a gentleman about forty-eight years of age, had been for some time subject to occasional severe attacks of acute rheumatism, affecting chiefly the joints of the extremities, and attended with a considerable degree of general fever. For several days before he came under treatment he had been labouring under very acute symptoms of the disease; he had had a good deal of fever, a quick throbbing pulse, much heat of skin, and the joints of the elbows, wrists, knees and ankles were swollen, red, and so very painful as to render motion to any extent impossible.

In this case the most active measures had already been put into practice. Venesection had been freely employed, he had used large and repeated doses of purgatives, of various diaphoretic medicines, and colchicum; and along with these means the antiphlogistic regimen had been carefully pursued since the commencement of the attack, but no abatement in its violence had taken place.

As every thing likely to effect a cure in the usual way appeared to have been resorted to, the previous internal treatment was ordered to be persevered in, and at the same time an ointment, consisting of ten grains of veratria and an ounce of lard, was directed to be rubbed upon the affected

joints, for ten minutes at night, and again the following morning. When the patient was visited next day, his rheumatism was nearly gone. The ointment had occasioned a considerable increase in the heat of the parts, but the inflammation and swelling were greatly diminished, and the pain almost removed; he could now use the affected joints with perfect ease, and there was no return of the symptoms for some days. He then experienced a slight renewal of the complaint in one of the ankles; and at the very first appearance rubbed the ointment, of his own accord, over the inflamed surface for the usual time, but although it produced sensations of heat and tingling as usual, yet no amelioration of the pain took place: the friction was therefore ordered not to be repeated till twelve hours had elapsed, and at the end of that period one application entirely removed it.

CASE II.

A Boy, twelve years of age, and of a delicate habit of body, had been labouring for three or four days under an attack of acute rheumatism, attended by a good deal of febrile excitement; the pulse was quick, the skin hot, and the tongue dry, and slightly furred; both his ankles and knees were swollen to a considerable degree, had a red and

inflamed appearance, and could not be moved, on account of the pain.

On the second day of the disease, leeches and fomentations had been applied to the affected joints, and internally he had taken colchicum and diaphoretics, but with very little benefit. He was therefore ordered to have an ointment made with twenty grains of veratria to an ounce of lard, freely rubbed over the seat of the pain, for about fifteen minutes at bed time.

Next morning the patient was almost quite well. During the night the pain and fever had disappeared, and he could walk about and move his limbs with perfect ease; the inflammation and swelling had to a great degree subsided, and the joints were nearly restored to their natural appearance. In two days afterwards, although the ointment had been only once applied, no trace of the affection was left.

CASE III.

MR. G., forty-five years of age, and of a robust constitution, was in consequence of exposure to cold and wet, seized with a rheumatic attack, which was confined to the knee and ankle of the right side, and accompanied with some degree of fever; he was ordered on the evening following the

accession of the disease to take antimony combined with calomel ; but next day the symptoms did not appear at all to have diminished. The affected joints were swollen, inflamed and painful, and the quickness of pulse, and heat of skin still continued the same.

Part of an ointment made with twenty grains of veratria to an ounce of lard, was now directed to be rubbed over the seat of the pain for the usual time ; and on the morning after the first application, the patient could walk about the house ; the pain, inflammation, and swelling had almost disappeared, and the febrile symptoms were gone : by continuing the same treatment for two days longer, he was able to follow his business, and no relapse afterwards occurred.

CASE IV.

MR. S., a stout gentleman, aged about fifty, had been in the early part of his life much exposed to cold and moisture, which brought on an attack of lumbago, and since that time he has had many returns of the disease. In addition to this, he has also been affected with chronic rheumatism, confined principally to the joints of the hip and knee of the left side. The motion in both is very much impeded : over the hip-joint there is an evident

fulness, and when any extensive movement is impressed upon it there is a distinct crackling noise elicited, and a similar feeling is communicated to the patient.

The knee is also the seat of considerable swelling, and pain which is increased by pressure, but particularly by attempts at motion, and the same noise and sensation are present when it is bent and extended as in the hip-joint. The swelling in both situations is white in appearance, puffy, and somewhat elastic. The sufferings of the patient are much aggravated by change of weather; and attempts at motion in the affected joints are attended with so much pain that he is compelled, in walking, to lift the whole extremity without bending it, by exerting the muscles of the opposite side.

For the removal of the disease, he had previously resorted to most of the remedies in common use. Besides having taken internally every thing that appeared likely to afford relief, he had employed to the parts themselves, bleeding, counter-irritation by means of blisters, &c., and embrocations of every kind; all of which had failed in procuring any other than a temporary abatement of the symptoms.

Under these circumstances this case first presented itself, and with the view of giving a fair trial to external applications, the affected parts were ordered to be rubbed with croton oil twice a day, until a very free eruption came out, and this

plan was followed with considerable success for about six weeks, during all of which time the irritation was kept up by repeated frictions with the oil. Even this, however, at last began to lose its effect; and the pain, which had at first diminished considerably, now appeared to be rapidly on the increase, and as there was no objection to the application of the veratria, it was prescribed.

An ointment made with twenty grains of the alcaloid to an ounce of lard, was ordered to be rubbed for twenty minutes twice a day over the knee and hip of the affected side; and after it had been made use of a few times, the troublesome symptoms began to decline. The pain went quite away, and the swelling and rigidity became rather less; so that at the end of ten days or a fortnight, the patient could bend both the diseased joints, and could walk almost without inconvenience. The disease itself is, of course, not removed; but he can now, at the period of nine months from the first application, take exercise on foot, and move the articulations with freedom.

In changeable weather a very slight return of the pain sometimes takes place, but this is at once removed by rubbing the part with the ointment for a few minutes; and the patient is now in a comfortable condition.

CASE V.

MR. B., a gentleman about forty-five years of age, was seized two years ago with an attack of rheumatism which terminated in a chronic affection of the joints of the right arm and hand. He experienced great difficulty in making use of the muscles of the shoulder from the pain which always attended upon any efforts at motion : the elbow joint was stiff and painful, and he was obliged to carry the fore-arm in a sling. The articulations of the fingers were swollen, and also gave pain on motion, so that the patient could not use them in writing ; but had been, in consequence, in the habit of employing the left hand for that purpose.

This patient had previously applied many remedies, without obtaining any benefit from them, and he was now ordered to rub the affected joints twice a day with the veratria ointment ; and in a day or two all uneasiness had left the shoulder and elbow, and he could now move the arm with facility. The disease in the joints of the fingers was also much relieved, but the swelling appeared nearly the same : he was directed to continue the application of the ointment to them occasionally, until it produced some effect. He returned at the end of about six weeks, and at that time the pain and swelling had totally disappeared, and he had recovered the entire use of the hand.

CASE VI.

MRS. P., about fifty-two years of age, has been for the last twelve years affected with chronic rheumatism in the joints of the inferior extremities, but particularly in the hip and knee of the right side. Her sufferings for a considerable time have been augmented by variations in the state of the weather; and for the last five years, the joints in which the disease is situated have been so painful and rigid, as to oblige her to make use of supports in walking: the knee is much swollen, and gives a sensation of crepitus when moved.

