

Observations on sulphureous fumigations, as a powerful remedy in rheumatism and diseases of the skin / by William Wallace.

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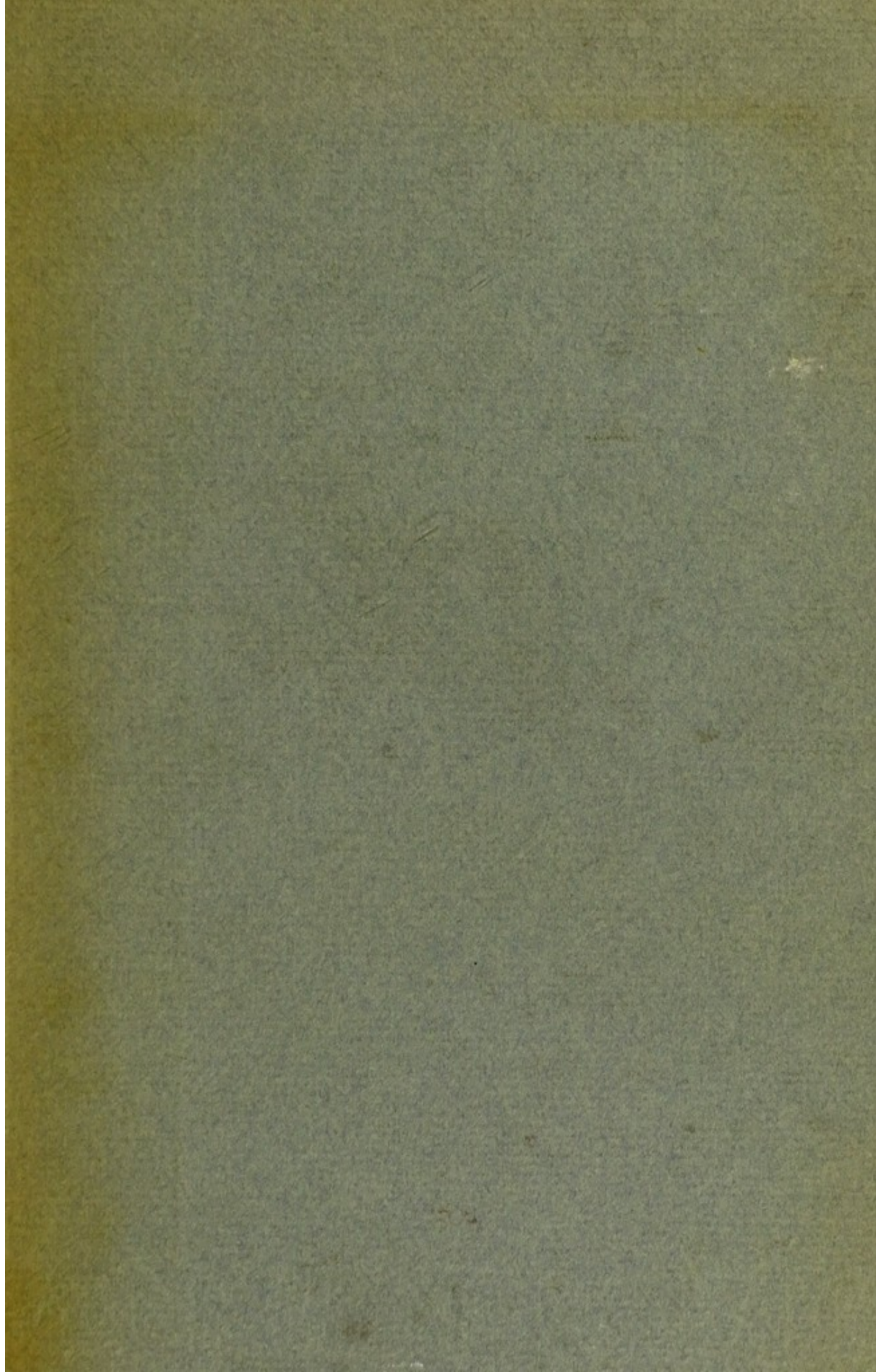
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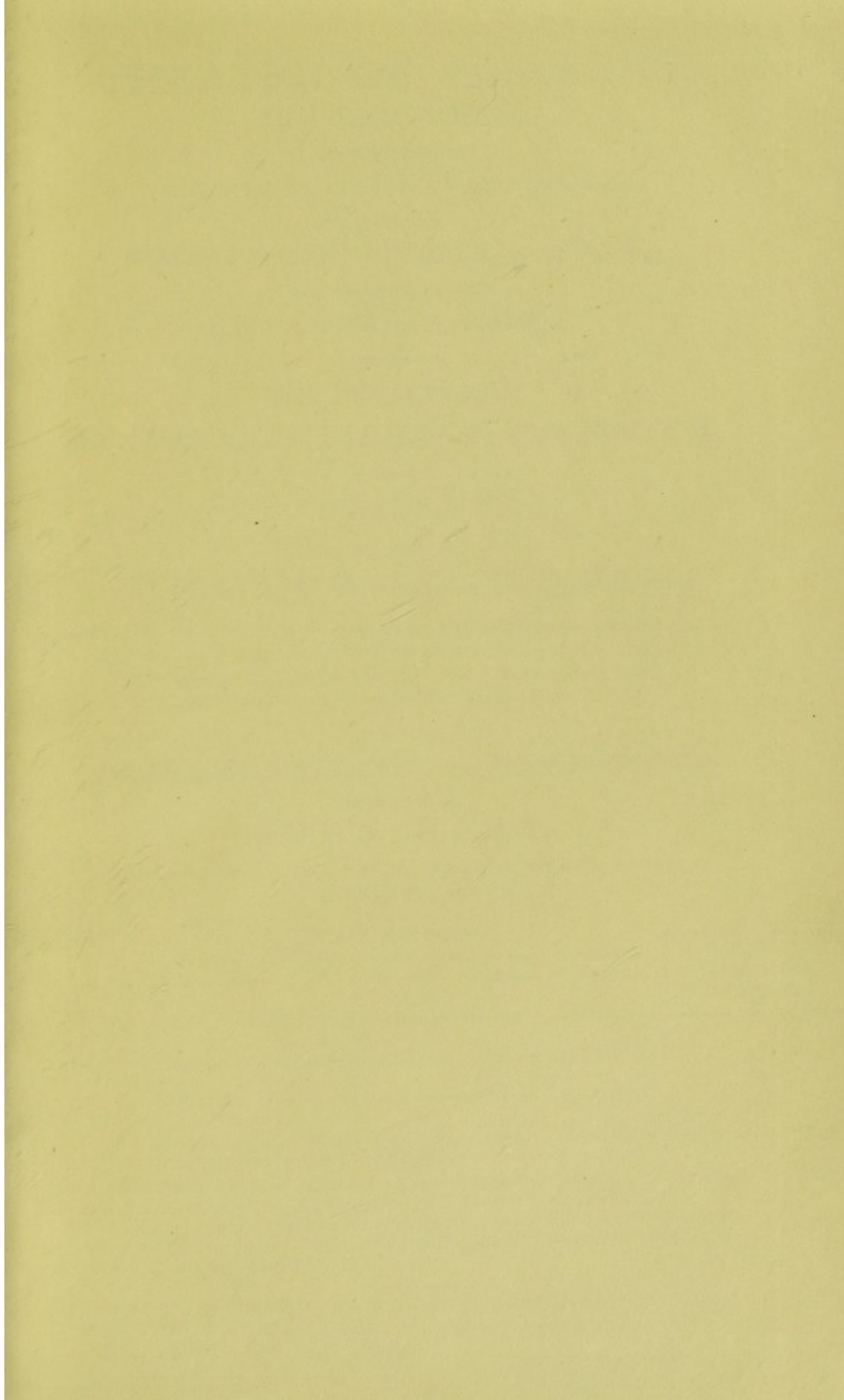


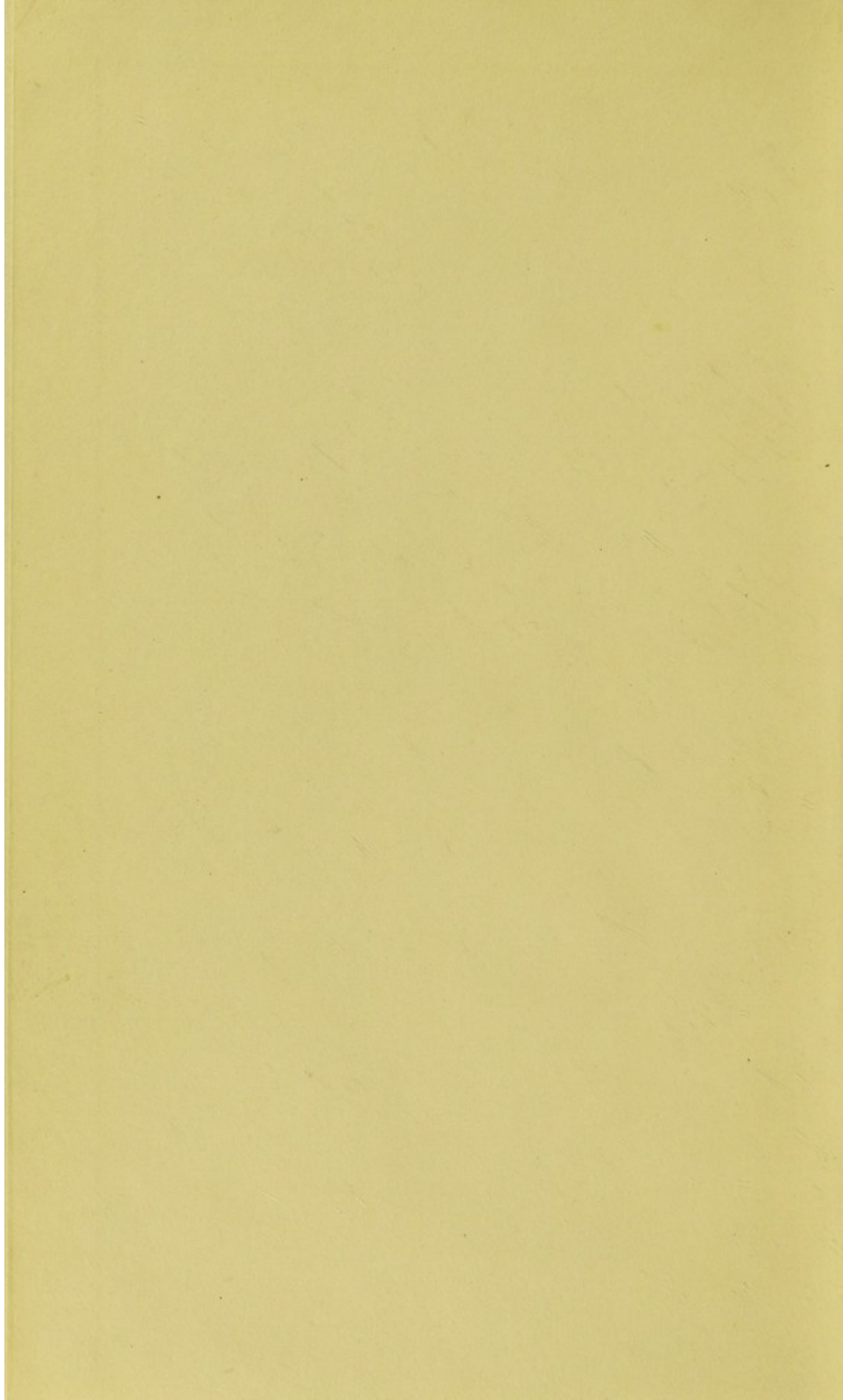
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WILLIAM WALLACE, M.D.

LAST SATURDAY IN APRIL.

THE LECTURES ON
ANATOMY, PHYSIOLOGY, PATHOLOGY,

AND
SURGERY.

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MEMBER OF THE ROYAL COLLEGE OF PHYSICIANS, &c.
OF THE UNIVERSITY OF EDINBURGH, &c.
LECTURER IN ANATOMY, PHYSIOLOGY, &c.
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OBSERVATIONS

ON

SULPHUREOUS FUMIGATIONS,

AS A POWERFUL REMEDY IN

RHEUMATISM

AND

DISEASES OF THE SKIN.

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WILLIAM WALLACE, M. R. I. A.

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“ L'impulsion est donnée, les gouvernemens, encouragés par les médecins, ne peuvent pas rester indifférens à une invention aussi salutaire, en faveur de laquelle l'intérêt plaide autant que l'humanité.”

Observations sur les Fumigations Sulphureuses.

Par J. De Carro, Vienne, 1819.

DUBLIN:

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1820.

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IT may be necessary briefly to state the object of these Observations. The Author, in consequence of unforeseen circumstances, being obliged to delay some months the publication of investigations, in which he has for a considerable time been engaged, respecting the utility of sulphureous and other fumigations, is induced to take this mode of soliciting the immediate attention of the Profession; from his conviction of the importance of the remedy, and from his anxiety to see it, without loss of time, brought into use, more particularly at the different charitable institutions.

DUBLIN,

3, Gardiner's Place, August, 1820.

OBSERVATIONS

ON

SULPHUREOUS FUMIGATIONS, &c.

IT is well known how tardily, for the most part, improvements in any of the arts are propagated, and how long it is before even the most valuable inventions come into general use and application. This, on all occasions, and under every circumstance, is much to be regretted ; and when we reflect on the feelings, and on the motives, which too often oppose and retard every deviation from the beaten track, our opinion of human nature is seldom elevated.

In medicine, above all other arts, any thing approaching even to apathy is highly culpable.— Those who are the guardians of the public health, that greatest of blessings, should most zealously

and fervently watch every opportunity, that may present even the most distant prospect of extending the boundaries of their science, or of multiplying their capabilities of being useful. Unfortunately, however, they are not always free from that censure, which is generally applicable to the Professors of every art; and the history of medicine affords numerous instances, not only of the apathy with which they receive, and the tardiness with which they apply some of the most useful inventions, but also of the determined resistance with which they oppose the application of discoveries, that have been afterwards sufficient to immortalise their authors.

Although we happily live at a period, when prejudices against innovations are far from being so strong, as in those instances of hostility to improvements, which history affords; and when an innovator has scarcely reason to fear any consequences from the promulgation of his opinions, resembling the persecutions of old; it must be admitted, that, even at present, the progress of the arts and sciences is often retarded by the indifference or unwillingness, with which new discoveries are frequently received; more particularly, when they are much in opposition to accustomed modes of thinking and acting, and when trouble and exertion are required for their application.

At the same time it must be conceded, that occasionally, for want of sufficient zeal to examine into the foundation of opinions and practices,

when first promulgated, the errors of enthusiasts, or the assertions of dissemblers, are sometimes permitted to be propagated, and to have a long and powerful influence in retarding our inquiries after truth.

There is therefore, unfortunately, no room for surprise or astonishment, that a remedy of the first importance, and one of the most valuable modern improvements in Therapeuticks, should have been long in obtaining that attention, examination, and application, which it most highly deserves.

