This article was downloaded by: [University of Cambridge]
On: 08 October 2014, At: 07:23
Publisher: Taylor & Francis
Informa Ltd Registered in England and Wales Registered Number:
1072954 Registered office: Mortimer House, 37-41 Mortimer Street,
London W1T 3JH, UK

Transactions of the Botanical Society of Edinburgh

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/tped18>

I. On Plant-Epidemics in relation to Epidemics in Man and Animals

W. Lauder Lindsay M.D. F.R.S.E. F.L.S.

Published online: 01 Dec 2010.

To cite this article: W. Lauder Lindsay M.D. F.R.S.E. F.L.S. (1866) I. On Plant-Epidemics in relation to Epidemics in Man and Animals , Transactions of the Botanical Society of Edinburgh, 8:1-4, 395-398, DOI: [10.1080/03746606609468604](https://doi.org/10.1080/03746606609468604)

To link to this article: <http://dx.doi.org/10.1080/03746606609468604>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

9th February 1866.—Professor ARCHER in the Chair.

The following Donations to the University Herbarium were announced:—

From the Rev. H. W. Wood—Specimens of *Lophodium glutinosum* and *Elatine hexandra*.

From Dr Buchanan White—Specimens of *Cuscuta Trifolii*, collected near Perth, and several rare British mosses.

From Mr C. Howie—Specimens of *Pottia crinita*, gathered near Duddingston.

From Professor Wilson—about 300 portfolios of plants interesting in agriculture.

From Mrs Milne—Specimens of *Leptodon Smithii*.

The following additions to the Museum at the Botanic Garden were noticed:—

From Mr Gorrie—Fruit of American beech.

From Mr P. S. Robertson—Fruit of *Terminalia Chebula*.

From Mr M'Nab—Fruit of Doom-palm.

From Professor Balfour—Fruit of prickly pear (*Opuntia vulgaris*).

The Secretary laid on the table letters of thanks which he had received from the following gentlemen for their election as Honorary or Foreign Members:—George Bentham, Esq.; Charles Darwin, Esq.; Dr J. D. Hooker; Professor Daubeney; Professor Babington; Professor Harvey; M. Miquel, Utrecht; M. Grisebach, Göttingen; Professor Clos, Toulouse; M. Fee, Strasbourg; Dr Schnizlein, Erlangen; M. Casimir De Candolle, Geneva; M. R. Caspary, Königsberg; M. Naudin, Paris; Dr Nylander, Paris; M. Agardh, Stockholm.

Professor Balfour noticed the death of Jean François Camille Montagne, an honorary member of the Society. He was born 15th February 1784, and died 9th January 1866. He was a distinguished cryptogamic botanist, more especially in the department of fungology.

The following Communications were read:—

I. *On Plant-Epidemics in relation to Epidemics in Man and Animals.** By W. LAUDER LINDSAY, M.D., F.R.S.E., F.L.S.

The history of Epidemiology shows that epidemic disorders of plants frequently, if not generally or always, precede, or are contemporaneous with, those of animals and man; and the inference seems legitimate that they are, in such cases, equally attributable to the action of that mysterious atmospheric poison, which apparently generates such diseases as Cholera and Rinderpest. It is probable that the present Rinderpest and the coming Cholera may be, in this respect, no exceptions to the general rule, if only observation is sufficiently on the alert. In relation to the devastating epidemics of man and animals, those of plants are of no small importance; for the scarcity, or inferior quality, of staple food—vegetable food—(such as potatoes or the cereals) prepares the way for the full and speedy action on man and animals of those insidious volatile atmospheric poisons, which appear equally to affect animal and vegetable life.

So early as the middle ages these facts appear to have been fully recognised. Dr Chambers remarks of the Plague in Scotland,—“While there are several instances of famine not followed by the pest, there was *scarcely one instance of the pest, which was not immediately preceded by a famine*. So far the opinion of modern medical writers, that deficient nutrition in the community is one of the predisposing causes of pestilential fevers, may be considered as borne out by facts.”† Hecker,‡ again, mentions various epidemics of

* Some writers are in the habit of speaking of *Epizootic* and *Epiphytic* diseases as the equivalents or analogues, in the lower *animals* and in *plants*, respectively, of that class of diseases which is usually termed *Epidemic* in man. The two former designations are, however, liable to misconception: especially the term *Epiphytic*, which is for such a purpose loosely and incorrectly applied. It is much more accurate and satisfactory, therefore, to use the general term *Epidemic* for the class of diseases referred to, whether in man, the inferior animals, or plants.