In the previous treatment of this case also, remedies of every description had failed to do good; and in order to try the effects of the veratria, it was directed to be rubbed on twice a day in the usual manner, and to be persevered in for some time. At the end of a fortnight the symptoms were much relieved, and she could move the limbs with some degree of ease; she went on improving, and after six weeks, could walk three miles at a time with little difficulty, and without support.

CASE VII.

MR. K., a gentleman thirty-five years of age, has been the subject of repeated attacks of lumbago, for several years, and the pain has occasionally been such as to confine him to bed for a fortnight at a time. When the disease first made its appearance the patient was bled and blistered repeatedly, and took many remedies internally, but particularly colchicum, and these means were always followed by relief.

During the two attacks which had occurred previously to that in which the veratria was used, he had applied sinapisms to the seat of the pain, and taken large doses of colchicum, with the effect of removing the symptoms; but not till the plan had been continued for about three weeks.

One evening, about eight months ago, he had a return of the affection, and when visited next day, he was lying in bed in great pain, and could not be moved in any direction. An ointment made with twenty grains of veratria to an ounce of lard, was immediately ordered to be rubbed across the loins for fifteen or twenty minutes, and to be repeated at night; and in the event of the second friction failing to procure relief, he was directed to take fifteen grains of Dover's powder, with thirty-eight drops of vinum colchici, at bed-time; this

last prescription, however, he did not find it requisite to make use of, and next day he could move himself about freely, and without experiencing any pain. To guard against a recurrence, he persevered in the use of the frictions night and morning for a few days; he then discontinued them, and has since been quite free from every symptom of the complaint.

CASE VIII.

THIS case was one of severe sciatica, occurring in a gentleman about thirty years of age, and bearing a considerable resemblance in its history to the foregoing: the previous treatment pursued was much the same, and in like manner freed the patient from the existing attack; but did little towards establishing a permanent cure. The veratria ointment in one application, removed the pain, and in a few more, completed the recovery of the patient.

CASE IX.

A Gentleman, thirty-three years of age, had, about eight years ago, an attack of acute rheumatism, during which the larger joints became affected, and after the violence of the disease had been subdued, there still remained a degree of pain and

swelling around the articulations of the tarsus and ankle, of both sides ; and to these symptoms there has latterly supervened so much rigidity as to disable the patient almost entirely from walking. When an attempt at motion is made, he is compelled to raise the feet from the ground without bending the ankle joints, and he experiences great pain in pressing upon the ball of the great toe.

In this case, the patient was directed to rub the veratria ointment over the diseased parts twice a day ; at the end of a fortnight the pain was gone, and the attack completely removed.

CHAP. IV.

EXTERNAL APPLICATION OF VERATRIA IN PARALYSIS.

It not unfrequently happens that in patients affected with tic-douloureux, a partial paralysis of the muscles of the eyelids and face of the affected side co-exists with the other symptoms. Such a condition has been present in several cases where the veratria ointment has been applied for the removal of the pain, and has almost immediately yielded to its effects, without afterwards shewing any disposition to return. From this circumstance it appeared to be not improbable that similar good conse-

quences might follow upon its employment in examples of paralytic affections occurring in other parts of the body, and in the anticipation that this might prove to be correct, several cases of paralysis have been submitted to the action of the veratria, and the results obtained have been so far favourable.

Although the number hitherto treated in this way, be too limited to allow any general rule to be founded upon the effects already observed ; it may nevertheless be a matter of interest to know to what extent success has followed this new plan of treatment, and what degree of encouragement there is held forth to the further prosecution of the subject.

In the cases referred to, the disease existed in different degrees of severity : in two or three, the patients had almost entirely lost the power of motion in one side of the body, but recovered it again, by making use of frictions with the ointment over the affected extremities, and more particularly along the course of the nerves. The greater number has, however, consisted of slight paralytic affections, situated in certain muscles, existing, either by themselves or in conjunction with other affections, and especially with *tic-douloureux*.

From the more extensive nature of the disease in the former cases, these have required the treatment to be continued for some little time ; but in

the latter, one or two applications have been successful in restoring the muscles to their healthy action.

In either instance, after the frictions have been made, there is a degree of warmth and tingling felt in the parts; gentle, indeed, at first, but becoming more and more manifest at each successive application, until the nerves of the affected parts are stimulated to a degree sufficient to enable them to resume their functions.

The proportions of the veratria employed ought, in most cases, to vary with the severity of the affections to be treated by it, and also, according to the extent of surface over which it has to be rubbed; but, as a general direction, fifteen or twenty grains to an ounce of lard will be sufficiently strong, and frictions of ten to twenty minutes duration will answer every purpose.

CASE I.

MR. C., a robust man, about forty-four years of age, was seized twelve months ago with a fit of apoplexy, from the immediate danger of which he recovered under the employment of the usual means, but there remained a paralytic affection of the right side. Five months after this date, he came under treatment on account of the paralysis, and at that

time he complained of giddiness and want of recollection, the pupil of the right eye was dilated, and the muscles of the cheek on the same side appeared to have almost lost their power of contraction; the tongue, when protruded, was moved towards the affected side, and his articulation was very imperfect.

He had but little power over the muscles of the arm; when he attempted to walk, he experienced difficulty in raising the affected leg, and when he threw his weight upon it, the whole body shook as if by the action of a spring.

For the previous five months this case had been treated actively. The patient had been several times bled generally, as well as locally; had had blisters applied to the neck and head, and had besides an issue inserted into the nape of the neck, which was discharging at this time. These measures, however, had been attended by little success; and on this account, as well as from the effects already alluded to, which the veratria had been observed to possess in the paralytic affections accompanying tic-douloureux, this seemed to afford a fair opportunity in which to make trial of it.

The patient was put under a slight course of blue pill and Epsom salts for three days, and then the veratria ointment made with fifteen grains of the alcaloid to an ounce of lard was directed to be rubbed along the spine for five minutes, and over the paralytic limbs and side of the face three

minutes for each separate part, twice a day. At the end of a week from this time he returned considerably improved; he could now use the arm tolerably well, and the paralytic affection of the face had nearly disappeared, but the inferior extremity remained much in the same state. The plan was ordered to be persevered in: he continued to improve, and at the end of two months he had completely recovered the use of his leg, and was in fact quite free from the disease.

During the time the veratria was applied in this case, the only collateral treatment made use of, consisted of regular doses of purgative medicine, so as to keep up a slight action upon the bowels.

An objection may, perhaps with justice, be urged against the preceding being considered an instance of cure from the action of veratria alone, because the length of time that had intervened betwixt the period at which the frictions were resorted to, and that at which the use of the lower extremity was recovered, might of itself afford a sufficient reason for considering the removal of the disease to be the effect of time, following upon an impression which had been already made upon it by the previous active treatment employed; but this supposition will not explain the speedy removal of the paralysis from the arm and face—a circumstance that can hardly be accounted for, except by attributing it to the effect of the veratria itself.

CASE II.

A Gentleman, aged about seventy, was seized in the spring of 1833, with a slight paralytic affection of the left arm and leg, and same side of the face. For this disease he employed but few remedies until about five months ago, when he came under treatment on account of it. At that time he had some power over the muscles of the affected extremities, but could not make use of them without much difficulty. The internal means which were chiefly employed, were doses of strychnia; but although they were persevered in for a few weeks, no favourable effect was observed to follow, and the medicine was discontinued.