It is many years since my attention was forcibly attracted by observing the extreme frequency of diseases of the skin, the great distress they occasion, the inefficacy of the remedies in general use for their relief, the little attention paid to the improvement of this branch of Pathology, and the want of opportunities experienced by the medical student of acquiring almost any information respecting these affections. More recently, while I remarked with pleasure, that an impulse had been given to scientific inquiries into this most important, though neglected branch of our profession, (on the Continent by Alibert, and in England, by Willan,) I could not but lament most sincerely, that in this metropolis, where, above all other cities, these diseases are extremely prevalent, we remained comparatively insensible to investigations, carried on elsewhere with much zeal.

It was with these feelings, that, in the year 1818, determined to use my exertions, however

feeble, in calling attention to a matter, which I was convinced would soon plead its own importance, I published a prospectus or plan for the establishment of an Hospital; which might at once afford relief to the poor; supply the means of extending our knowledge of cutaneous diseases, by accurate clinical investigation and extensive observation; and establish a school for the instruction of Medical Students. On the first of October of the same year, I had the gratification of seeing my plan carried into execution, and have already the satisfaction of its having afforded relief to some thousands of the lower orders of society.*

Anxious to concentrate in our infant Institution, and to put to the test of experience, every means which promised relief in these most obstinate affections, I took every opportunity of ascertaining the state of practice in cutaneous diseases, in every quarter from which I could hope to gain information. It was in consequence of such inquiries, that I fortunately became acquainted with that remedy and the instrument for its application, to which it is the object of these observations to call the serious attention of the Profession in general, and particularly of such as are intrusted with the care of Hospitals. Should I be so fortunate as to obtain that attention, I shall not rejoice less than I now do, in the reflection, that I have been the foremost in these Islands to put to the test of experiment the utility of the measure; and that I am now

* See "First Annual Report of the Dublin Skin Infirmary."

doing every thing in my power to assist in its perfection, and to propagate its application. As the most certain mode of accomplishing this last object, I shall proceed to communicate a succinct history of the origin of the invention ; of its progress on the Continent ; of the investigations to which it has been submitted ; of the results of these investigations ; and content myself, *for the present*, with adding, in conclusion, some *general* observations and reflections, derived from my own experience in its application, as well in Hospital as in private practice.*

Although we find *artificial* sulphureous fumigations mentioned, since the earliest ages of medicine,† as a remedy for diseases of the skin, and even in some authors apparatuses described for

* *For facts connected with the history of the invention see* “Mémoire et Rapports sur les Fumigations Sulfureuses, appliquées au Traitement des Affections Cutanées, et de plusieurs autres Maladies, par J. C. Galés, imprimés par ordre du Gouvernement.” Paris, 1816.—“Essai sur la Gale, brochure in-4o. avec Figures, à Paris, par J. C. Galés.”—“Description des Appareils a Fumigations, établis, sur les Dessins de M. D’Arceet, à l’Hôpital Saint Louis, en 1814, et successivement dans plusieurs Hôpitaux de Paris, pour le Traitement des Maladies de la Peau, à Paris, 1818.”—“Observations Pratiques sur les Fumigations Sulphureuses par Jean de Carro.” Vienne, 1819. “Essai sur L’Atmidiatrique ou Médecine par les Vapeurs, par T. Rapou, de Lyon, D. M. P.” and also “Dictionnaire des Sciences Medicales,” articles Gale et Fumigation.

† See Celsus lib. 3. xxvii. 2.—lib. 4. xx. 1. Hippocrates de Morbis muliebribus ; the “Dictionnaire Encyclopedique” of 1753, article “Fumigation.”—J. P. Frank “De Curandis Hominum Morbis,” Lib. iv. de Impetiginibus. “Gazette de Salsburg” of 1792.—See also a work, published by Glauber in 1659, entitled “Furni Novi Philosophici.”

their application, † they had fallen almost entirely into disuse, until 1812; when the researches of Dr. Galés, a Physician in Paris, happily led, not only to their application for the relief of cutaneous diseases, rheumatism, and some other chronic affections, which had hitherto resisted all known means of relief, but also to the invention of an instrument, most admirably contrived for their administration.

Dr. Galés, from an official connexion, ever since 1792, with all the Hospitals in Paris, had enjoyed considerable opportunities of observing the various and complicated diseases of the skin; and, for the last thirteen years, these opportunities became much increased by his particular appointment to the Hospital St. Louis: an Institution almost solely devoted to the relief of these affections.

In the year 1812, this Physician commenced a series of inquiries respecting that most common, most disgusting, and highly contagious disease, scabies: a disease, respecting which his extensive experience informed him, that, although extremely common, many facts of the first importance, relating more particularly to its etiology and diagnosis, were involved in the greatest obscurity.

The first object of Dr. Galés was to investigate the immediate cause of scabies, and to determine whether it was owing, as naturalists conceived, to the presence of an insect, the *Acarus Scabiei*, or to a morbid poison, the product of animal secre-

† See Glauber's Work, and "Nouvelle Méthode de traiter les Maladies Vénériennes," par Pierre Lallouette, Paris, 1775.

tion. This last was the more general opinion of Pathologists; who, although admitting the existence of the insect in the vesicles or pustules of scabies, considered it rather the consequence than the cause of the disease.*

Dr. Galés, during his researches, confirmed the opinion of naturalists, not only by uniformly finding this insect in the vesicle of scabies, when examined with proper precautions, and at a proper period, but also by his being able to propagate the disease, ad infinitum, by the application of the *Acarus* to the scarf skin of a healthy person; and by the simple contact of the individual, so infected, with others in a state of health.† The experiments illustrative of these facts were made before M. Duchanoy, Administrator of Hospitals, (*chargé spécialement du service de santé*) M. M. Laporte and Ruffin, first Physician and Surgeon of the Hospital St. Louis; M. M. Leroux, Dean of the Faculty of Medicine of Paris; Villars, Dean of that of Strasbourg; Professors Pelletan, Thillaye, Petit-Radel, Dumeril, Dupuytren; M. M. Bosc, Olivier, Treille, Patrix; and, finally, before the illustrious Professor

* There were however several Physicians, who were of opinion, that the disease, although not always owing to the insect, frequently depended upon it.—Viz. *Bonani, Borelli, Cestoni, Deidier, Ettmuller, Guldner, Langius, Mead, Morgagni, Osiander, Pringle, Pallas, Richard, Redi, Rivinus, Verzelloni, Wichman, &c.*

† This explains why Pathologists have sometimes failed in their experiments to produce the disease by inoculation with the contents of the vesicles or pustules of scabies, in a state of maturity, which, at this period, do not always contain, according to Galés, the insect in a *living state*.

Pinel, though old, still affording an example of indefatigable zeal in enquiries after truth.

Galés having thus, in the most satisfactory manner, ascertained the cause of this disease, and consequently the true principles of treatment, gave his attention to discover a remedy, which might be prompt in its operation, safe in its application, certain in its effects, and capable of being used with as little inconvenience as possible. Sulphureous frictions had been long known, as an almost certain specific in this disease; but its administration presented numerous inconveniences. The length of time required for this mode of treatment; the dirt, which accompanied it and often produced other cutaneous affections, and which, in Hospitals, had occasioned great expense in the article of linen; and, finally, its occasional inefficacy; had induced Physicians to seek other medicines, more convenient than this mineral, or a more advantageous mode of applying it. Hence that multitude of external remedies, which have, from time to time, been proposed and rejected,*

* Some idea may be formed of the number of remedies, that have been used for the cure of scabies, from the circumstance, that there are on record experiments proving the utility of the following *vegetable remedies* in this disease, administered in the form of decoction, infusion, or powder mixed with axunge, viz.—*Nicotiana tabacum*, *Ranunculus*, *Delphinium staphisagria*, *Anemone*, *Euphorbia*, *Scabiosa*, *Sedum acre*, *Sinapis nigra*, *Schinus molle*, *Cucumis colocynthis*, *Capsicum annuum*, *Anthemis pyrethrum*, *Acorus calamus*, *Juglans regia*, *Cornus mas*, *Laurus nobilis*, *Nerium oleander*, *Polygonum hydropiper*, *Juniperus sabina*, *Ruta graveolens*, *Cneorium tricoccum*, and perhaps many others.

It was evident to Dr. Galés, that the principle, upon which any remedy could cure this disease, would be by destroying the *Acarus*, its immediate cause. Already acquainted with the antipsorick efficacy of sulphur; reflecting, moreover, that workmen, such as chimney-sweepers, miners, fire-workers, night-men, and persons employed in wards of Hospitals, where there are a great number of patients treated by sulphureous frictions, never contract scabies, because their bodies are continually plunged in an atmosphere charged with sulphureous particles; and, finally, that the vapour of sulphur is one of the most certain means of destroying bugs, and other insects, produced by inattention to cleanliness; was induced to try on the insect of scabies the influence of sulphur, reduced to the state of an acid gass, or of extreme division. His experiments were perfectly satisfactory. He collected the insect upon plates of glass; and, exposing it to the vapour of this mineral in combustion, or only evaporated by a middling degree of heat, he observed it to perish almost instantly.

This Physician, thus induced to conceive that the vapour of sulphur, applied to the surface of the body, would be a certain means of curing scabies, employed his invention to discover some method of surrounding the body of patients, labouring under the disease, with an atmosphere of sulphureous vapours, and at the same time of protecting from its influence the organs of respiration; because of the serious consequences, that would necessarily be produced by breathing this

vapour. The apparatus, which he first used for this purpose, was very rude in its construction, and extremely inconvenient in its application. It merely consisted of a heated pan, on which the flowers of sulphur, mixed with the nitrate of potash, were thrown, and the whole introduced under the bed-clothes of the patient, tucked in as close as possible about his body.

Notwithstanding the imperfection of this mode, the most decidedly beneficial effects were observed, even from the first fumigation. Patients, who had not, for a length of time, enjoyed a comfortable sleep, in consequence of the intolerable itching with which they had been harassed, got tranquil rest; the pustules or vesicles peculiar to the disease shrunk and faded; no new ones appeared; all itching subsided; and, after the seventh fumigation, the greater number of patients were regarded as cured.

It was in the month of August, 1812, that he commenced this mode of treating scabies; and, from this period to the first of March, 1813, he fumigated, at the Hospital Saint-Louis, 335 Patients. Of these experiments, an exact tabular registry has been preserved. This registry was kept by Doctor Manry and M. Troccon, resident pupils of the Hospital; and its authenticity certified by Laporte and Ruffin. From this document it appears, that all these patients obtained a rapid cure; and, what is of great importance, it is also proved by the certificate of M. Bailly, (*Agent de surveillance de l'hospital St.-Louis*) that only one out of the entire number returned to the Hospital, labouring

under the same disease, concerning whom it could not be ascertained, whether the disease was owing to a fresh contagion, or to a relapse of the former.

It therefore appears, that the success of sulphureous fumigations, administered even in this imperfect manner, was very great ; but the inconveniences that attended their application were considerable. Negligence in the administration often retarded the cure ; the sulphureous vapour, when concentrated, injured the bed-clothes ; and, frequently escaping, affected the organs of respiration, not only of the patient fumigated, but of every one who inhabited the same ward.

With the view of obviating these inconveniences he constructed a fumigating apparatus, resembling, in many respects, that described by the Chevalier Lallouette ;* which, afterwards improved and altered, partly by himself, and partly by the assistance of M. D'Arcet, an ingenious mechanist and able Chemist, afforded him the means of prosecuting his experiments in the most satisfactory manner. §

* See "Nouvelle Méthode de traiter les Maladies Vénéreuses," par Pierre Lallouette.

§ It is for the invention of this apparatus, that the profession are *more particularly* indebted to these zealous enquirers ; for, as I have already remarked, the efficacy of sulphureous fumigations had been long known, and probably would have been much practiced, had the profession possessed an instrument calculated to prevent the inconveniences and danger arising from the incapability of using, by means of the common apparatuses, sulphureous fumigations, without their affecting the organs of respiration: Musa Brasavole, who flourished about the year 1534, speaks of the fatal effects, which

Among the great number of patients, who labouring under scabies, were submitted to sulphureous fumigations, there were some in whom the disease was complicated with prurigo, tinea, "*dartres*,"† and rheumatism. Galés having observed with great assiduity, the progress of treatment in every case, and having noted with exactness the most trifling circumstance, remarked the favourable impression, which these fumigations pro-

have arisen from the employment of an imperfect apparatus, and says, "Nam quempiam vidi qui, ex fumo caput petente, *in apoplexiam incidit*, et statim mortuus in terram corruit." Dr. De Carro also observes, "Although the utility of sulphur, taken internally, administered in the form of frictions, and mixed with natural or artificial baths, in many chronic diseases of the skin, of the articulations, of the glands, of the lymphatic system in general, and in some gouty affections, was known from time immemorial, the most illustrious physicians have been ever anxious to invent a means of administering the vapour of this mineral, rendered acid, and more penetrating by combustion: this wish was particularly published about thirty years ago, by a great physician of this capitol, (J. P. Frank.)"

"At different times many apparatuses have been invented, more or less imperfect, for the administration of sulphureous fumigations; but we had not been able to apply them *without affecting the organs of respiration*, until Dr. Galés invented and perfected his fumigating box, the construction of which leaves nothing to be desired; and the success of which, since the year 1813, would appear incredible, if they were not certified by the principal Civil and Medical Authorities of Paris." De Carro loc. cit. p. 4.

† Alibert includes under the term "*dartres*" the lepra, pityriasis, psoriassis, lupus, herpes, erythema, ecthyma, and pompholyx of Dr. Willan; which, although very dissimilar in their appearance and form, resemble each other in their *nature* more than is generally believed.

duced on affections of a much more grievous nature than the disease, for which they were administered ; and was occasionally surprised to find, at the termination of the treatment for scabies, some of the patients radically cured, others manifestly in progress towards cure, and, in almost all the others, an evident amendment. Hence he was induced to make repeated trials of sulphureous fumigations in similar diseases uncombined with scabies, which were generally attended with the greatest success ; and thus, led by accident or chance, to the extensive application of a remedy, which he had at first used upon scientific principles, he has been enabled to confer the greatest benefit on mankind.

The happy results, which were now obtained from the practice of fumigation, attracted, in a particular manner the attention of the Governors of the Hospital of Saint Louis. M. Duchanoy, after having, with the greatest assiduity, observed, for many months, the practice of Galés, became convinced of the advantages of this method of cure; and, on the 21st of October, 1818, he ordered exact experiments to be made, to ascertain the comparative effect of this process, with other means in use, for the treatment of scabies. By these experiments it was ascertained, that the sulphureous fumigations enjoyed the greatest superiority.

An account of these experiments was daily submitted to the inspection of M. Morgue, that member of the general administration of the

Civil Hospitals of Paris, particularly charged with the inspection of the Hospital St. Louis. This vigilant administrator was so astonished at the results, and so convinced of the importance of the method, that he proposed, on the 17th of March, 1814, to his colleagues, the members of the administration of the Civil Hospitals, that a special medical jury should be appointed to examine, by a series of new experiments, the influence of sulphureous fumigations in the treatment of cutaneous diseases. His proposal was adopted : and the Chevalier Pinel, Member of the Institute, chief Physician of the Hospital of Salpêtrière, and Professor to the Faculty of Medicine ; Baron Dubois, Professor to the same Faculty ; Esparon, first Physician of the third Dispensary ; Tartra, first Surgeon of the first Dispensary ; and Bouillon-la-Grange, Doctor in Medicine and Professor in Chemistry ; were constituted members of the jury.