† “On the occurrence of the Plague in Scotland during the Sixteenth and Seventeenth Centuries.” By Robert Chambers, LL.D. *Proceedings of Royal Society of Edinburgh*; reported in *Edin. New Philosophical Journal*, January 1856.

‡ In his “History of the Epidemics of the Middle Ages.”

the middle ages as ushered in by the prevalence of certain Moulds, such as red fungi, which were popularly regarded as "blood spots," and as "signacula" of the coming pestilence. The connection of *fungi* with the causation of epidemics, equally in man, animals, and plants, is a theory that has found favour from the middle ages to the present time; and though we now possess a considerable list of diseases in man, animals, and plants, in which fungi play an important part, it is yet doubtful whether, in the case of epidemics at least, their presence is not merely a *result*, instead of a *cause*, of the original disease. The sudden appearance of such diseases as the potato or vine blights in healthy, previously unblighted, districts; their equally sudden disappearance; their apparent independence of the natural barriers of climate or latitude, as well as of the artificial barriers interposed in the form of measures adopted for the prevention of their dissemination, are circumstances that seem to warrant us in placing these epidemics of plants in certain respects in the same category with Cholera or Rinderpest.

During the epidemic of yellow fever at New Orleans in 1854, it was recorded by one authority, that "his cauliflowers, cabbages, and radishes would wither and die;" and by another that his fig trees did not produce so "many figs as usual."* The Rev. Alex. Allan—writing from the Old Manse of Eassie in the "Dundee Advertiser," of February 21, 1866—connects the present cattle plague with a "*terrible mildew* we had during the autumn months, when the whole potatoes, as well as the turnips, were covered with it." An epidemic in sheep, in Forfarshire in March 1866, reported to be Rinderpest by Professor Dick and other competent veterinarians, was attributed, by a commission of cattle-dealers and stock-owners, who examined the animals and the circumstances of their attack on the spot, to eating *mildewed* turnips. It does not follow that the fungus—the mildew—was the cause of the disease, or that the latter would not equally have been produced had the sheep had unexceptionable food. But the coincidence is sufficiently striking to render

* "Yellow Fever." By Dr La Roche. Philadelphia, 1855. "Report of the Sanitary Commission of New Orleans on the Epidemic Yellow Fever of 1853." Both reviewed in *Brit. and For. Medico-Chirurgical Review*, Oct. 1856.

it worth while to examine how far the disease was a *propter*, or only a *post, hoc*!

Instances such as these are of course unimportant in *determining* what is the action of the *epidemic constitution* of the air on vegetation; for such results may be mere coincidences, and might equally have occurred under other conditions. Still a full record of *all such coincidences* would go far to enable us to deduce general conclusions as to whether or not what we conveniently call the *epidemic constitution* of the atmosphere during such diseases as Cholera and Rinderpest, has equal effect on vegetable and animal life.

I do not, however, here propose, on the one hand, to give detailed illustrations of the diseases of plants, which have preceded, or been coincident with, former epidemics of man and animals in different parts of the world; nor, on the other, to enter on the particulars of the kind of observations which are at such a crisis as the present (in regard to Rinderpest and Cholera) desirable. For both these classes of details I must refer those interested to papers formerly presented to this Society, or published, by me.*

II. *Notes on a Botanical Tour through Canada in 1865.*

By Mr R. M. STARK.

Mr Stark gave an account of several trips made by him in Canada during the summer and autumn of last year. These consisted of excursions to Montreal, Ottawa, the shores of the Georgian Bay, and Niagara. He enumerated the most remarkable plants found by him, amongst which were species of *Cypripedium* and other terrestrial orchids, *Asclepias*, *Lilium*, *Trillium*, *Uvularia*, *Erythronium*, &c. Some interesting facts were also given regarding the geographical distribution of several of these plants over the country, and of the prevailing weeds, most of which seemed to be of European origin. Several of the rare American ferns, and their varieties, were also noticed. Mr Stark stated that he had secured living plants of all the principal species. The paper was illustrated by means of dried specimens and water-colour drawings.

* "Suggestions for Observations on the Influence of Cholera and other Epidemic Poisons on Vegetation." *Proceedings of Botan. Soc. of Edin.* 1856, p. 25. "The Epidemic Diseases of Plants (also in relation to the Cholera Poison)." *Association Medical Journal*, 1854, p. 1110.