To the paralytic symptoms there supervened an attack of rheumatism, from the pain of which the patient suffered considerably, and, after this had been removed, the paralysis increased; the opposite leg became so affected that he could not move it, and altogether the case appeared rather hopeless. In this state he was, one morning, ordered to have the veratria ointment, made with twenty grains to an ounce of lard, rubbed over the affected limbs, for twenty minutes; and in the course of an hour or two, he began to use his legs, and before the evening, he could walk about the room with facility. The arm and side of the face were also a good deal better.

After this the ointment was directed to be applied as before, but only occasionally, when the disease shewed any tendency to return; and at present, the patient can walk short distances with ease, and can ascend and descend a stair without assistance. He is going on improving, and makes use of the ointment according to the directions given him.

CASE III.

MRS. W., a lady about thirty-two years of age, had, some years ago, an attack of paralysis on the right side, which gradually disappeared, except in the side of the face, the muscles of which were still, to a considerable degree, affected by the disease.

As this patient appeared to be in the enjoyment of excellent health, it was considered unnecessary to give her any medicine to take internally, and she was directed to rub the ointment, made with twenty grains of veratria to an ounce of lard, for twenty minutes at a time, two or three times a week, over the affected part; and under this treatment, at the end of a fortnight, no appearance of the paralysis remained.

CASE IV.

A Lady, the mother of the boy whose case is related in the foregoing chapter, had had a paralytic affection of the levator muscle of the upper eyelid, on the right side, for several years, for which she had been put under various forms of treatment, but without effect. During the night after she had rubbed the veratria ointment upon her son, she was seized with violent pain in the affected eye, which continued for some hours without intermission; and upon examining the organ, to ascertain the cause, it was found that the paralysis had almost disappeared: she was ordered to make one application to the temple, and this completely removed the complaint.

CHAP. V.

EXTERNAL APPLICATION OF VERATRIA IN DROPSY.

THE forms of dropsy which have been submitted to the action of the veratria, are hydrothorax, ascites, anasarca, and dropsy of the ovaries: in all of these it has been found of service, but particularly in the first three, several cases of which

have been cured by it in a week or two, even when the severity of the symptoms was such as to threaten the life of the patient within a few hours. But in the encysted form, the benefit derived from its employment is neither so great nor so quickly manifested ; in a few instances however, a removal of the disease has been brought about by persevering in the treatment, and in several others the bulk of the swelling has been materially diminished.

There appear to be two states of the disease, in both of which the veratria is of use, though in different degrees, when applied to the surface of the skin. The one, where the pathological condition of the organs upon which it has depended, has been removed ; and where, nevertheless, the effusion, from want of action in the absorbing vessels, remains : the other, where the organic change is such as will admit of no remedy. In the former instance, the veratria has succeeded in restoring the patient in a short time to a state of health ; but in the latter, such an effect is not, of course, to be expected ; yet, even where this is the case, considerable relief may sometimes be obtained from its employment, after other means have failed.

It is therefore, indispensably necessary, before the veratria be applied, that every attention be paid to the state of all the organs, upon a derangement of which, either in structure or function, the effusion may depend ; otherwise, the anticipated effects

will not be produced. If, after a careful examination, nothing wrong, of importance, can be detected, the ointment may then be had recourse to, and probably with success; but if the contrary be the case, the diseased state, whatever that may be, should, if possible, be first removed, and then the treatment may be proceeded with. In some instances, particularly of encysted dropsy, the presence of an unhealthy condition of the system totally unconnected with the disease itself, has very much impeded the action of the medicine, and has required removal, before it could go on without interruption.

The same rule before laid down, as to the relation which the strength of the ointment ought to bear to the extent of surface over which it has to be rubbed, and to the state of the patient, must be kept in mind, particularly in dropsy; for inattention to this circumstance may give rise to want of success in the cure. As the frictions should, if possible, be made over the whole surface under which the effusion exists, and as this must vary with the situation and extent which it occupies, no prescription applicable in every instance can be given, except that the quantity of the ointment rubbed in each time, should not, in adults, contain less than two, nor more than four or five grains of veratria; and the friction should be continued for about twenty minutes, and repeated once or twice a-day, according to the impression produced; this

in general begins to shew itself in a few hours ; but not in the manner in which our knowledge of the consequences following from the medicine when given internally would lead us to anticipate. There is no fact in the history of this singular substance more remarkable than the opposite effects which it is observed to exercise, according to the method by which it is introduced into the system. When given by the mouth, its operation, as has already been stated, is cathartic and emetic ; but when rubbed upon the skin in dropsical cases it acts powerfully upon the kidneys, and at the same time appears to have an astringent effect upon the bowels.

In all the cases of dropsy which have been treated by it, with the exception of one to be immediately related, no unpleasant effect has attended upon its employment. In some instances, the powers of the medicine themselves have been exclusively relied on ; whilst in others, it has been deemed advisable to make use of diuretics internally at the same time ; in all, however, the administration of purgatives is a measure which should not, for reasons already given, be neglected.

In ovarian dropsy the change in the size of the tumor is much less rapid than in the other forms, and in most cases is not attended by any great increase of the quantity of urine. The ointment best fitted for use in this particular disease is made with from fifteen to twenty grains of veratria to an

ounce of lard ; and it should be rubbed over the swelling about twenty minutes night and morning. Under this treatment the circumference of the abdomen diminishes generally from an inch to an inch and a half in the course of each successive week, occasionally remaining stationary ; and the disease, at length, either wholly disappears, or becomes less in size : and this event is often accelerated by passing galvanic or electric shocks through the tumor at the same time that the ointment is employed.

The following singular case is the first upon which the veratria was tried, and the success which attended its application was the cause of the medicine having been made use of in the other dropsical cases which are to be presented to the reader. For the purpose of ascertaining the state of the patient, and whether he had had any return of the disease, a letter was addressed to him a short time ago on the subject, and he returned an answer every way satisfactory, along with his permission to give the case publicity.

CASE I.

J. B., esq., of Pocklington, near York, thirty years of age, came under treatment in the summer of 1830. About a year previously, he was attacked with ascites, which proved so very obstinate that although he was put under almost every plan of treatment which could be devised by his medical attendants, during nearly the whole time, the disease suffered no abatement, but on the contrary appeared to be increasing rapidly. At the time he presented himself, the dropsy had become general; his lower extremities and scrotum were swollen to an enormous size; the abdomen was completely distended with fluid; and the organs within the chest were much impeded in their functions. There was great difficulty of breathing, attended with cough and slight watery expectoration; the pulse was small and intermittent, and the patient was unable to remain in the horizontal posture for one minute, without experiencing the most distressing sense of suffocation; the distention of the legs increased to such a degree that serous fluid oozed from them; and altogether, the case was one of the most severe ever witnessed.

The previous treatment of this case had been as active as possible: diuretics and drastic purgatives

of almost every kind had been employed, without producing any other effect than weakening the patient; and a course of mercury, continued during some time, had been equally unsuccessful. The flow of urine was less than an English pint in twenty-four hours; and could not by any means be made to exceed that quantity.

For six weeks after he came under treatment, the plan pursued was similar to the one already described. Mercury, squill, the acetate and super-tartrate of potass, digitalis, colchicum, spirit of nitrous ether, juniper, broom seed, &c. were all had recourse to without the slightest benefit, and the same want of success attended the exhibition of elaterium, gamboge, and other drastic purgatives; these last produced large watery stools, but without bringing about any apparent diminution of the swelling. There now appeared no hope of recovery: all the means likely to procure relief had been put in force, and had only added to the distress and debility of the patient, so that it became necessary to abandon them, and look out for some other means of cure.