The jury commenced their observations at the Hospital St. Louis, on the first of April, 1814 ; and, having employed two months in observing and noting, with great care, and from day to day, the effects of these fumigations on fifty-eight patients submitted to experiment, made a report to the general council of administration, of which the following are the principal facts and conclusions.

FACTS.

The number of fumigations administered to each patient varied according to the inveteracy, the species, the complication of the disease, the constitution, the temperament, the age, and the sex of the patient.

One patient was cured by five fumigations, another required six. Five have been cured by seven fumigations each, two by nine, four by ten, one by eleven, seven by thirteen, four by fourteen, four by fifteen, eight by sixteen, one by eighteen, three by twenty, one by twenty two, one by twenty four, one by twenty six, one by twenty eight, three by thirty ; finally, a dartsous patient, who was *radically cured*, required *seventy*.

Females and infants, *ceteris paribus*, required a smaller number of fumigations than adult males, and particularly than old men.

The entire number of patients cured, who laboured under darts, required two hundred and eighty three fumigations ; which, divided among the whole, gives the average to each individual of thirty fumigations.

The patients labouring under scabies received six hundred and five fumigations : thirteen the average.

Two patients labouring under prurigo received eighteen fumigations : nine each.

Sulphureous fumigations had a peculiarly remarkable effect on old, inveterate, complicated, and obstinate scabies ; curing it proportionably quicker than recent cases.

A patient labouring under tinea received four fumigations.

The number of fumigations administered to each patient does not give the number of days required for his cure ; many of them having received three, and even four fumigations daily.

The nine dartsous patients, who were cured, required one hundred and twenty days for their treatment ; which makes thirteen days the average number for each.

The forty-three patients labouring under scabies required three hundred and twelve days : on an average, seven days to each.

Each patient labouring under prurigo required twelve days for his treatment.

The patients labouring under scabies, and other cutaneous affections, submitted by the jury to sulphureous fumigations, were, in general, subjects, in whom the disease had advanced

to the highest degree, and possessed the most obstinate characters.

All the forty three patients labouring under scabies, obtained a cure. Nine dartrous patients were cured and three were relieved; the porriginous patients were in progress towards cure; and the two pruriginous patients obtained a radical cure.

CONCLUSIONS.

1. That sulphureous fumigations cure perfectly every kind of scabies, even the most inveterate.

2. That the number of fumigations requisite to cure scabies varies from four to twenty; according to the age and sex of the patient, and to the intensity, the species, and the complication of the disease.

3. That females and infants, *ceteris paribus*, require a smaller number of fumigations than adult males, and particularly than old men.

4. That old inveterate cases of scabies are cured proportionably more quick than recent cases.

5. That the length of time, required for each fumigation, is ordinarily about half an hour.

6. That patients may take even four fumigations daily; according to their temperament, their leisure, or their anxiety to obtain a more or less rapid cure.

7. That the treatment of scabies by sulphureous fumigation does not require any auxiliary treatment, either internal or external; nor any sort of particular regimen.

8. That, compared with all other known modes of treatment, even with those that are regarded the most rational and the most efficacious, such as sulphur ointments, mercurial ointments, mercurial lotions, arsenical frictions, lotions of tobacco, baths of sulphuret of potash, &c. &c., the treatment by sulphureous vapour appears to excel very much in simplicity, brevity, innocence, and efficacy.

9. That it is also much less expensive than any of the others.

10. That various other cutaneous diseases, such as pedicular affections, prurigo, tinea, dartres, even inveterate and regarded as incurable, are susceptible of yielding to sulphureous fumigations.

11. That, in general, other chronic eruptive diseases require a greater number of fumigations than scabies; but that this means should always be regarded at least as an auxiliary, in the treatment of these diseases.

12. That it is of the greatest importance to make known the advantage of these fumigations, to propagate them, to establish them in hospitals, on board vessels, in camps, in barracks, in prisons.

Signed, PINEL, A. DUBOIS, A. E. TARTRA, ESPARON,
and BOUILLON-LA-GRANGE.

Seen and approved,

Signed, MOURGUE.

In consequence of this report of the jury, the General Council of Administration of Hospitals decreed,

1st, That a copy of it should be forwarded to the Prefect of the Department of the Seine, with the request, that he would transmit it to the Minister for the Home Department, for the purpose of giving the greatest publicity to a method, ascertained to be most valuable, as well on account of its great efficacy as economy.

2dly, That there should be established, at the Hospital St. Louis, twelve fumigating apparatuses, for the treatment of extern patients, labouring under diseases of the skin.

3d, That the Vice President should communicate to Dr. Galés their high sense of the great service he had rendered mankind by his discovery.

The Prefect of the Department of the Seine, forwarded the report of the jury to the Minister for the Home Department, for his serious consi-

deration ; who *immediately* transmitted it, with the following letter, to the Faculty of Medicine of Paris.

Paris, 17th of July, 1814.

The Minister of the Home Department, to the Members composing the Faculty of Medicine of Paris.

GENTLEMEN—Dr. Galés has been led by his studies and researches, respecting the nature of scabies, to make use of sulphureous fumigations for its cure.

In consequence of the success which attended the first experiments on this mode of treatment, the Council of Administration of the Hospitals of Paris thought proper to appoint a special jury to examine and ascertain its effects.

This jury, composed of M. M. Pinel, Dubois, Esparron, Tartra, and Bouillon-la-grange, observed, for two months with the greatest care, experiments made with sulphureous fumigations, upon about sixty individuals attacked with scabies and other cutaneous diseases.

Almost all the individuals, submitted to these experiments, have been completely cured ; and the Jury has formed the most favourable conclusions respecting the utility of this mode of treatment.

The General Council of Administration of Hospitals decided, in consequence of the report of the jury, to establish, at the Hospital St. Louis, fumigating apparatuses for the treatment of extern patients, labouring under scabies, and other diseases of the skin ; and the Prefect of the Department of the Seine has requested me to recommend this physician to the notice of Government, and to order the publication of the report, and of a memoir describing his method of cure, for the purpose of making it known to the entire empire.

Notwithstanding the confidence, which must be reposed in results testified by such men as those who composed the jury, I am not willing, Gentlemen, to give to this process, and the report of the success which accompanied it, the publicity requested, before I obtain your opinion upon this success, and upon the conclusions which have been drawn from it.

I herewith transmit to you, in consequence, the report of the jury, and the different certificates attesting its authenticity ; and request, that you will present to me, with some details, your opinion upon the different advantages attributed to the mode of treatment adopted by Dr. Galés, and upon the claim which this Physician has to the favour of Government.

I shall be obliged if you accelerate, as much as possible, your enquiries on this subject.

Receive, Gentlemen, the assurance of my distinguished sentiments.

Signed,

MONTALIVET.

The Faculty of Medicine of Paris, already engaged in the examination of many other processes for the cure of scabies, and in making comparative experiments, for the purpose of determining those that merited the preference, immediately commenced their enquiries respecting sulphureous fumigation ; and elected commissioners from among their members, (the Dean and Professors,) to accomplish this undertaking.

Two reports have been the consequence. The first of these reports was signed by M. M. Percy, J. J. Leroux, Richerand, and Dupuytren ; and the second by M. M. Hallé, A. Dubois, Pinel and Dupuytren. These two reports confirm entirely the conclusions of the medical jury ; and, moreover, we ascertain by the last report,

1. That sulphureous fumigations, employed for the cure of chronic diseases of the skin, have been found, in a great many cases, much more efficacious than the means that have been hitherto in use : such as, vegetable decoctions, mercury, preparations of antimony, sulphur, artificial and natural sulphureous baths, &c.

2. That, by sulphureous fumigations, they have been able to cure hereditary cutaneous diseases ; which, existing from the earliest age, appeared to have become, by their antiquity, so inherent in the economy of the patients, that there were no hopes of cure : diseases which, moreover, had been fruitlessly combated by a great number of remedies.

3. That diseases of the skin supervening on venereal affections, of which they had not been able to obtain a cure by the use of sudorificks and of mercury administered in many forms, quickly recovered, under the influence of a slight antisyphilitic treatment, when the patient had been previously submitted to sulphureous fumigations.

4. That cutaneous diseases are not the only affections, in which sulphureous fumigations are useful. In neuralgias, particularly in sciatica ; in gouty and rheumatic pains, which had assumed a chronic state ; in local palsies, and even in hemiplegias, which succeed to an attack of apoplexy ; great advantages are to be derived from this remedy.

Finally, sulphureous fumigations appear to favour the resolution of certain atonic tumors of the lymphatic system, such as scrophulous swellings, by exciting the vessels of lymphatic glands, or of other parts in which they are seated.

In consequence of this report, the Minister for the Home Department addressed a letter to the Prefect of the Department of the Seine, in which he observes, that M. Galés appeared to him worthy of a recompence for having rendered such vast services to the Hospitals and to humanity ; and required the Administrators of Hospitals to name him Physician to the Hospital St. Louis, and to grant him a pension of 6000 francs per annum.

Sulphureous fumigations, thus sanctioned after a strict ordeal, were now universally adopted in the French capital, and apparatuses, for the relief of the poor, were immediately established at the dif-

ferent Hospitals ; among others, at the Hôtel-Dieu Maison d'Accouchement, Maison Royale de Santé, Hôpital de la Charité, Hôpital Saint-Antoine, and at the Military Hospital of Val-de-Grace, by order of the Minister of War. Time, instead of diminishing confidence in their utility, has caused the French Government to become more and more convinced of their importance. Hence, in 1816, it considered itself called on to order Galés to publish a memoir describing his method, and to issue the following circular to the Prefects of the Departments, for the purpose of encouraging and promoting its adoption throughout the entire empire.

Paris, 17th May, 1816.

M. the PREFECT,

J. C. Galés, Doctor in Medicine, and formerly Apothecary to the Hospital St. Louis, at Paris, has been conducted, by his researches respecting the nature of scabies, to apply, by means of a new process, sulphureous fumigations to the treatment of this disease, and of many other cutaneous and chronic affections.

The happiest success has crowned the labours of Dr. Galés. A jury, composed of many distinguished physicians, and a commission constituted by members of the Faculty of Medicine of Paris, have successively examined, with peculiar care, the effects of this method : and these Commissioners have declared, that, for the cure of scabies, it appears to them infinitely superior, in respect to efficacy, innocence, and economy, to all those previously known ; and that it ought to be considered as equally efficacious in the treatment of other chronic diseases.

I have in consequence thought, M. the Prefect, that it was my duty to cause to be printed a memoir by Dr. Galés on

his method of cure, as well as the reports and observations to which it has given origin; and I have the honour to forward to you—copies of this collection.

It is much to be desired, that the method of Dr. Galés be adopted in great hospitals, and in other establishments, such as depots of mendicants and houses of detention, where it is necessary to treat scabies and other cutaneous and chronic affections.

There is every reason to believe, that there would result from it a very great saving of expenditure in the treatment of these diseases.

You will therefore please to distribute the copies which I send you, to the administrators and to the physicians of establishments of this kind, which are in your department; and to prevail upon them to establish, in these houses, apparatuses proper to administer sulphureous fumigations.

I freely authorise you, M. the Prefect, to defray the expence, which shall result from the purchase of these apparatuses, either out of the funds of those establishments which shall judge it proper to procure them, or, if you desire it, out of the funds for the accidental expenses of your department.

I have the honor, M. the Prefect, of offering you the assurance of the most distinguished consideration.

The under Secretary for the Home Department,
BECQUEY.

After the promulgation of this circular, and the publication of the memoir, the invention was received with universal acclamation; and, thus finally established in France, it soon began to spread itself in every direction over the continent of Europe; and, wherever used *with attention and judgment*, the results have not been less honourable to the cause of medicine, nor less consoling to humanity, than those derived from its application in the country, in which it originated.

To Dr. de Carro, the highly accomplished and illustrious Physician of Vienna, long known as a

great benefactor to mankind, by his zealous and successful exertions in extending the application of the preservative against small pox, and ever anxious to employ himself for the benefit of his species, the rapid extension of the use of sulphureous fumigations on the Continent is in a great measure owing.

In his "*Observations Pratiques sur les Fumigations Sulphureuses*," a pamphlet published at Vienna in the year 1819, he gives the following account of the manner in which he was first led to the use of this remedy.

"Early in the year 1817, a fortunate occurrence procured to me the perusal of a memoir, written by Dr. Galés, on sulphureous fumigations applied to the treatment of cutaneous and many other diseases, and printed by order of the French Government. Since ever I began to read with the intention of adopting whatever appeared to me of great importance, I cannot recall to my memory any thing but the work of Dr. Jenner,* which made on me so lively an impression. The reading of the former inspired me, twenty years ago, with the project of introducing upon the Continent the preservative against the small pox; and each page of the memoir of Dr. Galés, and the *astonishing and authentic cures* therein registered, irresistably

* "An inquiry into the causes and effects of the variolæ vaccinæ, a disease discovered in some western counties of England, particularly Gloucestershire, and known by the name of the cow pox. By Edward Jenner, M. D. F. R. S. 4to London, 1798."

forced me to introduce into Germany an invention, which conferred as much honor on France as vaccination did on England."

Dr. De Carro, immediately after reading the memoir, entered on a correspondence with Galés ; and, having obtained from him all necessary information, and models of his apparatus, established a "*fumigatory*," in his own dwelling-house, for the benefit of his patients.

Of this undertaking he immediately published a "*Notice* ;" and afterwards, by an "*Avis*," he regularly communicated the results of his practice, every two or three months, until the termination of the first year.

In his Notice, or first "*Avis*," he observes, "After having introduced and propagated vaccination in the Austrian Monarchy, by means of which, in the space of eighteen years, the small pox has almost entirely disappeared, I congratulate myself at being again able to offer to suffering humanity a new means of curing many severe and obstinate diseases."

The second "*Avis*" is dated the 15th of August. In it he remarks, "Although my experience is dated only from the 24th of July, and although the diseases, with whose treatment I have commenced, have resisted all other remedies, the results are already very satisfactory. I shall communicate an account of them in due time. The Apparatus, in the unanimous opinion of the physicians who have seen it employed, indicates suf-

ficiently, that this manner of administering sulphur is the most active which nature or art has ever been able to employ ; and that so powerful a sudorific must produce the happiest effects in chronic diseases of the skin, of the articulations, of the lymphatic system, and in some gouty affections."

In the third "Avis," he says, "After three months practice with my apparatus, I consider myself called on to satisfy the desire which the public express of knowing the first results."

"The effects of these fumigations, in the diseases mentioned in my Notice, of the 15th of July, and in the second "Avis" of the 15th of August, has surpassed my hopes."

"With respect to herpetic diseases, I have cured, *without any internal remedy*, many the most obstinate, which had been for years the torment of those they afflicted. The dry and scaly darts appear to me to be less obstinate than the humid. Two of the latter have resisted, the one thirty eight and the other twenty eight fumigations."

