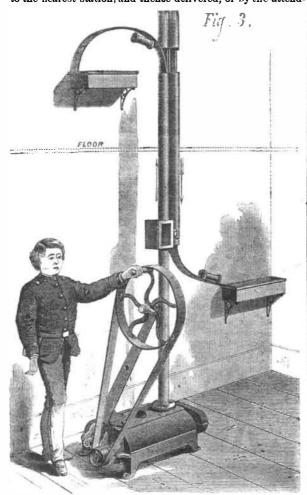
transmission consists in having tubes of about eight inches in diameter, laid under the streets and made to communicate with the various lamp post letter boxes. These pipes radiate, in lengths of a half mile, in various directions from a postal station, where they communicate with receiving boxes in which an exhaust is maintained by Root blowers, as shown in our engraving. Thus, whenever letters are dropped in at the lamp posts, they fall at once into the pneumatic tube and are instantly carried forward, on the wings of the wind, to the nearest station, and thence delivered, or by the attend-



ant dropped into the tube that leads onward to the next sta tion, and so on. The general adoption of this system by the post office, allowing that it will operate through tubes of half a mile length as effectively as it does at the Western Union office, would expedite the collection and delivery of city postal matter, and greatly promote the public convenience.

THE INDUSTRIAL CONDITION OF GERMANY.

The delusive prosperity which Germany enjoyed while the French-indemnity was passing into the country has resulted as disastrously as the similar condition of things consequent to our war did with us. At the close of hostilities there was much to be done, money was plentiful, and wages high. Everybody believed that a new era had dawned for Germany, and that the speedy development of its resources could receive no check. A feverish energy of achievement took the place of sober calculation, and wild extravagance in every form of enterprize was mistaken for substantial business growth. The stolid German became as speculative as if he had been transported to America, and with precisely the same result so far as national prosperity went.

Describing the industrial and financial experience of the past five years in Germany, a Tribune correspondent pictures a condition of things very easily understood in this country:

"The abundance of capital gave rise to a reckless prodigality in all sorts of private enterprises. New railways were undertaken, great manufacturing companies were established to rival Krupp, and shippards to compete with the Lairds were organized. Above all, new and costly houses sprang up in all parts of Berlin and almost every other city. The most popular sort of investment was in stock companies, and the multiplication of stock companies in 1871 and 1872 was marvelous. Money was plenty, wages were high, and hod carriers drank champagne at their daily work. But this did not last, and could not last. First the stock companies began to totter, and at length there was a general crash. Then wages began to fall, while the necessaries of life were stationary. The fortresses were completed, and thousands of workmen thrown upon the market. People began to leave Berlin on account of high prices until the evil spread and distributed itself throughout the country. The stock companies went to pieces one after another in all the chief cities, until that sort of organization became another name for everything unstable and treacherous. The new palaces of Berlin stood unoccupied, and fewer new ones were of course begun. In short, a complete transformation has taken place; and in spite of the five milliards, it is today very difficult to raise money, and still more difficult to realize it on investments. Now it will help no emigrant's fortune to return to Germany, even if he escape impressment into the military service."

Multitudes of great manufactories are unable to keep up operations, and wholesale discharges of hands are the result. The reduction in wages has been twice as severe as in this country, with a proportionally larger number out of employment. As an instance, the fact is mentioned that in Berlin. last winter, it was difficult to get street laborers at two dollars a day, while this winter an indefinite number could be had at one third that price.

Scientific American.

MUNN & CO., Editors and Proprietors. PUBLISHED WEEKLY AT NO. 87 PARK ROW, NEW YORK.

O. D. MUNN.

A. E. BEACH.

TERMS.

One copy, six months, postage included...... 1 60 Cinh Rates:

By the new law, postage is payable in advance by the publishers, and he subscriber then receives the paper free of charge.

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VÓLUME XXXII., No 15. [New Series.] Thirtieth Year.

NEW YORK, SATURDAY, APRIL 10, 1875.

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HOW SCIENCE IS ANNIHILATED.

Everybody admits that a man who sets up as a doctor with out first submitting to a careful medical training is a knave or a fool. Everybody admits that to practise medicine properly requires a very thorough preliminary education, and no little practical observation of the ills that flesh is heir to Yetnine persons out of every ten standready on all occasions to offer advice in case of sickness; and those who know leastof medicine are least conscious of their unfitness to prescribe.

It is very much the same in Science. To be able to read a book of Science, or even floating paragraphs about it, is taken by very many people as evidence enough of their ability to criticise it, especially if they happen to have some little right to speak in some other department of thought. Unmindful of the fact that the errors of scientific theory have always been discovered by scientific men only, the unscientific and antiscientific hold themselves ready at all times to point out the mistakes in the deductions of men who have spent a laborious lifetime making themselves acquainted with the facts of the case, meeting the cautious suggestions of men like Lyell or Darwin with a confident assurance that would be justified by nothing short of infallibility. As a rule, we smile at these volunteer champions of ignorance, and let their vaporings pass. Now and then, however, they afford typical illustrations of antiscientific reasoning too good to be

Of this character was the lofty rebuke to Science administered the other day by a somewhat prominent Doctor of Divinity, in a morning paper: a rebuke, we may add, which has been the source of great consolation to more than one dear soul alarmed at the spread of knowledge, in proof whereof we have, in a subsequent issue of the same paper, letters of rejoicing in regard to the Doctor's championship.