In this emergency it was resolved upon to make trial of the veratria externally, and a box of ointment made with four grains of the alcaloid and an ounce of lard, was accordingly directed to be rubbed over the surface of the abdomen at bed-time. The whole quantity was applied; and in the course of the night, and following morning, the patient evacuated

no less than eight pints of urine, which had caused a marked diminution of the swelling, both in the abdomen and extremities, and was attended with considerable relief to the breathing and circulation; but, along with these effects, the medicine had caused such an alarming prostration of strength as to render the administration of stimulants absolutely necessary, for three days before the ointment could be repeated: at the end of that time, when the patient appeared somewhat recovered from his weakness, a fresh quantity was prescribed, in which, however, a less proportion of the veratria was used, owing to the violent constitutional symptoms caused by the first. On this occasion, two grains only were rubbed on, yet the diuretic effects were scarcely less marked than before; and these were again accompanied by a degree of debility which, although not so great as in the preceding instance, still made it a matter of necessity to repeat the stimulants, and to delay the third application for five or six days.

On both occasions, after the first effects of the ointment had subsided, the quantity of urine diminished considerably, but the swelling became daily less in magnitude, and the patient went on improving in a manner that could not have been anticipated. On the fifth or sixth day from the second rubbing, a third, with an ounce of ointment containing two grains of veratria, was directed to be made use of, as before; and from this

time, the dropsy rapidly disappeared ; the patient gained strength sufficient to enable him to take active exercise ; and at the end of three weeks from the first application of the veratria, he was completely cured, and has since had no return of the disease.

The only collateral treatment employed in this case, along with the veratria, consisted in the daily exhibition of purgative medicine, not with the view of producing any change upon the disease by its means, but only for the purpose of obviating the constipating effects of the remedy.

CASE II.

Mr. W., a gentleman fifty-two years of age, tall and naturally of a strong, vigorous constitution, had earlier in life been accustomed to active exertion and frequent exposure to inclement weather, and about the age of thirty, after having used severe horse exercise during a wet day, he was seized with an inflammatory affection of the chest, from which he recovered under the usual treatment resorted to in such cases. Ever since that time, his general health had been good, but his pulse had continued intermittent.

Six months before he came under treatment he had laboured under symptoms of disease of the heart; these became more and more urgent, his lower extremities began to swell, the respiration became difficult, and for sixteen weeks he had been unable to lie in bed. His pulse now beat about 120 in the minute; it was indistinct, irregular, and intermittent; the arms and face were very much emaciated, and the legs were distended to a great degree. His breathing was laborious, the abdomen contained a great deal of effusion, and heaved at every inspiration, and the urine was sparing in quantity. Percussion applied over the chest gave a dull sound, the respiratory murmur was indistinct; the action of the heart was at intervals violent, and could be seen over nearly the whole of the left side of the thorax; and along with these symptoms he had cough, accompanied with a clear, watery expectoration. He could take little sleep, and that only when seated in a chair.

As it appeared that the previous treatment of this case had been particularly active, without producing any lasting effect, it was not thought proper to carry it any farther, but the external application of the veratria was at once proceeded with; using at the same time a little opening medicine, as in the preceding case, to prevent constipation. The patient was directed to have part of an ointment, consisting of ten grains of the veratria and an ounce of lard, rubbed over the

abdomen and left side of the chest, night and morning, and the quantity of urine evacuated was ordered to be carefully preserved until next visit.

From the distance of his place of residence it was impossible to see him again until the fifth day after the ointment had been first used. He was then, however, very much improved; he had had on the day after the first application a considerable flow of urine, and on the second night he had laid down in bed and slept soundly; the pulse was more regular and distinct, and the swelling in the legs had diminished so considerably as to make the skin quite loose; the abdomen felt soft, and was reduced in size; the breathing was quite easy, and the patient's spirits very much better than they had been for a long time. The quantity of urine evacuated since last visit was *sixty-four pints*, and no depressing effect whatever had followed the application of the ointment. The same plan of treatment was directed to be persevered in for another week, at the end of which the patient was so well that he objected to the use of any more medicine.

During the interval which had elapsed since last visit, the remains of the dropsy had gradually disappeared; he had gained strength, and had walked out a day or two before; in short, the only symptom which he had left, was the irregularity of the pulse, and this was not greater in degree than it had been for many years before the attack

came on. For about two years after this time he enjoyed robust health, and went about his usual avocations until his death, which took place suddenly one morning whilst he was at breakfast.

CASE III.

MR. L., a middle aged man, a miller by trade, naturally of a spare habit of body and a little asthmatic, had been labouring for about a year under difficulty of breathing, cough, swelling of the lower extremities and other symptoms of thoracic dropsy. The symptoms were so violent that apparently he could survive only a short time ; his respiration and voice were almost gone ; his pulse scarcely perceptible ; his limbs swollen and cold, and his abdomen evidently contained a considerable quantity of fluid. Indeed his sudden death seemed so probable, that he was ordered to be carefully watched and supported. As the case was a very severe one, and as other remedies had not been tried, it was deemed advisable not to trust to the veratria alone ; some diuretic medicine was therefore prescribed, along with an ointment composed of twelve grains of the alcaloid to an ounce of lard, which was directed to be rubbed over the chest and abdomen night and morning.

The day after he commenced the use of these means he evacuated about ten pints of urine, and was so far recovered as to be able to walk about the room. He was ordered to continue the medicine, and in three days he was able to leave the house and walk in the open air; at the end of a week from the first visit, he went home quite recovered from his disease, and complaining of nothing but weakness, and he was lately in good health.

CASE IV.

OVARIAN DROPSY.

MRS. F., a middle aged lady, had been labouring for two years under a large ovarian dropsy, which had extended across the abdomen, and as high as the umbilicus; she was otherwise in good health. In the previous treatment of this case, the usual diuretics had been employed without effect, and she had, at the same time, been twice tapped, but the fluid was on both occasions rapidly renewed by secretion.

The patient was now put under the influence of gentle diuretics; and the veratria ointment, made with twelve grains to an ounce of lard, was directed to be rubbed twice a day over the surface of the abdomen. After this treatment had been con-

tinued for six weeks, the bulk of the swelling had diminished considerably, and by persevering in the same means the disease was, to all appearance, removed in five months.

CASE V.

OVARIAN DROPSY.

A Lady, about forty-five years of age, had been affected for four years with ovarian dropsy. From the history of the case it appeared that the disease when first discovered, was about the size of a large orange, and seated in the lower part of the abdomen, upon the left side; it then became much larger, and extended itself to the opposite side. The tumor in different stages of its progress had been very painful, and had frequently required the application of leeches on that account.

From the effects which the veratria had been previously observed to have in diseases of this kind, the patient was directed to rub over the abdomen an ointment made with fifteen grains of veratria to an ounce of lard, twice a day. The heat and tingling produced by the friction were such as to give her considerable annoyance, but the internal pain was completely removed; she continued the ointment for four months, during

the course of which the swelling gradually lessened, and at the end of the time, the application was discontinued because no trace of it could be discovered, and she is now quite well. The only collateral treatment made use of in this case, consisted in occasional doses of opening medicine, administered for reasons already given.