"The proportion of rebellious cases (*cas rebelles*) is small in comparison to the cures, many of which have been accomplished in from twelve to twenty-five fumigations."

"A variety of other less severe eruptions have disappeared in less than ten sittings."

"I have only treated three cases of scabies : two men and one young girl. Eight, ten, and three fumigations have been sufficient to deliver them from this disgusting and contagious disease ;

and I can affirm, that there does not exist any more easy mode of curing scabies."

"However efficacious these fumigations may be in the different diseases of the skin, they are still more so in *chronic rheumatism*, in a *variety of pains of the articulations*, in *lumbago*, in *sciatica*, and other diseases of this species, which are deeply seated."

"It is for the patients, and not for me, to communicate the comfort that they experience in the apparatus, and during that half hour of repose which I order after the fumigation. Notwithstanding the abundant perspirations that it produces, none have ever found themselves debilitated."

"With some precautions, very easy to be taken, the use of fumigation may be continued through the winter."

"The confidence of patients in this new mode of cure is such, that I am obliged daily to refuse it in cases to which it does not appear to me to be applicable."

The fourth "Avis" is dated the 24th of March, From this I extract the following observations.

"I have proved, that with some precautions, easily taken, the treatment by fumigation may be practiced at all seasons ; particularly when the diseases are too severe to await the spring,"

"I confirm every thing, which I have already said respecting the efficacy of fumigations in different gouty affections, in *lumbago*, *sciatica*, and other chronic diseases of this kind, in scabies, and in herpetic eruptions, I repeat, that, in the dis-

cases to which this mode of treatment is applicable, the proportion of cases where one fails is small in comparison to those in which one succeeds. Although this remedy is not infallable, I do not fear to affirm, after eight months experience, that the art of healing never possessed one more active or more efficacious."

"These happy results attract many patients, labouring under desperate diseases, who, after having used all known remedies, wish still to try the chance of relief."

"The patient, of whom I have spoken in my third "Avis," as having taken, without effect, twenty eight fumigations, was cured a short time after having discontinued them, by means of some remedies, which probably would not have been sufficient, if he had not been prepared by fumigations. This mode of treatment requires sometimes much perseverance, and often it astonishes one by the promptitude of its effects."

"My experience does not as yet permit me to determine with precision the kind of inveterate syphilitic diseases of the eruptive or arthritic form, in which one can employ the fumigations, alone or combined with other remedies. Be it as it may, I never administer them in recent affections; but some observations authorise me to believe, that they may be useful in diseases *caused by the abuse of mercury*; and even that they prepare advantageously for the use of this remedy in certain cases, where it had been already employed without success, and where it would not have been sufficient, without this preparation, to have effect-

ed a cure. This point of practice, the diagnosis of which is so delicate, and the treatment so difficult, is one of those which it is most important to unfold.”

“I have as yet treated only five patients labouring under scabies, who have been entirely cured in ten, eight, three, eight, and seven fumigations. It is certain, nevertheless, that a greater number will often be necessary.”

“Ephelides, vulgarly called *chaleurs de foie* (LEBERFLECKEN), disappear with ease. Two patients, one aged thirty years, and the other aged thirty-two, who had the back and the chest covered with them for five years, have been entirely cured; the first in ten sittings, and the second in five. The *ephelides* of the last were accompanied with pains in the integuments of the head, and with a sensation of pressing and pricking so insupportable, that the patient was unable to occupy himself with objects requiring his attention. These pains, which came on at the same time as the *ephelides*, have disappeared with them, and restored this individual to his former occupation.”

“I have treated persons of every age from five to seventy. A little girl of six years old, very delicate, and a boy five years old, both labouring under a disease of the skin, which had resisted all ordinary remedies, have been cured by sulphureous vapour, without being weakened by these fumigations; although the former took twenty three, and the latter fourteen.”

“One of my most remarkable cures is that of

a man seventy years of age, whose arms, from the elbows to the wrists, and legs, from the knees to the ankle, covered, for a year and a half, with the most frightful herpetic eruption that I have had as yet to treat, were entirely cured in sixteen days, by fourteen fumigations."

"The cure by fumigation requires *continual care, much cleanliness, and the greatest precision in all its details.*"

"If, in *public* establishments, where these minute cares are often difficult, there is less success than in a *private* fumigatory, it is rather the manner of application than the remedy itself that should be blamed."

Dr. DeCarro, having thus practically investigated the advantages of this remedy, became so convinced of its value and importance, and so anxious for its general introduction, that, although enjoying the first rank in his profession, he did not think it beneath him to undertake the labour of having models, and even the apparatuses, constructed under his own inspection; and always ready for distribution to such physicians as might be induced by him to give the invention a fair trial.

Much to the honour of the profession, and no doubt most gratifying to Dr. De Carro, his advice and example were so generally adopted, that, in an amazingly short time, he forwarded forty eight apparatuses, which, among other places, were established at Presburg, Breslau, Rome, Prague, Trieste, Cronstadt, Venice, Parma, Warsaw, Pa-

dua, Brunn, Lemberg, Odenburg, Hermanstadt, Odessa, Temeswar, Guns, Caschaw, Sarvarn, &c. Hence, in his fifth and last "Avis," he says, "The happy results of the employment of sulphureous fumigations are confirmed more and more by experience; and this method is propagated with a rapidity, of which the history of useful inventions offers few examples."

In August, 1819, as I have already mentioned Dr. De Carro published his "*Observations Pratiques sur les Fumigations Sulfureuses.*" In this work he communicates a history of the first two hundred cases, simple and complicated, in the order in which they occurred, with the results of each case. These cases constitute an irrefragable body of evidence of the great utility of sulphureous fumigations; and the extreme candour and high character of the author leave not a shadow of doubt on the mind of the reader.

The experience of Dr. De Carro confirms, to the fullest extent, the conclusions of the French Medical Jury, and of the Faculty of Medicine of Paris, so far as relates to diseases of the skin. As in Paris much less attention was paid to the influence of the remedy in the cure of rheumatic, arthritic, and obstinate syphilitic affections, than in Vienna, the results of Dr. De Carro's practice is particularly valuable respecting them.

Of sixty five persons, labouring under rheumatism, sciatica, arthritic, and anomalous pains, twenty-five were cured, thirty-two very much relieved, and eight received no benefit.

Of ten inveterate syphilitic affections, where mercury having been used, or rather abused, produced a state of extreme debility, five were cured, four much relieved, and only one remained without receiving any benefit.

Dr. De Carro, at the end of his publication, gives us communications, which he received from some of those correspondents, to whom he had forwarded apparatuses. From these communications, the following remarks are extracted.

Vienna, 24th August, 1818.

“The fumigating apparatus, which you furnished to our Hospital, having answered our expectations, I am eager to express to you the sincere obligation, that we owe to a Physician distinguished in so many ways as the zealous promoter of good and useful things.”

“I sincerely regret, that, being so short a time in possession of this apparatus, (from the 3d of July to the 18th of August,) it is not in my power to communicate to you facts more numerous or more satisfactory. I hope, nevertheless, that a summary extract from our registry will be sufficient to confirm the happy results of the mode of treatment by fumigation, and will be in harmony with your own observations.”

“Of twenty seven patients labouring under scabies, twenty four have been cured in from ten to fifteen fumigations; and three only have required from four to six.”

“All have been cured without internal medicine.”

“Nine patients labouring under arthritic pains have experienced the best effects from sulphureous fumigations; six have been cured; two have obtained more or less relief; and one alone, in whom the disease was inveterate, did not receive benefit.”

“Two cases of sciatica have, to this moment, resisted fifteen sittings.”

“A complete paralysis of the inferior extremities, the cause of which was arthritic, has been so much ameliorated by this treatment, that the patient can move both his legs, and hold himself upright with little support. None of these patients have taken internal medicines.”

“Consequently of thirty nine individuals labouring under scabies and arthritic affections, thirty six have been cured or much relieved: three alone have not received any benefit.”*

4th April, 1818.

“About the end of 1817, a society of physicians established, at Brunn, a fumigatory, the results of whose practice confirm the efficacy of sulphureous vapours. Twenty seven patients, suffering from obstinate rheumatism, and from different diseases of the lymphatic, glandular, and cutaneous systems, were, for the most part, cured, when their prudence seconded the effect of this remedy. We

* “Lettre de M. le docteur Stiller, médecin de l'Hôpital des Frères de la Miséricorde.”

have seen miserable creatures, who had to be carried to the apparatus, and others, who, exhausted by their sufferings, dragged themselves into it with difficulty, return to their affairs cured and contented. These cures have been effected, at an unfavourable season, in ten, eight, six, and sometimes even by a smaller number of sittings. Two cases only, excessively obstinate, required twenty-four."†

May, 1818.

"When we announced, on the 17th of September, our intention of establishing a fumigatory, we could recommend it only by the experience of Dr. Galés. A practice of nine months, without authorizing us as yet to form a definitive judgment upon this method, permits us now to know the truth of this physician's assertions."

"Although the winter appears unfavourable to fumigations, proper precaution has assured success to us in severe and obstinate diseases."

"As well as at Vienna, we have ascertained the efficacy of these vapours in arthritic affections, lumbago, sciatica, and other chronic diseases of this kind, in darts, and scabies; and we can say, with Dr. de Carro, "That in diseases to which this mode of treatment is applicable, the proportion of cases wherein one fails, is small in comparison to those wherein one succeed."

"Although fumigations are not infallable, we also say, "That the art of healing never possessed

† "Extrait (traduction) de la Gazette de Vienne, du 4 Avril, 1818."

a remedy more active or more efficacious ; and that this mode of treatment, which requires sometimes much perseverance, often astonishes by the promptitude of its effects."

"Obstinate darts, that resisted the most efficacious remedies, have been singularly ameliorated, or have been cured, by combining fumigations with the same remedies that were employed before without success."

"Some old, obstinate, syphilitic diseases have yielded, in a surprising manner, to sulphureous fumigations ; but we still require a great number of facts to enable us to form, on this subject, a definitive judgment."

"In fifteen cases of inveterate scabies, the fumigations have produced a complete cure in from five to ten sittings"

"We are firmly convinced, that care, cleanliness, and exactness, in the employment of fumigations, are indispensable to success."*

30th July, 1818.

"I shall shortly have the honour of sending you a circumstantial report of my practice ; the date of which, it is true, does not exceed two months, but the results of which are as fortunate as astonishing."†

With the view of illustrating and supporting the foregoing documents, I shall now relate a few cases, extracted from the Continental writers ;

* "Notice des Médecines de Presbourg," Mai, 1818.

† "Extrait d'une Lettre de M, le Docteur Grantzow, de Scarvaar en Hongrie."

and here I may be permitted to observe, that, as my opportunities for observation in Hospitals are so extensive, it cannot be supposed, that I would have any difficulty in selecting abundance of examples, from *my own* practice; but, as my object at *present* is *solely* to draw attention to the remedy, I prefer the testimony of others, for the purpose of preventing the possibility of misconstruction.

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CASE I.

“A. N. aged about twenty two, a Goldsmith, was affected at the age of fifteen years with rheumatic pains. He contracted, in 1812, a gonorrhœa and chancre on the glans, for which he was treated at the Hospital of Lille with muriate of mercury; and in September, 1813, he contracted a new gonorrhœa, which he himself treated and cured. On his return to Paris, his native country, he gave himself up to excesses at table and to the use of spirituous liquors. At the end of a month, he was attacked with pains in the legs, and particularly in the internal ancles. These pains augmenting and extending to other articulations, he went into Hospital the 4th of January, 1814, three months after the commencement of the disease. He then laboured under the following symptoms: redness, considerable swelling and pains of the phalangeal, metacarpo-phalangeal, carpo-phalangeal, radio-carpial, humero-cubital, and scapulo-humeral articulations of the right arm; nodosities, the size of a pidgeon's egg, on the articulations

of the phalanges of the hands and of the feet; same state of the internal ancles, as well as of the heels, and particularly of those of the right limb; with augmentation of pain during the night, and on motion."

"Until the 20th of July, he used sudorific ptisans, and rubbed the painful parts with volatile liniment. The pains at first appeared to be calmed a little; but they soon became more intense, and were now felt in the left hip. On the 20th of January, he took the liquor of Van Swieten; on the 31st, the swelling and pains had suddenly diminished; they returned on the beginning of February, and were accompanied with intense occipital cephalagia. Accidents, foreign to the principal disease, caused a suspension of this system of treatment, which was not afterwards resumed. At the commencement of March, the swelling of the feet disappeared in part, by the use of warm baths, and the pains of the hands diminished; but this slight amendment was only momentary: the pains became as intense as before."

"Finally, on the 27th of March, he was submitted, for the first time, to the use of sulphureous fumigations. From the first bath, he thought he moved his fingers with greater facility, and the following added to the relief which he first experienced. From the 31st of March, the swelling of the articulations sensibly diminished; on the 3d of April, the pains of the ancles encreased a little; but, on the following day, they again diminished, as well as those of all the other articulations. The

motions of the fingers, of the elbows, and of the feet became more easy, in proportion as the swelling of the parts decreased."

"On the 12th of April, after eighteen fumigations of an hour each, the volume of the phalanges, which was most remarkable, resumed its natural state; the patient could bend his fingers entirely, and walk every day without experiencing pain."

"He was discharged from the Hospital perfectly cured, on the 29th of April, after having taken thirty-two fumigations. The nodosities have entirely disappeared."*

CASE II.

"A young man, aged twenty six years, formerly in the army, suffered violently, for ten months past, from a sciatica, which he attributed to the damp of the bevouacs. In other respects he enjoyed good health. The pain, which extended along the thigh, even to the feet, came on periodically twice a day, at noon and in the evening, and had resisted a variety of internal and external remedies, prescribed by a very good physician. He had abundant sweats during the fumigation, although unable to bear a higher temperature than 22 degrees of Réaumur. After three sittings, the evening paroxysm ceased, and that of the mid-day became milder. After nine fumigations, the pains disappeared. Three days after, having felt

* In "Mémoire, &c. par J. Galés," "Observation recueillie par M. la Roche."

some pains in the leg, he took five more; after which the disease disappeared, although he continued to expose himself to damp and to every vis-situde of the atmosphere.”†

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CASE III.

“A man, aged forty, suffered for eight years past, from a violent pain, which commenced at the lower part of the vertebral column, and at the superior extremity of the thigh, from whence it extended even to the tops of the toes; the paroxysms generally came on, in the month of October, and continued more or less severe during the winter. This disease began after a violent effort made in raising a patient; after which there appeared, in the region of the sacrum, a tumefaction, that was judged lymphatic, and which disappeared under the influence of the moxa, very often repeated. He had an interval of five years freedom from pain, but they recommenced during the winters of 1815 and 1816. The baths of Baden had always been useful to him. In other respects, his health was good, and he walked very well when free from pains; but, when these came on, he was obliged to incline himself much to the left side. On the 9th of November, it was decided in consultation, to administer to him fumigations. He scarcely could rise from his bed and come to me: he walked bent like Z. After three sittings, the pains became less frequent and

† De Carro op. cit. p. 63.

much more supportable, and he could walk without an inclination to either side. The seat of the disease is no longer fixed; and the pain, in dispersing itself, has become weaker. On the 17th of December, finding himself attacked by a slight catarrh and oppression, I did not permit him to use the fumigation. He recommenced their use on the 19th; and, from the day after, he had no more pains. He continued them until the 25th of December. Thus, therefore, fifteen fumigations, in seventeen days, have freed him from a most tormenting disease. On the 24th of July, he had not the slightest trace of his complaints, walked much, and with the greatest agility.”*

CASE IV.

