treatment of a light soil at Ormskirk with sulphur had given promising results, whilst in 1924 the amount of disease was reduced from 73 per cent. in untreated soil to 8 per cent. with an incorporation of 10 cwts of sulphur per acre and to less than 4 per cent. with 20 cwts sulphur per acre. On a heavy clay at Hatfield clean plots were obtained with an application of 40 cwts per acre. During the past season a larger experiment has been carried out to test these results and the deductions drawn from them and to determine whether the effect be a permanent one. As we have learned that experiments are being set up in other countries to test the efficacy of this sulphur treatment it is desirable that the discrepant results obtained by us this season should be known as soon as possible. In our test at Ormskirk the following arrangement was adopted.

Plot	Treatment
1	None.
2	15 cwts Sulphur per acre in Autumn.
3	10 " " " " " "
4	$\left\{\begin{matrix} 7\frac{1}{2} \\ 7\frac{1}{2} \end{matrix}\right.$ " " " " " " " Spring.
5	$\left\{\begin{matrix} 5 \\ 5 \end{matrix}\right.$ " " " " " " Autumn. " " " " " " Spring.
6	15 " " " " " " "
7	10 " " " " " " "
8	None.

In the untreated plots the plants grew well and were heavily warted. In the treated plots a first set of tubers planted in May and a second set planted in July almost entirely failed to grow. The surviving plants showed in all plots considerable amounts of wart disease, although much less than in the control areas. At Hatfield two tons of sulphur per acre was applied; the crop was damaged and a considerable amount of wart disease was present.

Unavoidable differences in the conditions (seasonal, manurial, etc.) under which the work was carried out in 1924 and in 1925 suggest certain explanations of these results, but we are not in a position to say that any one of them is correct. The results already published are not of course invalidated, but it is clear that the sulphur treatment can not, in the absence of further information on the soil and other factors involved, be regarded as a reliable method for freeing soil of the parasite causing wart disease. A more detailed account of our work will be published in the "Annals of Applied Biology," XIII, 2, 1926.

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THE ATTITUDE OF THE ELECTRICAL RAILWAY COMPANIES ON ELECTROLYSIS

THE creed of the scientist and the engineer always has been to follow unbiasedly Truth, wherever she may lead, so that in solving any problem the engineer seeks to obtain the *whole* truth and then to act according to that truth.

However, certain incidents seem to show that there is a tendency not to follow literally this much respected and necessary ideal, where the problem being studied lies between directly interested parties. This is very regrettable, since a suppression of data, obtainable by one group but not by the other, necessarily inhibits the solution of any engineering or scientific problem. Moreover, such an attitude among men of science loses the confidence of the public and lessens their respect.

This departure from our creed has been forcibly brought to my attention by recent incidents which have occurred in Los Angeles in connection with studies on corrosion by stray current electrolysis.

The electrolytic conditions of Los Angeles have been and are such as to demand the attention of all metallic substructure owning companies and the electric railway companies, and therefore, engineers in general.

The Los Angeles Section of The American Institute of Electrical Engineers decided to have an academic paper on the general subject of "Electrolysis," presented at one of its monthly meetings. I was asked to prepare and present such a paper.

Upon hearing that the subject of electrolysis was to be presented locally and before it was known what was to be said, the engineering representatives of the electric railways held an indignation meeting, criticized the action of the local section of the A. I. E. E. in scheduling the subject of electrolysis and resolved not to attend the meeting.

I prepared copies of the address and presented them to the engineering representatives of both the railway companies and the public utility companies owning affectable structures so that they could prepare any discussion or raise any objections prior to the presentation of the paper. Up until the time of giving to the railway companies these copies of the proposed address, I knew nothing of the attitude that they had taken.

Upon learning their view of the matter, wishing to have the railways' representatives at the meeting and not desiring to jeopardize the cooperation between any of the parties, I offered to cancel all parts of the paper to which the railway companies objected. They had very few objections to the paper, but all parts that they did object to were cancelled. All reference to Los Angeles was omitted. However, the railway companies were not satisfied and

were not present at the meeting on January 5, 1926, when the paper was presented. The railway companies made it plain that what they objected to was any mention whatever of the subject of electrolysis. They offered as their excuse that the subject was a personal one and against the ethics of the American Institute of Electrical Engineers to study or discuss it. Evidently they forgot that the American Committee on Electrolysis, which published a unanimous report in 1921, was organized by and worked under the auspices of the American Institute of Electrical Engineers, and that on this committee were representatives of the American Electric Railway Association and the American Railway Engineering Association.