CHAP. VI.

EXTERNAL APPLICATION OF VERATRIA IN GOUT, AMAUROSIS, &c.

IN addition to the diseases which have been noticed in the preceding chapters, it may not be improper to mention, before concluding the present publication, that there are affections of a different kind, in the treatment of which much benefit has been derived from the external application of veratria. The cases of these, which have hitherto presented themselves, are not sufficiently numerous to enable them to be arranged under distinct heads, but as the results obtained may be interesting, they shall be now briefly noticed.

Of such, the one that has the greatest claim to consideration is gout, a disease in the treatment of which the veratria promises to be a no less valuable

acquisition than it has proved itself to be in other painful affections ; and indeed, so far as experience goes, there is every reason to anticipate the greatest advantage from its application, even in long standing cases. The best time to employ it appears to be at the very commencement of the accession ; and at this period, friction for twenty minutes made over the seat of the pain, with an ointment consisting of twenty grains of veratria to an ounce of lard, has cut short the paroxysm, and has at once enabled the patient to make use of the affected joints.

The next disease in which it holds out a prospect of being useful is amaurosis, a case of which occurred in the eye of a patient who had been labouring under tic-douloureux for several years, and in which the blindness had continued during nearly the whole of the time. The patient could easily distinguish light from darkness, but could not perceive an object with any degree of distinctness. After having rubbed the ointment once over the forehead of the affected side, the amaurosis disappeared at the same time with the other disease, and the patient can now read a small printed book with ease.

The only other case of a similar nature that has happened, was in a woman in whom the blindness was also a concomitant of the tic-douloureux : it had lasted seven years, but was likewise cured in a short time by the veratria, and the patient

can now see quite well. From these two cases, no inference can be drawn as to the general utility of the remedy in amaurotic cases, especially as no pure instance of the disease has been, as yet, submitted to its action ; it was, nevertheless, considered right to throw out the suggestion, in order that the matter might be put to the test of experience. Judging from the effects previously observed to be produced by the veratria, it appears that an ointment made with thirty or forty grains to an ounce of lard, if it be rubbed fifteen or twenty minutes, twice a day, over the temple and forehead of the affected side, will cure the disease, provided it be curable in this manner.

The veratria ointment has likewise been found of essential service when rubbed along the spine of tibia, and over the situation of other bones, in patients affected with syphilitic pains or nodes ; in such cases friction, in the usual manner, may be ordered every night, at bed-time, and generally with the effect of removing the symptoms, after a few applications.

The external employment of veratria, as a means of removing, or at least of alleviating, diseases which are not, in general, under the control of medicine, is now placed in a situation in which it must, to some extent at least, be adopted into general practice, or be laid aside as inefficacious ;

too much attention, therefore, cannot be given to the circumstances to be observed in its application, which have already been mentioned.

It is of primary importance that the veratria be in a state of purity, at least, in so far as this can be judged of by the tests formerly laid down; for, without attention be paid to this point, it will have little effect. Some of the varieties which occur in commerce contain large admixtures of phosphate of lime, and other similar matters, and when these are rubbed upon the skin, although the gritty particles they contain may produce more irritation, by tearing up the cuticle and allowing the veratria to come immediately into contact with the tissue underneath, yet their effects upon the disease for which the application has been resorted to, will not, in most instances, amount to more than a temporary relief.

Enough has perhaps, been already said to shew the necessity of guarding against the supposition that the new remedy is a specific, in the affections in which its use has been recommended; but, in addition to this, it may be stated, that the results that have been obtained, especially in dropsy, are not the consequences of indiscriminate application, but have followed the use of veratria after every circumstance unfavourable to its operation had been removed; and in proof of this, it may be stated that several cases did occur, before the rule now laid down was understood, in which no effect whatever

was produced upon the disease, even after the frictions had been persevered in for some time. In one case particularly, of ascites, apparently depending upon incurable enlargement of the liver, no change could be brought about in the state of the effusion, by this or by any other means.

The only subject which now remains to be noticed, is the possibility of applying the salts of veratria in the same manner as the base itself ; but the investigations which have been made, to determine their comparative activity, are too limited to afford satisfactory conclusions as to any superior efficacy they may be possessed of in the removal of disease. The only salt that has been tried, is the sulphate, and it certainly does appear to be much more energetic than the veratria ; for even half a grain, when rubbed upon the skin, gives rise to a degree of heat and tingling, amounting to pain. From this circumstance it is not improbable, that in certain cases the sulphate, or some other salt, may be resorted to with advantage, especially when the veratria, as sometimes happens, has become less efficacious from continued use.

CASES COMMUNICATED TO THE AUTHOR.

CASE OF TIC DOULOUREUX CURED BY VERATRIA
OINTMENT, COMMUNICATED BY J. HOLME, ESQ.,
SURGEON, LINTON, CAMBRIDGESHIRE.

Miss L., a young lady ten years of age, has suffered from tic douloureux for about four years. In the winter of 1829-30, she first complained of frequent pains in the face, in the situation of the infra-orbitary foramen, attended by intermissions, and which at first were considered as probably connected with the teeth. In the winter of 1830-31, her sufferings became much greater; and on account of the intermitting nature of the pain, she was then treated with quinine; but having experienced no relief from it, she had three teeth extracted, yet without benefit. During the summer of this year (1831), she was not free from suffering, especially when exposed to chilly weather; and if she happened to be out after sun-set the pain was brought on.

In the commencement of the next winter I first saw her; at that time she was under active medical treatment, and had taken carbonate of iron, arsenic, morphia, belladonna, quinine largely, purgatives, mercury, and had made use of topical applications, but all without advantage. The parox-

ysms of pain came on at regular periods, two and three times a-day, for the space of from two to five hours at each accession.

In February 1832, she was taken to London, and put under the care of several eminent practitioners, but derived no benefit, except for three weeks in July, after which the pain returned with increased violence. Baths of various kinds were also tried, but without effect. She returned home, and six weeks since the veratria ointment was first tried, and in about five days she experienced much relief. Within that time she had no attack of pain during the night, and in three days more, the daily paroxysms nearly ceased. We continued to rub the ointment for about twenty minutes before the expected time of the attack, and in one day less than a fortnight from beginning to use the frictions, all recurrence of pain had left her, and she now continues quite free from any inconvenience. The only medicine she took during the use of the ointment, was four grains of *pil. aloes et myrrhæ*, at bed-time.

April 21, 1834.

CASES IN WHICH THE VERATRIA OINTMENT HAS BEEN
EMPLOYED, COMMUNICATED BY EDWARD MAC-
GOWAN, ESQ. M.D., EXETER.

CASE I.

THE first case happened in a farmer, about thirty years of age, who had been many weeks suffering from severe rheumatism in the articulations generally, but especially of the knees and feet. He presented the rheumatic diathesis in a marked degree, and there was a great tendency to leuco-phlegmatic anasarca. I gave him the subcarb. ammon. internally, with guiacum, and ordered frictions on the joints to be made with the ointment of veratria. In the course of a week, he rode into Exeter, a distance of five miles, and told me he was quite recovered.

To my surprise, the swellings and pain in the joints had subsided, and the general health was much restored. He had been almost a cripple previously, and has not had since, to my knowledge, any return of his former complaint.