“The first patient, who used your apparatus, had, for three months, rheumatism in the right arm, and in the neck. This arm was incapable of the slightest voluntary motion. It could be moved some inches from the trunk; but it immediately fell again, like a paralytic limb. The least attempt to carry it farther was attended with pain in the shoulder. This limb was moreover reduced to the third of the size of the left arm. During the rheumatic affection, the right knee was also attacked with swelling and pains. The patient could not walk; and, after eight days, the articulation became filled with a great quantity of fluid, which

* De Carro, op. cit.—p. 92.

was absorbed the following night. From the first fumigation, he was able to perform some voluntary motions with his arm, and until the twenty-fifth, there was a progressive amendment; so that the right arm almost equaled the left in the extent, force, and variety of its movements, and even in respect to its size. The progress of his neck towards cure was less rapid and less constant, and the stiffness continued. For fifteen days, having felt renewed pains in the right knee, which again filled with water, I left off the fumigations, and applied a cautery to the right leg. The cure, nevertheless, of the arm and leg proceeded so regularly, that the vapour, in restoring these two parts, attacked with rheumatism of the highest degree, analysed, as it were, the evils under which the patient laboured, and cured that which properly belonged to it.”*

CASE V.

“A man, aged forty-four years, of a strong constitution, and in other respects, in perfect health, habituated to much exercise, both on foot and horseback, suffered, for twelve years, frequent paroxysms of violent pains, from the top of the thigh to the heel and toes, sometimes on the left side, sometimes on the right; and these have become so insupportable for the last six years, as

* “Lettres de M. le Docteur Louis, d’Odessa,” See De Carro, *op. cit.* p. 216—17.

almost to drive him to despair. All known remedies, internal and external, have been employed without success, as well as rigid mercurial treatment which was resorted to without any just reason. Opium alone calmed his pains, but thirty drops produced vertigo. Moist weather agreed with him better than dry. After four fumigations, which made him sweat abundantly, the pain became more obtuse, then disappeared. He took ten only, from the twenty ninth of November to the eighth of December. This patient, whom I have often seen during the eight months that followed his treatment by fumigation, has assured me, that he has not since felt pains, except very rarely, and these very supportable, and of short continuance.”*

CASE VI.

“A man, aged fifty six, of a strong constitution, has suffered, for three years, from wandering pains, which, passing from one articulation to the other, now affect the feet and the left haunch, to the knee, and very much obstruct his gait. The left thigh is almost always cold; the pains are relieved by the heat of the bed; the urine is often turbid; he never had acute rheumatism. Eight fumigations, from the 15th to the 22d of January, freed him from these evils; and, from the fourth, he was able to walk upright. The admiration, which he testified for a mode of cure so prompt and so

* De Carro, op. cit. p. 90,

efficacious, was such, that I am very certain, as it is a long time since he came to me, that his cure is permanent.”*

CASE VII.

“A female, aged twenty-seven years, the mother of three infants, having a very weak constitution, but a good chest, everwhelmed with chagrin and misery, and inhabiting a damp lodging, suffered, for two years, from a general rheumatism, which passed into the arms, and then into the feet;—has no fever—monthly discharge regular—sleeps well—good appetite, but often without the means of satisfying it—obliged to remain in bed—incapable of raising a spoon to her mouth, and walking on crutches with the greatest difficulty. Her weakness was so excessive, that I was very unwilling to undertake the treatment, conceiving that she would not be able to support herself in the apparatus, and bear the fumigations. The case being desperate, I undertook, on the 22d of June, with innumerable difficulties, to place her in the apparatus, when she was soon attacked with fainting and vomiting. Finally, on account of her extreme weakness, it was not possible to exceed six fumigations. I did not expect to see her return. What then was my astonishment, to learn from her husband, that, notwithstanding the debility during the six fumigations, they had produced such an effect, that she began to rise from her bed, to

* De Carro, op. cit. p. 98.

walk without crutches, to be able to carry a spoon to her mouth, and to knit ! I encouraged her to recommence ; when, after having taken ten of them, she came to me on foot, without crutches, from a remote part of the suburbs, and moreover returned to the same place after the eleventh fumigation. Coming and going took up almost an hour. Her visage has assumed the appearance of health, and the progress of her re-establishment is as rapid as astonishing. She has taken in all, thirty six fumigations.”*

CASE VIII.

“A man, or rather a skeleton, aged upwards of thirty, who has been a sufferer for nine years, and had been treated, particularly during the last three years, by many celebrated physicians ; who was scarcely able to walk a step ; who had only every five or six days, by the assistance of purgatives, small, hard, and globular stools, preceded by two or three spoonfuls of puriform matter ; who scarcely eat any thing ; who never slept without opium ; who experienced excessive pains in the abdomen, in the extremities, and particularly in tumors, as large as an egg, which he had on the left humerus, and on the articulation of the knee, on the same side : this man, I say, to my great astonishment, was freed from his pains, after four fumigations. The three first appeared to render his state worse, and increased his discouragement. Finally, he

* De Carro, op. cit. p. 164—5.

began to have a regular stool every morning ; the puriform evacuation ceased ; all the pains disappeared ; and, at the end of twelve fumigations, he took leave of me in good health. After having passed so many miserable years, his cure appeared a miracle, and created the greatest sensation in the country.”†

CASE IX.

“ A man, aged forty six years, labouring under exostosis of the right tibia, very extensive and smooth, which commenced about eight years ago, by a small elastic tumour ; with very violent pain during the night, in the articulation of the hip, and in the tibia ; but free, however, from fever. He had, ten years ago, a gonorrhœa, without any other venereal symptom ; took in vain many remedies, and various preparations of mercury. Notwithstanding the equivocal nature of his disease, I submitted him to fumigation, as if to a touch-stone, and because all other remedies had failed. This system of treatment, commenced on the 15th, and interrupted on the 30th of December, restored sleep at the third sitting, and the exostosis itself appeared to diminish. These fumigations produced a considerable eruption, fever and watchfulness ; but these symptoms soon disappeared. Notwithstanding the great relief which this patient derived from the first fumigations, and the

† “Lettre de M. le Docteur Grantzow, &c”.

diminution of the exostosis, he left Vienna, and went to the country, from whence I have not heard from him."†

CASE X.

"A military man, who had venereal diseases when in the army, which were badly attended to, felt, in the afternoon, and at night, for more than seven years, pains in the right tibia ; the anterior part of which formed an elevated exostosis. His physician being upon the point of recommencing mercury, I consented to administer to him some fumigations, as it were, explorative or preparatory. To our great astonishment, the pains disappeared and sleep returned after the first fumigation. He took five of them in succession. The employment of muriate of mercury, during fifteen days, sufficed to dissipate the exostosis. He has married since his cure, and continues to enjoy good health. This remarkable result merits the serious attention of practitioners."*

CASE XI.

"Alexander B. aged fifty years, a native of Wausert, residing at Givet, a sailor by profession, born of robust parents, who died at a very advanced age,—

Contracted, in the year 1810, a syphilitic affection, which resisted an apparently very judicious mode of treatment. The first means employed

† De Carro, op. cit. p. 95. * De Carro, op. cit. p. 66.

were blood-letting from the arm ; then frictions which quickly caused salivation, apthæ of the throat, &c. then sudorific drinks, and other appropriate remedies, which produced no effect."

"The patient attributed this want of success to the negligent manner, in which he attended to the regimen prescribed ; and to excessive drinking, of which his profession furnished him frequent opportunities."

"Be this as it may, in 1811, his face, his shoulders, and some other parts of his body, the loins more particularly, became covered with humid darts, attended by a whitish and thick discharge. He was treated without success, during two years, by a Dutch physician ; and the disease gained ground. Discouraged by the inefficacy of the remedies employed, by the inutility of an issue in the right arm, and of a seton in the neck, the patient confined himself to sudorific drinks, and domestic baths, which he took frequently."

"Nevertheless, the darts made frightful progress ; they had already affected all the external surface of the head ; and caused such ravages, that the left eye was soon entirely lost, and the right eye strongly threatened."

"Such was the deplorable state of this patient, when he presented himself to me, on the 16th of September, 1817. Not doubting but that inveterate ill-treated syphilis was the principal cause or a complication of the darts disease, I immediately submitted him to sulphureous fumigations, to

prepare him for the treatment which the syphilitic disease required."

"After the first fumigations, derangement of the digestive organs, with feebleness, general lassitude, and loss of appetite occurred, which promptly yielded to the evacuations I prescribed. Since this, the fumigations have not been interrupted."

"The dartres, which occupied the shoulders, the back, and the loins, were entirely removed after the twentieth fumigation. Those that occupied the surface of the head, which had destroyed the left eye and severely affected the right eye, as well as those on the arms, resisted the treatment for a longer time; nevertheless, after the fortieth fumigation, the right eye was no longer in danger, and the skin insensibly whitened itself and resumed its natural state."

"The treatment of this patient was observed during two months, by Doctor Picouline, of the Russian court, an eminently learned man. The patient had been seen, before the treatment by M. Roux, Dean of the faculty of Paris, by Doctors Dupuytren, Bouillon-la-grange, Demangeon, Tartra, &c. and was shewn to them on the 15th of last November, two months exactly from the commencement of the treatment, in a state of perfect health; having the right eye well, and the skin of the body and of the arms perfectly smooth and white."

"Thus, therefore, in the space of two months, by the assistance of seventy five sulphureous fumigations, and of depurative sirup, with the addi-

tion of muriate of mercury, in the dose of sixteen grains to two pints of the sirup, (in all, eight pounds of sirup, and sixty four grains of the muriate of mercury,) syphilitic dartres have entirely disappeared, which, for seven years, had resisted all modes of treatment."

Galès, D. M. P.

"*Note, by the Editor of the Gazette* (Doctor Montégre, Physician to the Government.) I have examined the man in question, since his cure, and am able to compare his actual state with that, in which he was two months and a half ago. M. Galés, before submitting him to treatment, caused a representation of his horrible appearance to be drawn. It is very easy, even at present, to observe in the enormous and numerous cicatrixes, with which this unfortunate man had his entire body covered, the ravages the disease had produced. I testify, that I never saw an example of so remarkable a cure, and this is the motive which induces me to have frequent recourse to the employment of sulphureous fumigations; by the assistance of which, results are obtained, in some sort miraculous, precisely in the cases in which all other remedies almost constantly fail."*

CASE XII.

"M. L. aged forty-five, of a bilious temperament, of a strong constitution, second lieutenant in the first regiment of light infantry, had for ten years a darts eruption, which was one of the causes of his giving up a military life. This her-

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petic affection was characterized by patches of a lively red colour, spread over all the body, covered with thin scales, capable of being easily removed in some places, but very adherent in others. There was no exudation from these dartsous surfaces ; an intolerable itching occurred regularly every evening, just when the patient was going to bed ; the internal functions were not affected ; the appetite was good—the digestion easy ; sleep came on an hour after lying down, and continued all the night, without interruption.”

“This patient was submitted, on the 9th of August, to sulphureous fumigations ; no advantage resulted from the eight first ; but, after the tenth, the scales began to separate themselves with facility, and the itching diminished. His amelioration remained stationary until the *ninetieth* fumigation : then the desquamation renewed itself in abundance, the itchings totally ceased ; every thing foretold that a perfect cure was at hand ; but this hope was suspended by the return of the itching, and the formation of new scales. The fumigations were continued : after the *one hundred and fortieth*, the dartsous patches became paler, the pellicles began to peel off, and the itchings ceased. The fumigations were continued even until the *one hundred and sixtieth*, when the cure was completed. This patient was examined many times by M. M. Leroux, and Hallé who have certified the good state of his health.”*

* “Observations de plusieurs espèces de dartres guéries par les Fumigations sulphureuses, reçues par M. Docteur la Roche.” In “Mémoire par J. C. Galés,” &c.

CASE XIII.

“ A man, forty years of age, of a strong and vigorous constitution, large and well made, having now and then some wandering rheumatic pains, and a dartrous eruption, consisting of an infinite number of small distinct spots upon the chest, the shoulders, the left arm-pit, and the thigh, near the scrotum, attributed this eruption to the extirpation of two wens of the size of pidgeons eggs, seated on the cranium. These dartres, which had existed for three years, appeared at least immediately after the operation. On the 24th of July, he commenced the use of fumigations. After the three first, which produced abundant perspiration, an abscess formed in the arm pit, affected with dartres. Great inclination to sleep—diminished appetite and augmented thirst. I hoped that the matter, which escaped from this abscess, might produce a salutary evacuation; but, after six fumigations, the dartres became redder and more humid. This patient took *thirty nine* with perseverance, and would have continued them if I had wished; but, observing that, without permanent amendment, the dartres became dry, and reappeared with new violence, in consultation with his physician, I left off this mode of treatment the 17th of September; and, although the patient did not recollect having had any venereal affection, nor the dartres, the appearances peculiar to affections of this kind, we prescribed for him the internal use of muriate of mercury, joined with a proper regi-

men, which has produced no effect. He has since taken, with equal perseverance, and in large doses, a drink of diluted nitrous acid, and we inserted an issue in each arm. These remedies have ameliorated his state a little, without producing a cure. His vigorous constitution has not suffered from these different systems of treatment.”†

CASE XIV.

“A man aged sixty four years, afflicted for six months with a scaly darts on the neck, in the ham, and with a thick tinea upon the head—scorbutic disposition of his gums, common to many individuals of his family, and augmented by his taste for salt and smoked aliment—his father, and his grandfather, although they arrived at an advanced age, have had darts, and his younger brother has laboured under them for ten years—finally his health good, excepting a peculiar disposition to catch cold ever since the appearance of the eruption—took many remedies, mercurials and others, and had issues in both arms. On the first of September he commenced the use of fumigations, of which he took twenty eight without any effect. Although he never had any thing but gonorrhœa in his youth, and although this disease had not a syphilitic appearance, his physician, in consultation with me, again prescribed for him the alterative pill of Plummer, and an ointment, composed of the powder of laurel berries, of flower of

† De Carro loc. cit. p. 58.

sulphur, and of white præcipated mercury, to be applied upon the dartres of the neck and upon the tinea. These remedies cured this patient entirely in the space of from three to four weeks. Is this cure the effect of this treatment alone? Have the fumigations prepared him for it? Have they not had an influence a long time after their administration, as is sometimes observed after the use of sulphureous baths? Be it as it may, it is certain that the mercurials, if they produced a cure after the fumigations, were found to be inert before them.”*

CASE XV.

“A, aged seventeen years, labouring under scabies for one month, was cured by five fumigations, one being given every day.”

“The rapidity of the treatment in no way influenced the solidity of the cure. He was examined a month after his last fumigation : he had no pustule or vesicle of scabies, nor any complaint which could depend on the disease or on the treatment.”