If the attitude herein presented is held by the electric railways of America, then the stray current electrolysis problem will have to be solved in the courts of law, which is not believed to be an ideal place to reach a satisfactory solution of any engineering or scientific problem.

I would like to learn the opinions of other engineers and scientists in regard to this matter.

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SCIENTIFIC BOOKS

J. C. Poggendorff's Biographisch-literarisches Handwörterbuch für Mathematik, Astronomie, Physik, Chemie und verwandte Wissenschaftsgebiete. Bd. V: 1904–1922. Redigiert von Professor Dr. P. WEINMEISTER. I. Abtlg.: A-K. Leipzig, Verlag Chemie, 1925.

FOR those who are engaged in scientific reference work "Poggendorff's Biographisch-literarisches Handwörterbuch zur Geschichte der exacten Wissenschaften . . . aller Völker und Zeiten" is an indispensable tool. The first two volumes were published in parts. The printing commenced in 1858 and the last part was issued in 1863. The third volume, covering the period from 1858 to 1882, was published in 1898 and the fourth volume, dealing with the period from 1883 to 1902/3, was published in 1904. The war and the war's aftermath caused a temporary discontinuance of this monumental undertaking, but we hail now with great satisfaction the appearance of the first part (A-K) of the fifth volume, which embraces the years 1904–1922.

The conception of this work originated with Johann Christian Poggendorff (1796–1877). As editor of the "Annalen der Physik und Chemie" (1824–1876), as author of "Lebenslinien zur Geschichte der exacten Wissenschaften" (1853), which contained the dates and main works of 150 scientists of the sixteenth to nineteenth century, as author of "Geschichte der Physik," edited after the author's death by W. Barentin and published in 1879, and as a scientist, who by his own inventions and investigations will never be forgotten, no one was better fitted for such a gigantic task. It took Poggendorff fifteen years of his spare time to complete the first two volumes. The third volume was edited by Dr. W. W. Feddersen and Professor A. J. von Oettingen, the fourth volume by von Oettingen alone, and the present volume by Professor T. Weinmeister. Of course a biographical work of such a character could not be compiled by one man and all the editors gratefully acknowledge the great help rendered them by many scholars in different countries.

The principles which guided the editors in their program are of the greatest importance. The title-pages of Volumes 1, 2 and 3, which are almost identical, say very plainly that the Biographisch-literarisches Handwörterbuch is only devoted to the representatives of the exact sciences and enumerates mathematicians, astronomers, physicists, geometricians, mineralogists, geologists, etc. In Volumes 3 and 4 after the geologists the geographers are named. On the title page of the fifth volume the words "exacte Wissenschaften" are omitted and the title reads "Biographisch-literarisches Handwörterbuch zur Mathematik, Astronomie, Physik, Chemie, und verwandte Wissenschaftsgebiete."

In the classification and history of sciences there were generally two divisions recognized: The exact sciences and the cultural sciences (Geisteswissenschaften). With the growth of our fields of knowledge and by a changed conception of different branches of science the term "exact sciences" has lost its old meaning and application. For this reason it seemed to be proper to replace the term "exact sciences" by the term "natural sciences," which is subdivided into "descriptive natural science" and "exact natural science." It was Virchow who said, "Every science is natural science." Taking this into consideration, let us see how Poggendorff and his successors in the editorship of the Handwörterbuch proceeded. In the introduction of the first volume Poggendorff states precisely that scientists whose works dealt with the living nature (lebende Natur) were excluded. This principle—very regrettable—eliminated anthropologists, biologists, botanists and zoologists. The editors of the third volume, Drs. Feddersen and von Oettingen, adhered to the same principle outlined by Poggendorff, although they had received some communications protesting against the undue preference of mathematicians, physicists, etc. On the other hand, they recognized the difficulties facing them in the