CASE II.

AN elderly lady of gouty diathesis, and subject to frequent attacks of gout in the feet, suffered much

from a swelled leg and foot, which presented an appearance precisely similar to the Barbadoes leg. There was besides, a chronic inflammation in the toes of the same limb, around the nail of the large toe particularly, which had often been attacked by gout, and which was accompanied with a fungous kind of ulceration. The whole limb was greatly enlarged, and the cellular tissue extremely hard, with now and then an erythematous inflammation over the surface. After poppy-head fomentations, &c. I used the veratria ointment, which reduced the swelling, and abated the pain beyond my hopes. At first it produced a slight irritation, which obliged me occasionally to suspend the frictions; but that was the only inconvenience that resulted from it. The limb is still considerably enlarged, but much reduced and less painful than before, which I certainly think is owing to the veratria.

I have some other instances of the advantageous exhibition of veratria externally, which confirm me in the persuasion of its efficacy in rheumatic and gouty swellings, particularly in debilitated constitutions. In such cases, it seems to stimulate the capillary and absorbent systems, and bring back a vigorous and healthy action.

April 12th, 1834.

CASE OF TIC DOULOUREUX CURED BY FRICTIONS
WITH VERATRIA OINTMENT, COMMUNICATED BY
JOHN SPENCE, ESQ., SURGEON, OTLEY, YORKSHIRE.

A Lady, about twenty-four years of age, has been affected for the last eight or ten years with a most painful neuralgic affection, situated in the cheek and temple of the right side. The pain makes its appearance in regular paroxysms, varying in length from a few days to several weeks, and is succeeded by intervals of partial relief. The state of the patient has been very distressing, and during the continuance of the attack her sufferings have been so extreme as to bring her into a condition almost bordering on distraction.

Before she came under my care, she had been treated by active depleting measures; she had been bled generally and locally, and had applied topical remedies of almost every description, including repeated blistering, but without experiencing any cessation of the pain. For some time I continued a similar course of treatment, along with the internal administration of various medicines, none of which, however, had a good effect, except preparations of iron; these succeeded for a time in diminishing the severity of the affection, but appeared to have no power in removing it. I now ordered the patient to rub the affected part of the face, for twenty minutes, with a portion of oint-

ment made with a scruple of veratria to one ounce of lard, when the paroxysm came on. Next time I saw her, she told me that when the pain made its appearance she applied the ointment as directed, and that the attack was cut short immediately. After this period the paroxysms returned two or three times; but were removed by the same means. I saw her a day or two ago; she was quite well, and is now free from the disease.

June 10th, 1834.

NOTICES OF CASES IN WHICH THE VERATRIA OINTMENT HAS BEEN EMPLOYED, COMMUNICATED BY
S. HOOD, ESQ., M.D., BRIGHTON.

THE first case in which I tried the veratrine was in that of a lady, who had laboured some considerable time under tic douloureux, seated in the second branch of the fifth pair of nerves, on the left side of the face. Many remedies had been previously tried without effect, and it was at last determined upon to attempt the removal of the pain by means of friction over the affected part with the veratrine ointment of the usual strength. After this treatment had been continued for three days, the disease was apparently cured, but again returned with considerable violence; the ointment was again had recourse to, and the patient is now quite well. It may be proper to state, that latterly

she had been in the habit of taking three grains of sulphate of quinine a day; I do not think, however, from previous trials of it in this case, that it would have been of the least benefit without the ointment.

In two other cases of tic douloureux, in the first branch of the fifth pair, the veratrine was most efficacious: in one, the disease was removed by it in a single night; the other was relieved on the third day after the first application of the ointment; there was, however, a relapse in about a week afterwards, but the pain was again removed by the friction, and the patient is now quite well.

In addition to these, I have prescribed the veratrine ointment in three cases of painful affections in the course of the sciatic nerve; they went on gradually improving, and are now removed.

About the diuretic effects of the veratria there can be no doubt; in every instance in which I have employed it, the application has been followed by an increased discharge of straw-coloured urine. In dropsical cases occurring in old persons, after the diuretics in common use have been carried as far as the stomach can bear them, it will be of great utility while the use of internal remedies is suspended. I have three such cases at present under its influence, and all of them are going on favourably and likely to terminate well.

April 27th, 1834.

CASE ILLUSTRATIVE OF THE EFFECT OF FRICTIONS
WITH VERATRIA OINTMENT IN PALPITATION,
COMMUNICATED BY WILLIAM PORTER, ESQ. SUR-
GEON, GOWER-STREET.

A Lady, about twenty-eight years of age, has suffered from a dropsical affection for about eighteen months, accompanied with a considerable degree of palpitation of the heart and irregularity of the pulse, and these symptoms appeared to be connected with irregular menstruation, from which the patient had suffered for some time. The lower extremities were œdematous, and there was difficulty of respiration and general nervous excitement. In the treatment of the disease various measures were employed without much benefit, until about two months ago, when the œdematous state of the extremities was much relieved by the use of diuretics and drastic purgatives; the palpitation, however, continued the same as before. As this latter symptom was peculiarly annoying to the patient, the attempt was made to remove it by means of an ointment made with twenty grains of veratria to one drachm of lard, and a small part of this was ordered to be rubbed over the region of the heart for ten minutes night and morning. After the second or third friction the palpitation disappeared along with the irregularity in the pulse; this took place about eight weeks ago, and although the patient is still unwell, it has not returned.

June 20th, 1834.

APPENDIX.

ON THE EXTERNAL APPLICATION OF DELPHINIA.

ON account of the beneficial effects that had been observed to be produced on many diseases by the employment of frictions with the veratria ointment in their treatment, it became an object of considerable interest to know whether other substances were not possessed of similar properties ; and with a view to determine this point, the author, in conjunction with Dr. Sutherland, has been pursuing a course of investigations on the subject, the result of which renders it probable that there exists a class of active principles, which, when applied to the skin, will be found to be possessed of effects upon the animal economy very closely allied to those of veratria.

Of these principles very few have as yet been prepared in a quantity sufficient to be made the subjects of experiment, but the botanical relations, and the striking resemblance in medicinal action, which exist betwixt those plants which yield them, and a great many others, whose chemical consti-

tution has not been particularly examined, afford strong grounds for anticipation that as chemistry extends our knowledge of these, many other principles possessed of analogous properties will be discovered.

It has already been stated that the veratria may be obtained from three plants of the family of *colchicaceæ*,* and that there is reason to suspect its existence in others ; but the substance of which it is now intended to take notice, although agreeing in some particulars with veratria, especially in the power it possesses over certain of the diseases in which the other has been found to be so useful, is procured from a plant belonging to another natural family, the *ranunculaceæ*. Many of the individuals comprehended under this division of the vegetable kingdom, are possessed of extremely active properties in regard to the animal economy; the principle, however, upon which this activity depends is, in most instances, either volatile or easily destructible, and from one or two individuals only has it been separated in a solid form. That which requires the most particular notice at present is the delphinia, which is the only one that has as yet been obtained in sufficient quantity, or

* The active principle obtained from the *colchicum autumnale*, has very recently received the name of *colchicine*, from M. M. Geiger and Hesse, on account of its possessing some properties differing from those of the veratria, as obtained from the *veratrum sabadilla*.—(*Journal de Pharmacie*. Mars. 1834.)

in the requisite degree of purity, to admit of its being employed in medicine.