CASE XVI.

“Manguet, a soldier, aged nineteen years, had general scabies for three weeks, which produced great itching and deprived him of sleep.”

“On the 20th of April he began to receive fumigations, which were continued to the number of sixteen. The fifth of May he was completely cured, after eight day’s treatment.”

* De Carro, loc. cit.—pp. 67, 8.

CASE XVII.

M, aged thirty three years, Faubourg St. Dennis, had a darts eruption of the chin, covered with crusts. He had been submitted to various kinds of internal and external treatment, without any advantage."

"He was treated by eight general fumigations, and five local: each of the last continued half an hour: he was entirely cured."*

CASE XVIII.

"A man aged thirty one years, of a delicate chest, who supports with difficulty the exercise of a horse, which his state of health obliges him to use, had, for five years, hepatic marks or stains, (commonly called *chaleurs du foie*) which commenced by small yellow points on the shoulder, and extended over the whole chest, back, and arms. A year ago he took warm baths, which he believed to be sulphureous, and for a month they administered to him, without any sufficient reason, mercurial frictions, which he did not use for the last six weeks. As Dr. Galés does not give any case of hepatic marks treated by fumigation, and as for the most part the theory of this disease is very obscure, I did not know what prognosis to give. Convinced of the innocence, if not of the efficacy of sulphureous vapour in this case, and the patient testifying the greatest desire to be delivered from this affection of the skin, I consented to make trial

* The authenticity of the three preceding cases is certified by the French Medical Jury.—See "Memoire par J.C. Galés," &c,

of it. He took ten fumigations from the 12th to the 22d of November. During the first, these stains, which were yellow on entering into the apparatus, were of bright red on coming out. The perspiration, foul at the commencement, daily became more natural. The stains of the chest first became pale and gradually disappeared; afterwards those of the back; and, at the end of ten sittings, the slightest vestige of them could not be observed. This case is so much the more remarkable; as, notwithstanding the debility of his thorax, and the imprudence with which, in opposition to my exhortations, this patient went out after each fumigation, thinly clothed, and without a great coat, in the middle of winter, his chest has not suffered. You shall afterwards see that sulphureous fumigations may be considered as a specific against hepatic marks."

"I have not as yet had occasion to ascertain whether sulphureous acid gas produces the same effect upon freckles (*taches de Rousseur.*) An Hungarian physician, to whom I sent a fumigating apparatus, has informed me, that he thus succeeded in curing this disease of the skin of the face."*

CASE XIX.

"M. C. aged sixty four, affected for many years with violent itching of the whole body, and tormented for a long time with vermin, depending either on want of attention to cleanliness or on disease, was in a state of general decay in conse-

* De Carro, loc. cit. p. 85.

quence of continued loss of sleep. This inveterate disease, although the patient was in very unfavourable circumstances, has been radically cured by seven fumigations. The debility of the patient did not permit me to administer more than one daily.”*

CASE XX.

“G.V. aged seventeen, had, from the time he was five years old, an eruption resembling scabies. It caused violent itchings, particularly when the weather was cold, very warm, or changeable. This eruption, very thick over all the body, had never attacked either the feet or the hands. The disease had been treated in vain by sulphureous baths, frictions, and other remedies.

The patient received the first fumigation on the 15th of April; at the ninth fumigation, the itching had ceased, and the appetite and sleep had returned. On the 30th of April, he took his eleventh fumigation; and, though all the symptoms of the disease had disappeared, to render more certain the cure of so old an affection, we have continued even to this moment (17th May) to administer to him some fumigations. He has now got thirty.”*

CASE XXI.

“A man aged fifty two, having for fifteen years large darts, sometimes humid, at other times dry,

* These are two of the cases, which were submitted to experiment by the Medical Jury—See pages 50, 54 of the “Mémoire par J. C. Galés, &c.”

which caused great itching, and occupied the palm of the left hand, the fold of the right arm, the ankle of the left foot, and have destroyed a part of the nails of the little finger of the left hand, and of the foot of the same side; in other respects in perfect health; after having employed all imaginable remedies, took, from the twenty eighth of July to the twentieth of August, twenty fumigations, which occasioned abundant perspirations. The consequences that have resulted from this treatment are, that his articulations have acquired great suppleness; that the dartres of the body have disappeared; that the palm of the hand is softer, smoother, and entirely natural; that the two nails have returned to their primitive state; and that this amelioration continues to the present time. This patient has just terminated taking ten fumigations, between the sixteenth of June and the eighth of July, 1818, more from prudence than necessity.”*

CASE XXII.

“A man aged twenty three years, of a very bilious temperament, has had, for a year, the face, the ankles, and almost all the body, covered with dartres, occasionally dry, frequently humid, which prevented him from opening his eyes; his legs were œdematous; and he had taken, without success, many remedies, mercurials, baths of Baden, &c. The itching, before insupportable, almost ceased after the first fumigation, 18th of August,

* De Carro, p. 84.

and restored to him sleep, of which he had been deprived for a long time. It vanished at the second sitting—Remarkable amelioration after three fumigations—Continued amendment—Almost cured on the 9th of September. On the 19th of October, some small crusts having again appeared upon the face only, he took six fumigations, one every second day, which caused these crusts again to disappear. On the 19th of June, there were neither crusts nor scales. There did not remain of this frightful dartres any thing except a redness of the forehead, which appeared, when his hat heated it, but without eruption.*”

CASE XXIII.

“ A man aged *seventy years*, fat, very short neck, in other respects in good health, had, for a year and half, upon the arms and thighs, herpetic crusts, which covered purulent matter, rendered the feet œdematous, and produced great torture by the pains, itching, and loss of sleep, which they caused. The disease had commenced behind the ears, and on other parts of the head, and had been dissipated by baths of oak bark. He had taken but few remedies. Fourteen fumigations during sixteen days, were sufficient to cure him entirely. When he left town for the country, his skin was almost natural. I have learned since, that he continues to enjoy the best health.”†

* De Carro, p. 64.

† De Carro, pp. 69, 70.

CASE XXIV.

“A boy aged twelve years, afflicted since his sixth year with humid dartres and ulcers on his body, was deprived of the benefit of public instruction, in consequence of the offensive odour which exhaled itself around him. Many physicians had lavished on him their care, and exhausted in vain the resources of art. The ulcers extended from the ears over all the face, and formed crusts, which cracking here and there poured out a foetid matter. The eyes and the cheeks of this unfortunate boy, tormented by an insupportable itching, had an hideous aspect. He commenced the use of fumigations in the month of October, 1817; and, in the month of November, by a continuance of this treatment, he could frequent school. His cure was completed; and, although the spring ordinarily favours the return of such eruptions, we have not perceived, even to this moment (May, 1818), the slightest vestige of the disease.”*

CASE XXV.

A man aged forty two, of an irritable habit, leading a laborious and sedentary life, had been subject, for nine years, to a scaly dartres on the scrotum, and on the upper and internal part of the thighs. After the third fumigation, that red papillary eruption, which the waters of Baden and other sulphureous baths often produce, appeared on the entire of his body and caused great itching. The dartres, much ameliorated after

* “Notice des médecins de Presbourg, Mai, 1818.”

six fumigations with abundant sweats, disappeared at the end of twelve ; but, to complete his cure, he took in all sixteen. After returning to the country, being shown to the physicians who had, without success, attended him before his departure for Vienna, they were induced to send to me for a fumigating apparatus.”*

CASE XXVI.

“F. V. aged nineteen years, having tinea which occupied all the hairy scalp, and the crusts of which were of a pale yellow colour, thick, and diffused around a very unpleasant odour.”

“He was submitted to treatment on the 28th of April. Being examined after four fumigations, the crusts were found depressed, thin, dry, and whitish ; the unpleasant odour was diminished ; sleep and appetite had returned. His face, formerly shrivelled, had become expanded, serene, and much better looking.”

“From this time the fumigations have been continued ; the greater part of the hairy scalp has a rosy colour ; and there is no longer any point in suppuration, except towards the inferior part of the occiput. The treatment of this patient shall be continued for some time.”†

On the foregoing cases I shall only remark that, in selecting them from those which have been

* De Carro, loc. cit.—p. 62.

† This is the case of tinea alluded to in the report of the Medical Jury, &c.

published by the Continental physicians, my sole object was to present to the reader such data as might enable him to form a just estimate of the value and importance of sulphureous fumigations. I have therefore cautiously avoided all such cases as might be considered of doubtful authenticity ; whether in consequence of the authors by whom they are recorded, or in consequence of the extraordinary, and indeed almost incredible success that on some occasions appears to have attended this practice.

By the cases here presented to the reader, it will be observed, that, although sulphureous fumigation is always a most powerful and often an invaluable remedy, it is by no means on all occasions equally beneficial, even where it appears to be clearly indicated and rationally employed ;*—that, although its salutary influence is, in general, remarkably rapid, on other occasions long perseverance will be required ;† and that frequently the only advantage that can be derived from its application, is as an assistant to other remedies, or to prepare the system for their influence.‡

On the whole, with the preceding body of evidence before him, testified by the very first Continental practitioners, the reader will, I think, fully assent to the present application of the following passage, which occurs towards the conclusion of Dr. De Carro's Observations. " After reading the facts which I have collected in this work, an uncommon degree of incredulity, it appears to me, would be

* See case xiii. † See case xii. ‡ See case xiv.

necessary to induce one to doubt the efficacy of sulphureous fumigation, in diseases for which they are indicated :” and he will not wonder, that, acquainted with *many* of these facts,* I should have been desirous, even at very considerable expence and trouble, when our institution was established, to give the remedy a fair trial ; and that, on finding, by experience, it was deserving of confidence, I should be now anxious to promote its extensive application.

In expectation that the documents brought forward will be sufficient to recommend a trial of the practice of fumigation, it will, perhaps, be useful to make such general observations as may be deemed necessary to enable others to direct the application of the remedy ; and to assist them in selecting such cases as are likely to be benefited by this mode of treatment. At the same time, the reader is requested to bear in mind, that the object of these *hasty* observations is solely to rouse the attention of the profession to a remedy, which has been so strongly recommended ; and not to communicate the results of my own investigations respecting its utility, which is indeed, *at present*, purposely avoided, as much as a sincere desire to bring the subject into notice would permit.

To enable a practitioner to give this remedy a fair and rational trial, he must, first,

* The Author had commenced his investigations on this subject, before the work of Dr. De Carro was published.

pay the greatest attention to the selection of appropriate cases ; secondly, be provided with a *perfect apparatus* ; thirdly, judiciously attend to the medical treatment of every case that requires it, before the patient enters on the employment of fumigation, while under its influence, and after it has terminated. It would indeed be both unwise and unjust to form any conclusions on the subject, without strict attention to the foregoing circumstances.

We know, it not unfrequently happens, that a method of cure, of the first importance, falls into disrepute, in consequence of the ignorance and indiscretion of those, by whom it is used and recommended. A valuable remedy is no sooner discovered, than, with the blindest confidence, it is applied by the ignorant and credulous, without caution or discrimination, not only in every variety of that disease, for which it was first recommended, but also in other affections, in which it is not merely useless, but highly prejudicial and frequently dangerous. Hence it ceases to be used, as well in those affections, in which it might be resorted to with the greatest success, as in those to which it is not applicable.

It is sincerely to be hoped, that such will not be the lot of the practice of fumigation. Far better would it be for mankind, that it had never been introduced, than that it should be thus indiscriminately employed ; for assuredly much evil will, in consequence, inevitably follow.

The danger of its misapplication was fully anticipated by the learned and judicious advocate of the practice of fumigation on the Continent.

“A fumigatory,” says Dr. De Carro, “should never be conducted or directed, except by a judicious and enlightened physician; since it affords a most powerful remedy, the imprudent employment of which might be most injurious. Moreover, the physician ought to be firm and disinterested, so as to know how to resist the frequent instances which occur of patients wishing to use it in diseases to which it is not applicable.” In another part of his essay, he observes, “You shall see, from the complicated nature of the diseases which I have treated, the difficulty presented by their diagnosis and the prudence required in their treatment. Indeed I do not hesitate to say, that it is in opposition to *good medical police*, to permit a fumigatory to be directed by any other than by an enlightened physician.” Dr. De Carro continues, “What are we therefore to think of a practitioner, in other respects learned and distinguished, who has imagined to add to the apparatus established in his own dwelling, at Naples, the country of sulphureous exhalations, portable fumigating boxes, which he offers *to hire out, by the day, with or without his assistance!!* As well might he wish to abandon to patients themselves the employment of blood-letting, of mercury, of opium”!! And thus concludes, “A fumigating apparatus is not an instrument which can be employed without the direction of an experienced physician; and we should take the greatest care of comparing it with a bathing tub, which one

might use, according to ones pleasure, or under the superintendance of a director of baths.”*

It is evident, that it would be impossible for me to mention, in any other than very general terms, the kinds of disease in which these fumigations may be employed with well-grounded expectations of success. Even if I extended these observations far beyond the proposed limits, it would not be in my power to lay down such rules as would apply to every case. How then attempt, in these few pages, to communicate any thing like particular directions? Here, as on all other occasions, every thing must be left to the discretion of the cautious and well-informed practitioner, who should ever hold in his recollection, that it is a powerful remedy, whose employment requires the greatest judgment and discretion; and I will not fear to say, that if, with a knowledge of the almost self evident effects which the remedy is capable of producing on the animal economy, he will take the trouble of using, as his guide, the rational and well known principles of pathology, he will seldom or ever err in its application.

It is in chronic diseases, that we shall principally derive benefit from sulphureous fumigations; and more particularly in such as, although produced by internal causes, have become purely local, persisting after the cause that produced them has been removed.

When local disease is connected with great in-

* De Carro, op. cit. p. 28.

ternal disorder, I would be cautious in having recourse to this remedy. But here we must accurately distinguish, whether the internal disease has caused the local, or whether the latter be not the cause of the former. We know full well the powerful influence of internal disorder, in causing and supporting external disease; and the influence of external disease, in producing internal disorder, is scarcely less remarkable.

If the internal disorder should be the consequence of the irritation of the local disease, then we may attack the local disease with every prospect, not only of removing it, but also the internal derangement resulting from it; but, should the contrary be the case, we must either depend solely for a cure on the treatment of the internal disorder, or we must, at least, take it into serious consideration and always keep it in view.

The state of the local disease also must be taken into consideration, before the employment of fumigation, as much as its connexion with internal disorder. I am at present of opinion, that fumigation is a proper remedy only, when the local affection is chronic, and not accompanied by any thing like acute inflammation.

Sulphureous fumigations may, therefore, be employed in almost all chronic diseases of the surface and of the extremities, which are either unconnected with internal disorder, or which, if so connected, are the cause of it, and not the effect. They may also be frequently used in cases of local disease, which have been caused by,

and which are still connected with internal derangement ; provided great attention be paid to the medical treatment of the internal affection, in conjunction with the employment of fumigation.

It is principally in chronic rheumatism and gout, in chronic diseases of the skin, and in various pseudo-syphilitic* affections, that these fumigations have been as yet used, on the Continent, with decided advantage ; and it is known to every practitioner, that, of all the chronic diseases to which we are subject, there are none, perhaps, on which the remedies previously in use have often a less beneficial effect. How much then are the powers of the physician encreased by the accession of this new instrument of relief, and how zealous should he be in hastening to apply it to the benefit of suffering humanity !

From a very extensive experience, I can strongly recommend the employment of sulphureous fumigations in a very large proportion of chronic cutaneous diseases: for example in almost all cases of *prurigo*, of *lepra*, of *ichthiosis*, *pityriasis*, *morbus pediculosus*, in several forms of *porrigo* or *tinea* ; in all cases of *scabies* ; in many examples of *sycosis*, *lupus*, and *ephelis* ; and, in conjunction with other remedies, in *pompholyx*, *impetigo*, *ecthyma* and *rupia*. If fumigations should ever be used in cutaneous affections of a more or less acute type, it must be with the greatest caution and cir-

* This term is used for want of a better.

cumspection ; as, for example, in *rubeola*, *scarlatina*, *urticaria*, *roseola*, *erysipelas*, *pemphigus*, *variola*, *herpes*, *miliaria*, *eczema*, *lichen*, *strophulus*, *purpura*, or even in *erythema*, *furunculus*, *anthrax*, &c. which, however, are fortunately those most under the influence of other remedies and the salutary actions of the economy.

I can also say, that, in innumerable cases of chronic diseases of the articulations, the consequence of gout and rheumatism ; in such chronic diseases of the osseous, fibrous, and synovial systems as are the sequelæ of syphilis and the indiscreet use of mercury ; in almost all chronic diseases of the joints, from whatever cause arising ; in some cases of local palsy ; and in some very chronic tumors and glandular diseases ; sulphureous fumigations, either partial or general, will be found a most valuable remedy. In a large majority of these cases, alone, or combined with proper medical treatment, and with proper attention to circumstances on the part of the patient, they will accomplish a cure, or afford much relief ; and frequently in those very cases, in which other means have been tried in vain.

In consequence of the influence which sulphureous fumigations had in dispersing an extensive œdema of a patient submitted to their operation for the relief of rheumatism, Dr. De Carro was led to propose their employment in cases of dropsy, when the patient possesses sufficient strength, and when there is no reason to suppose the existence of any internal organic disease : for example,

in that form of anasarca, which succeeds to scarlatina and other pyrexiaë.

Two Hungarian physicians, Doctor Szalay, of Stein, and Dr. Bless of Güns, have recommended sulphureous fumigations as possessing peculiar efficacy in chronic diseases, produced by the poisonous influence of lead and arsenic. It is sincerely to be hoped, that the happy results of their experience will be confirmed by that of other practitioners: in the mean time, we are called on to try the influence of sulphureous fumigations in these terrible diseases, which commonly resist all the efforts of art.

I have already observed, that much assistance may be derived from the well directed application of this remedy, in the treatment of those very serious and most obstinate affections, which are produced by the combined influence of mercury and the venereal poison on our economy; and, I am also of opinion, that the symptoms which arise from the slow operation of other mineral poisons, are such as would probably be relieved by sulphureous fumigations.

From what has been said it appears, that sulphureous fumigation is a remedy which claims our most serious attention, not only in consequence of its efficacy in obstinate rheumatic, arthritic, and cutaneous diseases, but from its promising to afford a very powerful and very general agent in the practice of medicine. But, although we have reason to expect from it such general powers, we must, of course, only slowly and

cautiously resort to its application, in those diseases, in which, from analogy, we may conceive it likely to be useful, and carefully avoid considering it, as some of the continental physicians have done, an universal panacea.* It is needless to repeat how unwise such indiscriminate application would be, and how likely to bring the remedy into total disrepute.

There are circumstances connected with the natural as well as the diseased state of the patient, which deserve to be considered. It is probable that here, as on all other occasions, there shall be patients possessed of such peculiar idiosyncracies that the remedy cannot be employed with safety. I have, however, never met with such ; but individual cases occasionally occur requiring certain modifications of temperature, &c. which, with proper attention to circumstances, forms no objection to the administration of this remedy ; and a little practice will enable us to adapt our treatment to the peculiarity of the case.

I am not aware, that age can ever, of itself, form any objection to the employment of sulphureous fumigations. I have ordered them, with the best effect, to children not three years old, and to men and women above seventy ; and have never, in any case, found the slightest inconvenience.

It may be necessary to mention, that I have never ventured on their employment with females,

* See "Essai sur L'Atmidiatrique ou Médecine par les Vapeurs, par T. Rapou, de Lyon, D. M. P."

during their menstrual period, when advanced in pregnancy, or shortly after parturition; and this I have avoided, in consequence of observing the inconvenience which arose, in the practice of some physicians, from inattention to these circumstances.*

Nor is there less attention required in respect to the perfect construction of the apparatus than in the selection of appropriate cases. Indeed, from what I have said, when speaking of the history of the practice of fumigation, the nature of the apparatus must appear of paramount importance; for I have already observed, that the profession is indebted to the friends of the practice of fumigation, rather for their well directed efforts, in constructing an ingenious instrument, than for bringing into notice a remedy, the efficacy of which had been long known, but which, from the want of that instrument, could never be employed to any extent.

If an apparatus be perfect, the practitioner can apply in the form of vapour or gas, and at any temperature, almost any substance, (animal, vegetable, or mineral,) existing in a solid, liquid or gaseous form, to all or any part of the patient's body, without causing any inconvenience or uneasiness to the oldest, the youngest, or the most delicate constitution.

If the most trifling unpleasant odour escapes into the apartment, if there be any difficulty

* See "Archiv für medicinische Erfahrung," &c. or records of medical experience, for May and June, Berlin, 1817, p. 553.

in regulating the temperature of the apparatus, or if there be any uneasiness given to the patient, the inconvenience is always owing to want of attention, or to an imperfection in the instrument.

It is necessary here to observe, that the apparatus, which I am in the habit of using, and which, although constructed according to the principle of that invented by Galés, and improved by M. D'Arcet, (for this indeed must be the principle of all such instruments,) differs from it in many of its parts; and, in my opinion, leaves nothing to be desired.†

The judicious medical treatment of our patient, both before he is submitted to the operation of fumigation, and during its employment, is not less important than the proper construction of the apparatus, and attention to the selection of appropriate cases.

† The principal improvements, which I have made on the apparatus, invented by Dr. Galés, consist in its enabling us, 1st, to apply the vapour to the entire surface, including the scalp and *face*, or to any particular part of the body, head, neck, or limbs; 2dly, to ascertain the progress of the production of perspiration on the surface of the patient; 3dly, to observe his pulse and respiration; 4hly, to regulate the temperature according to the feelings of the patient; 5thly, to give a fumigation without heating the apparatus; 6thly, to convey into the apparatus vapours derived from subjecting certain substances to decoction in a close boiler; 7thly, to extinguish, at any moment, the combustion of sulphur or any substance used in fumigation, in case the patient should wish to come from the apparatus before the process is terminated: all of which will, I presume, be considered valuable improvements.

This medical treatment must, of course, vary according to the nature of the case ; therefore, on this subject also, only very general observations can be made. It will, as has already been remarked, be always necessary to ascertain, whether the disease, for which we wish to employ the remedy, be connected with any internal derangement ; and, if so, the relation which the one bears to the other. If the connexion should be intimate, or the internal disorder appear the cause of the more topical affection, it must always be a serious question, whether we should resort to the treatment of the latter by fumigation, before we do every thing in our power to remove the former. It will, at all events, on every occasion, be absolutely necessary to pay the strictest attention to concomitant internal disorder ; and if, before it be removed, we should enter on the employment of fumigation, it must always be accompanied by appropriate medical treatment. I here feel it quite unnecessary to observe, that, under every circumstance, the strictest attention must be paid to the natural discharge of all the secretions, but more particularly of those of the organs of digestion, as well before entering on, as during the treatment by fumigation. This has been too much neglected by the continental physicians.

I am in the habit of preparing hospital patients, labouring under diseases of the skin, for medicated fumigations, by previously directing one or two watery vapour or fluid baths, for the purpose of clearing the surface ; and, in cases of porrigo, I

take care, that, by the same means, assisted by cataplasms, or by a mixture of ol: olivar: and ag: kali, all the crusts are previously removed. In private practice, such precursory treatment is seldom required; as, in consequence of the attention paid to cleanliness, the surface is already in a state of preparation.

The truth and importance of these observations will perhaps become more evident, and their influence more forcible, if I inform the reader, that, from the inattention of some practitioners to these circumstances, when the remedy first came into notice on the Continent, the inconvenience attending its application and the unfavourable results obtained were such, that they had nearly the effect of bringing the practice into general discredit; and of thus depriving mankind of the benefit of one of the greatest modern improvements in the treatment of chronic disease.

Not long after the importance of the practice had been promulgated in France, and even before Dr. De Carro established his fumigatory at Vienna, Dr. Horn, physician to the Hôpital de la Charité, of Berlin, commenced a set of experiments respecting the influence of sulphureous fumigations in the treatment of several diseases.

The researches of this physician, in consequence of the imperfect construction of his apparatus, and the incautious and indiscreet selection of cases, were so unfavourable to the practice, as to induce him to give up its employment; and, as he was a physician of some celebrity, his repor

had so powerful and so general an influence, that, had it not been for the zeal of Dr. De Carro, perhaps, at this moment, the employment of fumigation would not exist beyond the boundaries of the country in which it originated.*

The exertions, however, of Dr. De Carro were sufficient, not only to remove the injurious consequences of Dr. Horn's report on other physicians, but, as I am informed, even to convince Dr. Horn himself, that his want of success might be owing, rather to the improper application of the remedy, than to its want of efficacy; and to induce him to give it a second trial, which led him to a knowledge of the inaccuracy of his conclusions, and to become a zealous advocate for the practice of fumigation.

If, therefore, the want of the minute attentions of a judicious physician to every circumstance connected with the practice of fumigation, was likely to have been fatal to the further employment of the remedy, how much more reason have we to fear the consequences, which may arise, if it should fall into the hands of such as have not medical skill to direct its application; or who, from inordinate credulity, not to mention a more unworthy motive, may be induced to recommend or resort to it in cases, where it is by no means indicated, and where its employment may be attended with serious consequences.

* " *Archiv für medicinische Erfahrung* " Berlin, 1817

It is therefore sincerely to be hoped, that no one will pronounce a judgment on the practice of fumigation, without paying that attention, which is absolutely necessary, to the selection of cases, and to their medical treatment; and without having tried it fairly with the assistance of a properly constructed apparatus.

While I wish, by these observations, to impress on the reader the necessity of paying the strictest attention to the selection of cases, to their medical treatment, and to the construction of the instrument, I by no means wish to lead him to suppose, that there is any extraordinary difficulty in conducting the practice of fumigation, or in constructing the apparatus; but merely to caution him against that careless application of the remedy, and that empirical extension of it to cases, to which it is not adapted, and which would not fail to bring the practice into disrepute.

After having chosen a case for fumigation, and having paid the requisite attention to previous medical treatment, &c. the next object to be regarded is the operation itself: and here it must be held in recollection, that "*the greatest care, cleanliness, and exactitude in the employment of fumigations, are absolutely necessary to their success.*" The patient is subjected to an operation very different indeed from that of a bath, which can be administered by the rudest attendant. To regulate the temperature, the circulation of air in the apparatus, and to adapt the application of the vapour to

the exigencies of various cases, requires a degree of intelligence not easily found; and, without proper attention, we shall not only uniformly fail, but also give much unnecessary distress to the patient.*

The temperature of the apparatus should be such as, without creating uncomfortable feelings, will cause a copious flow of perspiration, about ten or fifteen minutes after the patient has entered the apparatus; and, as very different degrees of heat will be required for this purpose, dependent on the various circumstances of sex, age, temperament, or disease, no very determined rule can be laid down. For the most part, I have found a range from 100° to 120° of F° necessary. Sometimes however, a lower temperature has answered the purpose; and, not unfrequently, patients have expressed themselves better pleased with one much higher.

In general, when the patient has been in the apparatus about ten or fifteen minutes, we remark his face to become red, his eyes brilliant and more prominent, his pupils much dilated, the capillaries of the conjunctiva injected with red blood, and all the appearance of a high degree of excitement. This is soon followed by an effusion of perspiration; first in minute points, afterwards in larger drops, and, in some cases, it becomes so profuse as to trickle in a large quantity down the cheeks.

* For the minute details respecting the operation of fumigation, see Appendix.

If the surface of the patient, which is inclosed in the apparatus, be now examined through one of the openings, it feels remarkably warm, and bathed in perspiration; which communicates to the hand a peculiar sensation, not of an oily nature, but astringent, almost as if we immersed our hands in a solution of sulphate of alumen. No doubt this is owing to the deposition of the sulphureous acid on the skin, and its combination with the secretion from the surface. At the same time, the pulse and respiration are a little accelerated; subject, however, to considerable variety, and the former feels full and strong.

For the most part, when the patient has remained in the apparatus about thirty minutes, (the medium time for adults,) his situation becomes irksome, and he desires to come out. To these sensations we should particularly attend, as they will afford the best principle to regulate the period of fumigation.

In some very rare instances, a feeling of debility, of vertigo, and of sickness comes on, while the patient is in the apparatus. This is, however, as I have mentioned, extremely rare; and seldom advances to such an extent as to cause an interruption to the operation. It should, nevertheless, be attended to. If likely to arrive at a serious height, the fumigation must be terminated; and, when repeated, the patient must be kept a shorter time in the apparatus.

When the operation is terminated, and that we have an opportunity of inspecting the surface of

the patient, the vascularity of the skin is found to be extremely increased ; for not only are all the cutaneous capillaries, but also the superficial veins, particularly those of the extremities, distended with blood. The degree of this determination to the surface is nevertheless so subject to variety, dependent partly on the constitution, age, and disease of the patient, and partly on the temperature of the apparatus, and the quantity of sulphureous acid disengaged, that, while, on some occasions, the skin is as red as scarlet, on others, we do not observe more than a general faint blush.

The quantity of fluid discharged from the skin, for the most part, creates greater astonishment than the redness of the surface ; for the skin is not merely covered with general moisture, but oftentimes the seat and the bottom of the apparatus are perfectly wet with the fluid, that has dropped from the patient during the operation.

This discharge from the surface, and the general and excessive excitement, are sometimes followed by a momentary feeling of exhaustion ; but, on other occasions, the excitement produced appears to continue for hours, accompanied by a high complexion and vivacity of countenance, and gradually to go off without any feelings of debility or langour succeeding. Even in those cases, where this feeling of exhaustion is most remarkable, it generally ceases before the patient is dressed.

The continental physicians are in the habit of causing their patients to recline on a bed or couch, for half an hour or an hour, after each operation,

and before they are dressed. This, on some occasions, as when a temporary debility is produced, will be necessary. In the majority of cases, however, it is not required; and indeed I am of opinion, that sometimes an opposite practice would be more beneficial: viz, immediately to dress and take some gentle exercise, if the weather permits, on foot, or on horseback.

There are certain effects, besides those that have been mentioned, produced by the operation of sulphureous fumigations, and independent of their influence on the disease, for which they are administered; with these it is necessary to be acquainted.