This substance was discovered by M. M. Lasaigne and Fenueille in the seeds of the *delphinium staphisagria*, in the year 1819.* When in a state of purity it is white, pulverulent, and without smell; but like the *veratria* when applied to the mucous membrane of the nose, it occasions sneezing, along with an abundant secretion of mucus; its taste is at first bitter and afterwards acrid.

When heated it melts, and somewhat resembles wax in appearance, and on cooling, it becomes brittle like resin. It is very sparingly soluble in water, but yet in sufficient quantity to communicate a bitter taste to the fluid. In alcohol and ether it dissolves readily, and these solutions have the property of rendering syrup of violets green, and of restoring the blue colour of litmus, when reddened by the addition of a portion of acid. It combines readily with acids, and forms neutral salts, which are possessed of much bitterness and acridity, and it may be precipitated from solutions of these, in the form of a jelly, by the addition of an alkali.†

In commerce, *Delphinia* occurs in the form of a white or brown powder, and is soluble to a

* *Annales de Chemie*, tom. xi—xii.

† According to a recent analysis of *delphinia*, given by M. Couerbe, that substance, as it occurs in commerce, consists of, resinous matter, of *staphisain*, and of pure *delphinia*.—(*Journal de Pharmacie*, Octobre, 1833).

greater or less degree in alcohol and ether ; but neither of these circumstances can be relied upon as a test of the efficacy of the medicine ; for like the veratria, it may have the appearance of being almost chemically pure, and yet be possessed of little activity in the removal of the affection, for which we may wish to apply it. The test already laid down, with regard to the veratria, is the one which should in this instance be resorted to ; namely, that unless a solution of the delphinia in alcohol, in the proportion of four grains to a drachm, occasion a distinct sensation of heat and prickling, when rubbed for three or four minutes upon the forehead, the specimen ought not to be used, for unless this be attended to, no beneficial effect will arise from its application.

There are a few points in which the delphinia differs from the veratria, in its action upon the skin, which require to be shortly noticed. Veratria, when rubbed upon the skin, produces a strong sensation of tingling, or rather a feeling similar to that produced by receiving a succession of small electric sparks on an uncovered part of the body ; whilst the delphinia gives rise to a sensation of burning, not unlike that which manifests itself a short time after the application of a blister ; but not to an unpleasant degree, unless the friction have been continued to an excessive extent. They differ also in the duration of the effects produced, as that caused by the delphinia, is

generally more powerful and durable than when the veratria is used.

In the great majority of instances, the veratria may be rubbed upon the skin for the usual time without causing any great degree of redness on the part; but in almost every case, a blush pervades the surface, over which the delphinia has been applied, and this continues during a length of time, varying from a few minutes to an hour or two, but in no instance, as yet observed, has it gone on to eruption. This property of stimulating the capillaries of the surface of the skin, may add much to the power of the delphinia, particularly in paralytic cases.

So far as the comparative merits of the two substances have been examined, they appear to be of nearly equal value as medicinal agents, for in most instances they seem to have the same power in removing similar diseases. There are one or two particulars, however, in which they differ, and which in certain instances may give a preference to the delphinia. The diseases in which it has been chiefly employed, are *tic douloureux*, paralysis, and rheumatism. In the first of these, when the affection is seated in the tongue, or at the point where the infra-orbitary nerve escapes from its foramen, the use of the delphinia is to be preferred, because it can be applied to the tongue, or rubbed on the gums without occasioning irritation of the mucous membrane, a circum-

stance of great importance in the treatment of these forms of the disease. It appears also, upon the whole, better adapted to the treatment of paralytic cases than the veratria, but principally on account of the property just mentioned, which it possesses of exciting the circulation in the diseased part.

The manner of applying the delphinia, is the same as that already recommended for the veratria. It may be used either in the form of ointment, or in solution in alcohol, and the proportions to be employed in either case, may vary from ten to thirty or more grains to the ounce, according to the severity of the affection, in the treatment of which it is to be prescribed. The duration of the frictions, also, should be nearly the same ; that is to say, from ten to twenty or more minutes, or what is better, until the pungent sensation produced by the rubbing, shews itself. In short, the two substances are so nearly alike to each other in their effects upon the system, and in the manner of their application, that the instructions which have been already given in regard to the veratria, are equally applicable to the delphinia, except that the latter may be with safety applied in affections seated in the parts within the cavity of the mouth. For this purpose a solution in alcohol is preferable, as being less objectionable on the part of the patient, and it ought to be rubbed upon the mucous membrane, over the seat of the

pain, until this be removed, or at least until the peculiar sensation produced by it be as powerful as can be borne; and the friction should be repeated two or three times a-day, according to circumstances.

It was originally intended to have published the results obtained from the use of the delphinia in a separate form, but the similarity betwixt these, and those arising from the action of the veratria, appeared to be so great, that to have done so, would have been to repeat in nearly the same words, what has been already stated in the preceding part of the work; it seems, nevertheless, necessary to give a case by way of illustration, and for this purpose, the following has been selected. It is also interesting, as in its treatment both remedies were resorted to, and because it proves the safety as well as the utility of frictions with the delphinia, when employed within the mouth.

CASE.

FEB. 8th, 1834.—Mr. Seyer, a man aged 60, was about seven years ago seized with an acute pain seated in the course of the ramifications of the frontal nerve, on the left side; about four years since, the affection extended itself to the infra-

orbital nerve, and for the last twelve months the *partio-dura* has also become the seat of the disease. Since the commencement of the attack the pain has continued with great severity, and with occasional intermissions of a day or two, but the sum of these has not amounted to above a month in the year.

All attempts which had been made to give him relief had failed, and for three years he had been compelled to relinquish his occupations, on account of the severity of his sufferings. For three weeks before he came under treatment, he had of his own accord made use of frictions with the *veratria* ointment over the seat of the pain, and he states that under its influence he has experienced considerable relief, and that at times he is quite free from pain, although the disease is not yet subdued. He was ordered to continue the frictions whenever the pain shewed a tendency to return, with the following ointment :—

R.—*Veratriæ* . . . gr. xvi.

Axung. . . . ʒ. ss. M. ut fiat Unguent.

13th.—The patient has made use of the ointment as directed, and the pain has now disappeared from the temple, eyebrow, and side of the face, with the exception of a point exactly over the *infra-orbitary foramen*, where it still continues severe, and from whence it occasionally darts to the other parts which were previously affected.

As the progress made since he was last seen was so far satisfactory, in order to try the comparative effects of the veratria and delphinia, he was ordered to discontinue the former, and to use in the same manner the following :—

R.—Delphinae . . . gr. xvi.

Axung. . . . ʒ. ss.

M. ut fiat.

Unguent.

17th.—Since last report he has been improving, the pain in the seat of the infra orbitary foramen has become less and less severe, and he is at present quite free from it. He was ordered to use the delphinia ointment if the pain should return.

20th.—The pain has never appeared except at the point already mentioned. The same prescription to be continued, with this difference, that the frictions are to be confined as nearly as possible to the skin over the seat of the pain.

23d.—The patient is better to-day than he has yet been ; there is still, however, a tendency to a recurrence of the pain : he was directed to discontinue the external use of the delphinia, and instead of it, to rub a portion of the same ointment inside of the mouth, along the angle formed by the gum and cheek, as nearly as possible to the situation of the infra orbitary foramen, and to continue the friction until the pain was removed, or as long as the application could be borne.

25th.—The friction occasioned no irritation in the mucous membrane ; it gave rise, however, to

a sensation of tingling, accompanied with some degree of salivation, and the pain has almost disappeared. Yesterday the patient had no attack, but to-day it has slightly returned. He was ordered to use the frictions to the inside of the cheek and gum, when the pain shewed itself, with the following ointment :

R.—Delphinae . . gr. x.

Axung. . . . 3. ii. M. ut fiat unguent.

March 11th.—The last prescription was not made use of, as the patient has continued to be quite well. The slight pain he experienced when last seen, disappeared of itself; and with the exception of a little feeling of uneasiness, which lasted only a minute or two, he has had no symptom of his former disease. He has resumed his employment after an interval of three years—has exposed himself to drafts of cold air, and to all those causes which used formerly to bring on severe paroxysms of pain, but has not had the slightest appearance of a return.

It is now nearly four months since the treatment was discontinued, and he is at present without a vestige of the disease.

ON THE INTERNAL ADMINISTRATION OF THE SALTS
OF VERATRIA AND DELPHINIA.

AFTER the discovery of the fact that the active medicinal properties of colchicum depended upon

veratria, considerable expectations appear to have been entertained that the new alcaloid might be advantageously substituted for colchicum, and several attempts were accordingly made for this end, but without success; for although the veratria in many instances has proved itself to be a valuable remedy, yet the extreme irritation of the stomach and intestines which has occasionally supervened to its employment, has prevented its adoption by the profession at large. Veratria, so to speak, appears to have two kinds of action when given internally; a peculiar one, upon the system generally, and another upon the mucous membranes: both of these actions are so nearly balanced, that it is very difficult to induce the first, without at the same time bringing on the second; so that the good effects of the medicine are almost destroyed by those of an opposite nature. In this respect, however, the salts of veratria differ widely from the base itself; for although it be true that when given in excessive doses they likewise produce irritation, it is also true, that in the great majority of instances, the specific effects are accomplished before this takes place; so that the balance in their action is such as to warrant the hope that they may become important and useful medicines, when carefully and discriminately employed.

According to Professor Turner and M. Couerbe, they are crystallizable; but the difficulty of ob-

taining them in this state must, for some time at least, render it necessary to make use of the more common and more easily prepared form. In this condition they have, when solid, very much the appearance of resins; they are friable, and can be reduced to a fine powder, which is of a brownish aspect. They are all very acrid when applied to the tongue, and leave a sensation of heat and tingling in the part of the mucous membrane with which they may have been brought in contact.

Veratria has been combined with several acids; but the only products as yet obtained that are fit for administration, are the sulphate, tartrate, and acetate. In preparing these, it is of the utmost importance that the veratria be in a state as nearly approaching to purity as possible, and that the whole of the base be acidified; for if this latter caution be not attended to, there will be some hazard (as the salts are not separated by crystallization), of giving a portion of uncombined veratria in the prescription; a circumstance which ought as much as possible to be guarded against.

When given in the doses to be presently mentioned, they in general give rise to the following effects: a sensation of warmth in the stomach, which gradually extends itself over the abdomen and lower part of the chest: after the dose has been repeated once or twice, the same feeling is experienced in the lower extremities, and particularly in the feet; the upper extremities and head

become also affected in the same manner; and if the medicines be pushed further, a sensation of tingling, exactly similar to that caused by frictions with veratria ointment, manifests itself in various parts of the body, and sometimes over the whole surface of the skin; this is generally accompanied by considerable perspiration, and some feeling of oppression, and all these effects are augmented by heat, or by the use of warm diluents. To this succeeds a sensation of coldness, and should their administration be still continued, the stomach becomes affected, and a degree of nausea takes place, followed by vomiting. In a few instances only have they acted as diuretics, and in still fewer as purgatives. No narcotic effect has been observed to arise from their use.

In their action upon disease, the salts of veratria, when given internally, are possessed of powers very similar to those exercised by veratria itself when rubbed upon the skin. They have been made use of in most of the affections in which it has been applied, and with satisfactory results; but the particular diseases in which they appear to be of most service, are *tic douloureux*, gout, and rheumatism, especially in the two first named. In the treatment of these, any of the salts may be employed; but the tartrate is upon the whole to be preferred, as it is less liable than the others to give rise to irritation of the stomach; either of them, however, may be had recourse to with safety.

The best method for exhibiting them is the form of pill, made according to the following prescription :

R.—Tart. Veratriæ gr. ii.
 Pulv. Rad. Glycyrrhiz. gr. xii.
 Mucilag. Acaciae. q. s. Misce
 optime et divide in pilulas æquales duodecim, quarum sumat
 unam tertia quaque hora.

The dose of the tartrate ordered above is sufficient to begin with, and it may be augmented, until the quantity given amounts to a grain and a half, or two grains in the course of the day ; beyond which it will not be necessary to push the medicine, as its peculiar effects in general shew themselves before that quantity is used. Should the sulphate or acetate be preferred, the doses administered ought to be rather less, as these act more readily upon the stomach than the tartrate. M. Magendie has suggested the form of *solution* for the employment of the sulphate, but it is a very objectionable one, both on account of its taste, and from the disagreeable sensations left by it in the mouth and pharynx, which often are of such a nature as to occasion nausea and vomiting.

In any case in which it may be desired to make use of the salts of veratria, the plan that appears the best to be followed, is to administer a pill every three hours until the sensation of heat and tingling manifests itself, and when this takes place, some alleviation of the pain will in general be observed ; but should this not be the case, the treatment

ought to be persevered in, until it has had a fair trial, the dose being at the same time augmented accordingly as the patient can bear it. In some instances it has not been found necessary to continue the pills above a few days, whilst in others, a week or two has been required to produce their full effects; and in almost every case, it has been requisite to regulate the bowels, by means of gentle aperients, to obviate the constipation which often comes on during their use. When the disease occurs in regular paroxysms, the pills ought to be resumed an hour or two before the expected time of attack.

With regard to delphinia and its salts, little requires to be said. Pure delphinia has much less effect upon the mucous membranes of the stomach and bowels than veratria in its uncombined state. It may be administered in some cases to the extent of three or four grains a-day, in doses of half a grain each, without exciting vomiting; in this quantity, however, it operates upon the bowels, but causes very little irritation. In most instances it acts as a diuretic, and occasions a considerable flow of pale urine. When taken to the extent of a few grains it gives rise to sensations of heat and tingling in various parts of the body, similar to those which are produced by rubbing it upon the skin, and its other effects are very nearly the same as those caused by the salts of veratria.

The salts of delphinia are so easily decomposed, that it is a matter of some difficulty to obtain them in a state fit for use. The only one that has been administered is the tartrate, and its effect upon the system in doses of a third part to half a grain, three or four times a-day, is similar to that of the base itself, except that when carried to any great extent, it occasions considerable langour and oppression. Neither of them, however, has been as yet sufficiently employed to admit of anything being positively stated as to their utility in disease; but from what has been already observed, they appear to have effects equal to those of the preparations of veratria, in the class of affections in which these have been administered.

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