It occasionally happens, that patients, until they are in some measure accustomed to the operation, complain of slight vertigo, watchfulness, and diminution of appetite. These symptoms, however, are, for the most part, owing to the temperature not having been adapted, with sufficient accuracy, to the particular case, (which indeed is, on many occasions, nearly impossible, until the nature of the patient's constitution is in some measure known,) and cease to be observed, after the two or three first fumigations.

On some very rare occasions however, these effects do not terminate so hastily; but, persisting and increasing, cause so great a degree of vertigo, watchfulness, nervous excitement, and derangement of the stomach and bowels, as requires a suspension of the treatment, and the exhibition of remedies directed to the relief of the diges-

tive organs. With this attention, however, these symptoms disappear; and afford no objection to the cautious repetition of the operation.

Frequently, however, a very opposite effect, even from the first fumigation, is observed, the appetite of the patient is improved, his rest becomes more tranquil and more profound, his alvine discharges more copious and regular, and a diminution takes place of any nervous excitement, that may have existed.

Perhaps the most remarkable effect, observed to arise from the operation of sulphureous fumigation, is that of its causing, in some cases, a general desquamation of the cuticle, and in others, a peculiar papular eruption.

The degree of this desquamation, and the period of its occurrence, are subject to innumerable varieties. It will sometimes begin to take place, when the patient has been submitted to the influence of the fumigation only two or three times; and, on other occasions, it does not occur, for even many weeks, after the treatment by fumigation has terminated: proving beyond a doubt, that these fumigations continue to influence and modify our organic actions, long after they have ceased to be used; and affording an explanation of this extraordinary fact, *that, occasionally their beneficial influence on the disease, for which they were administered, is not observed until some time after they have been discontinued.*

This desquamation, although, on some occasions, very remarkable, on others is so trifling, as almost to escape observation. I have never

seen it produce any inconvenience to the patient, nor cause an interruption of the treatment. On the contrary, I have always hailed it as an almost certain mark of the beneficial influence of fumigation on the economy.

The papular eruption, which is sometimes the effect of sulphureous fumigation, bears considerable analogy to that called the Bath eruption, which is an occasional consequence of the employment of the natural sulphureous baths ; and, although it occasionally interrupts the process of fumigation for a few days, it is scarcely of a more serious consequence than the sulphureous desquamation.

This eruption, as already mentioned, is of the papular form. It comes on during the progress of treatment, but at very uncertain periods. Sometimes it is general, but more frequently confined to the upper part of the trunk and arms. It is accompanied by some febrile excitement, and by smarting and itching ; it rarely continues many days ; and always terminates by desquamation.

The occurrence of this eruption will sometimes cause an interruption to the treatment by fumigation, but seldom for a longer period than two or three days ; for, almost immediately on the suspension of this process, it begins to fade, so that the only remedy required, is a cessation of the cause that produced it, and the administration of a gentle laxative. As soon as the eruption has entirely disappeared, we may again enter on the use of fumigation, with increased rather than dimi-

nished hopes of being able to effect the cure of our patient.

In the course of our employment of this remedy, we shall occasionally be much disappointed. Cases, in which it is clearly indicated, and in which, from experience in others closely resembling them, we might have every reason to presume on its efficacy, will resist its operation.* Occasionally, when we conceive, that a cure is almost accomplished, our hopes are dashed and disappointed, and an aggravation, at least of a temporary nature, of all the symptoms, occur.† Sometimes, also, its beneficial effects, although certain and progressive, are remarkably slow.‡

These are, however, consequences, which we should expect, and which we are in the habit of daily remarking in the administration of our most valuable remedies: they only argue our imperfect knowledge of the operations of the animal economy, and should never induce us to form an unfavourable opinion of the general efficacy of a remedy. We must hold in recollection, that it is by the influence of sulphureous fumigation on a large proportion of cases, that we are to estimate its value, and not, by its operation on a few solitary examples. Its occasional failure in cases, in which it appears to be indicated, should only make us more distrustful of ourselves, and more careful in its application.

It is, in certain instances, a difficult matter to

* See case xiii. † See case xii. ‡ See case xii.

know, whether we should persevere in or give up the employment of this remedy. In general I have regulated my conduct on this subject by the following principles. If, after a few applications, the disease is, instead of being benefited, rendered rather worse, it will, for the most part, be useless to persevere. But, even on such occasions, there is some caution required; for I have observed patients, whose diseases were at first rather aggravated, after a time, rapidly cured by its operation.

If the application of the remedy can be continued, without any aggravation of the disease, I would uniformly on such occasions, persevere for a considerable time; because, it will sometimes produce a cure, although, for a long while, it may have had no sensible influence on the disease. What is also of much importance to be recollected, it will, occasionally, if unable to remove the disease, render it susceptible of being cured by medicines, which had no power over it before the employment of fumigation.*

Hitherto I have avoided alluding to any other fumigations than those of sulphureous acid. This, however, must not lead the reader to infer, that I do not consider them of paramount importance; but because I am of opinion, that the observations, which *have been of late published*, respecting the efficacy of other medicated vapours, applied to the surface, are very far from being satisfactory.

* See case xiv.

I have thus endeavoured, by bringing under review a short history of the origin and progress of the practice of fumigation, to afford such data as may enable the reader to form his own opinion respecting the advantages, which are likely to be derived from its general introduction.

Should these pages have the effect of promoting the establishment, at the various Hospitals and other charitable institutions in this country, of apparatuses for the application of medicine, in the form of vapour, to the surface, &c. and lead to their use in private practice, the object I have proposed to myself will be accomplished; and I shall enjoy the gratification of having, in some measure, contributed to the general introduction of an improvement, which I feel certain will be found to be one of the greatest importance in the practice of medicine and surgery; as well from its affording a new and efficacious mode of treating many diseases, which have hitherto resisted all known remedies, as from the great economy which must accrue, in the expenditure of Hospitals, from its employment; both by hastening the cure of patients and consequently diminishing the period of their continuance in such institutions, and by causing a very great reduction in the consumption of medicine.*

* The author conceives it to be a duty, which he owes to himself, to inform the reader, that, being called on to publish the preceding observations in great haste, he was obliged to send the copy to the printer's, page by page, as fast as written.

APPENDIX.

DESCRIPTION

Of the Sketch representing the FUMIGATING APPARATUS, used at the DUBLIN SKIN INFIRMARY.

(a a a)—The fumigating box, in which the patient is seated on a screw chair.

(b)—The screw chair, by means of which the patient can be raised or lowered, so as to be adapted to the height of the apparatus.

(c)—The door of the fumigating box; in the pannels of which there are four openings, destined to receive the upper or lower limbs, or one of either, in case of partial fumigation being required. They also serve the purpose of permitting the medical attendant to pass in his hand, and ascertain the progress of the production of perspiration, and the state of the patient's respiration and circulation. Moreover when infants or children are fumigated, they are used to admit the hands and arms of the nurse, who is, in this way, enabled to support and tranquilize the little patient. Each opening is furnished with a leather bag, nailed by one end round the circumference of the opening in the door of the box, and formed at the other into a string case; which, when the holes are empty, can be drawn perfectly close, and thus prevent the escape of any of the vapour contained in the box; or, if there be a limb, or limbs, in the hole or holes, the strings can be drawn tight round them, so as to have the same effect.

(d)—The cover of the box, perforated by a large round hole, to the circumference of which the cap, that receives the head of the patient, is nailed.

(*e*)—The leathern cap, having one end nailed to the circumference of the opening of the lid, and the other supplied with a string case; for the purpose of being drawn tight round the face and forehead of the patient.

(*f*)—The floor of the apparatus, made of stone and perforated by holes; through which the materials, that have been converted into vapour or gas, pass up into the box and surround the patient.

(*g*)—A metal plate, having two holes filled with metal stoppers, and one of these perforated in its centre, so as to receive the end of a funnel.

(*h*)—A Thermometer, the bulb of which passes down into the box, the scale being visible without.

(*i i i*)—The brick work, upon which the fumigating box is placed, and which contains the apparatus required for evaporating the medicines used.

(*k*)—The door of the fire-place.

(*l*)—The ash-pit.

(*m*)—The door of the ash-pit, which gives much assistance to the attendant in regulating the draught of the apparatus.

(*n*)—The stopper of an opening which leads into a chamber of the apparatus, above the fire place and its flue, and below the stone bottom *f* of the box and the iron plate *i*. This opening is used to introduce a drawer or tray, sometimes used in fumigation.

(*o*)—The door of another opening, leading into the same chamber, and used for the purpose of admitting the crucible which contains the sulphur to be burned. It also serves the purpose of admitting an Argand's lamp, with an evaporating dish, used to evaporate the material for fumigation, when the patient cannot bear to have the temperature of the apparatus raised by the fire: thus constituting what we call a cold fumigation. The centre of the door is supplied with a cap and screw, used for the purpose of uniting to the apparatus a flexible tube, which serves to convey into it vapour from a steam boiler, placed in the fumigatory: this vapour being impregnated by materials subjected to decoction in the boiler.

(*p*)—The line of direction, in which the hot hearth or metal plate runs; which is placed over the fire place *k*, and over the flue which leads to the tube *q*, and serves to separate them from the chamber of the apparatus already described.

(*q*)—A tube which communicates by its lower end with the flue of the fire place *k*. This flue runs under the hot hearth placed in the direction of the line *p*, and is separated from the floor of the room by two courses of bricks. The upper end of the tube *q* is bent at an obtuse angle, to enable it to pass into the funnel of the chimney of the room, in which the apparatus may be placed.

(*r*)—One of the tubes, (the other not being seen,) which serves to convey the vapour or gas from the box, in which it opens, into the tube *q*, and thence into the chimney of the apartment.

(*s*)—The handle of the valve of the tube *q*, by means of which this tube may be shut or opened, entirely or in part, and thus diminish or encrease the draught of the fire place.

(*t*)—The handle of the valve of the tube *r*, by means of which the draught from the box, by the tube *r*, into the tube *q*, is regulated.

(*u*)—The ladder by which the patient ascends into the apparatus.

MODE OF USING THE APPARATUS.

It is supposed that the apparatus is cold and in good repair, and that we wish to administer a fumigation of sulphureous acid saturated with watery vapour.

We commence by closing the valves *t* of the tubes *r*; we open the valve *s* of the tube *q*, and kindle the fuel on the grate of the fire place *k*. When the interior of the box is heated to a proper temperature, which will be denoted by the thermometer *h*, we introduce the patient into it by the ladder *u*. Having regulated the height of the stool *b* by means of its screw, so that when the patient is sitting, the top of his shoulder shall be about half an inch below the level of

the upper edge of the box, we shut the door *c* of the apparatus, and then let down the cover *d*, so that the head of the patient shall pass into the cap *c*, and his face appear through its opening; which is now to be drawn tight, by means of its string case, round the forehead, cheeks, and chin, previously surrounded by a towel, which enables the string case to be drawn much closer. We then open the valves *t* of the tubes *r* to such an extent, that the vacuum, caused in the box by their draught, shall attract only a little of the external air, but nevertheless sufficient to prevent the sulphureous acid gas from escaping through the joints of the box; which are by this means, as it were, luted. We then introduce, by the door *o*, into the chamber of the apparatus, situated above the hot hearth, and upon the hot hearth itself, a small crucible, containing the sulphur kindled by means of a piece of cotton wick; which is placed in the bottom of the crucible, and surrounded by the sulphur. The door *o* being then closed, the sulphureous acid, produced by the combustion of the sulphur, diffuses itself within the apparatus; and passing along the chamber, which is situated over the hot hearth, and through the holes of the stone bottom *f*, it surrounds the body of the patient, and afterwards escapes through the tubes *t*; by which it is conducted into the tube *q*, and thence into the chimney, along with the smoke &c. of the fire place *k*.

If we wish to combine aqueous vapour with the sulphureous acid, it is necessary to fill with water the funnel placed in one of the stoppers of the plate *g*, and having sufficiently opened the cock, with which it is furnished, we permit the water to fall, drop by drop, on the hot hearth that is over the fire place; which, being thus converted into vapour, passes into the apparatus, is mixed and combined with the sulphureous acid, and produces on the patient the effect required.

When the operation of fumigation is terminated, or when the patient feels himself fatigued, and wishes to come out of the apparatus, it is necessary, for the purpose of preventing the escape of the sulphureous acid into the room, to extinguish the combustion of the sulphur a few minutes before, (if it be not already burned out,) by putting a cover on the crucible that

contains it, which is easily done through the opening in the plate *g* that receives the stopper not provided with a funnel; also to open the two holes of the plate *g*, which are filled during the fumigation by the two stoppers; to shut the valve *s* of the tube *q*; and, on the contrary, to open entirely the valves *t* of the tube *r*. The tube *q* thus having the communication with the fire place *k* cut off, requires much air, and obliges the atmosphere of the room to enter into the apparatus by the two holes of the plate *g*, and by all the chinks of the box. This air mixes itself with the sulphureous acid contained in the apparatus. The whole is then carried outwards by the tubes *r*; and the box, thus filled with pure air, may be opened without danger of diffusing any injurious or disagreeable odour through the room in which the apparatus may be placed.

It may be now easily conceived, that, by this apparatus, we can also give, 1st fumigations of warm and dry air; 2dly, fumigations of warm air, saturated with watery vapour; 3dly, fumigations of any acid, dry or saturated with water; 4thly, fumigations of sulphuretted hydrogen in vapour; 5thly of sulphur in vapour; 6thly of mercury in vapour; 7thly, of spirit in vapour. In fact, by this apparatus, assisted by the small steam boiler and evaporating lamps belonging to the fumigatory, we may administer all vapours, all gases, warm or cold, one by one, or mixed two and two, three and three, four and four, &c. It is important to mention that these fumigations may be used not only for the cure of patients, but also for the disinfecting of the clothes, &c. of such as labour under fever and other contagious diseases—and that for this purpose it is only necessary to have hooks in the interior of the apparatus, upon which such cloths, &c. may be suspended.*

Thus have I endeavoured to give a concise view of this apparatus, and of the manner of using it. To enter into all the minutiae respecting its construction, and mode of employment, would far exceed the limits, which I have assigned to these observations. It would also require numerous plans, not compatible with the present undertaking.

* Preparations are making for establishing, immediately, at the Skin Infirmary, a fumigating apparatus, on the same principle, which will accommodate eight patients at a time.

To such of the profession as reside in Dublin, and who may wish to form an accurate opinion respecting the process of fumigation, or who may be desirous of constructing a similar apparatus, I shall have much pleasure in affording every assistance in my power. They have also, at all times, permission to witness the operation at the Skin Infirmary.

For the information of Surgeons of county Infirmaries, of governors of hospitals and other charitable institutions, of inspectors of prisons, and of all medical men residing in the country, I take this opportunity of mentioning, that, apparatuses, similar to those above described, have been constructed, and are sold by the Register of the Skin Infirmary, *for the benefit of the charity*. These are accompanied by minute printed directions for their employment; and by models, which enable any workman to set the apparatus. All communications on this subject are to be directed, *post paid*, to the Register of the Skin Infirmary, 20, Moore-street, Dublin.

FINIS.