The special science which falls under the Doctor's condemnation is geology-if, indeed, it is in any way worthy of being called a science. Particularly is it rebuked for talking of periods of time more protracted than the Hebrew scriptures provide for. Facts of its own finding condemn its assumptions. For instance, one of the remote periods of geology is the cretaceous, or age of chalk. Between that time

and this, incalculable ages have come and gone, say the geologists. Sheer assumption, says the Doctor, for deep sea soundings prove that chalk is now being deposited in the Atlantic ocean; today is the chalk age, and your long drawn periods of time are pure myths!

Again, the geologists set the carboniferous epoch so far back that the six thousand years of Hebrew history dwindle to insignificance. All that time is wiped out with a paragraph, a floating paragraph which the Doctor has discovered going the rounds of the country newspapers, to the effect that the wooden supports used in certain of the Hartz mines have been converted into lignite since they have been put in, only a few centuries ago. See! cries the Doctor: a thousand years at most suffice to convert wood into coal; how dare you, in the face of such evidence, presume to say that sixty centuries would not suffice for the production of your carboniferous strata?

"What will geologists say to that?" asked an excellent lady, after reading the Doctor's triumphant overthrow of their science-" falsely so called."

We could not say, though we modestly surmised that, if compelled to notice the indictment, they would probably say: "What of it?" What has chalk to do with the antiquity of the cretaceous era? Who that knows anything of geology imagines that the age of a coal seam is in any way dependent on the time required to turn wood into coal? The chemist can do that in a few hours. Shall we say, therefore, that the carboniferous period was yesterday, and that all the stupendous changes that have since taken place in the earth and its inhabitants, happened last night?

Besides, if that is the line of argument, why stop halfway? Any geologist will willingly furnish the Doctor with arguments ever so much more sweeping than those he uses. For instance, in the South Seas, the corals of today are forming strata that are the exact counterparts (fossils excepted) of—say—the Trenton limestones. In other parts of the world sand deposits, such as composed the Potsdam sandstones, are now forming. Why not say, therefore, that the silurian period is a figment of the imagination: that it is now, yesterday, or any time this side of Adam's day? Still worse: it was discovered last year that, in the deeper parts of the At lantic, strata of mud are now forming, precisely like the strata which make up certain slates of the so called azoic period. The next time the Doctor demolishes geology, let him declare that this fact proves that the Laurentian period, instead of being countless ages old, is altogether modern! It will make his case seem much stronger to the ignorant, and will not weaken his argument in the least.

That it is at all necessary to comprehend a theory or an argument, or the bearing of known facts upon either, seems never to occur to critics of this sort. Indeed, the first requisite of an anti-science critic would rather appear to be a thorough and radical misapprehension of what Science teaches. That enables him to mispresent Science boldly, with no risk of being charged with a wilful perversion of truth.

A very pretty, though very mild, case of a scientific misapprehension occurs in an editorial in the last issue of the American Garden. It would not be noticeable in a strictly evangelical family paper, but seems a trifle odd in a publication devoted to a department of natural science.

The editor, very properly, dubs the article "Scientific Vagaries." Its subject is a paragraph from a recent lecture by Sir John Lubbock, upon the natural relations of insects and flowers. After mentioning the observations of Sprengel and Darwin, Sir John remarks that it is to insects that we owe the beauty of our gardens and the sweetness of our fields, and that the flowers owe to them, not only their scent and color, but their very existence in their present form. "Not only have the brilliant colors, the sweet smell, and the honey of the flowers been gradually developed by the unconscious agency of insects, but the very arrangement of the colorsthe circular bands and the radiating lines, the form, size, and position of the petals, the arrangement of the stamens and pistils—all have reference to the visits of insects, and are disposed in such a manner as to insure the great object which these visits are destined to effect."

This, says our critical editor, scornfully, is a fair sample of the errors and vagaries into which intelligent men may be led-men who see things from only one point of view, and "endeavor to twist and bend every fact or circumstance in Nature to make it fit the theoretical structure of which their preconceived notions suggest the plan."

"No doubt," our critic adds, "the color and scent of flowers attract insects to them for the purpose of aiding or bringng about the fertilization and co the seed for the continuation of the species--this latter being the end and aim of all physical life." [Whatif Darwin had said that? It is freely admitted, also, that the intricate and wonderful arrangement of floral appendages are often peculiarly striking, and apparently throw in the way of the fertilization of the flowers obstacles that can be counteracted only by the aid of insects. But—and this is the culmination of the argument," but the idea that insects, ages and ages ago, went to work, consciously or unconsciously, to develop the various scents, the multitudinous shades and combinations of colors, and the marvelous structure of flowers (and this last as an obstacle to their own labors) is-what? We should say a curiously stupid misreading of very plain English; but the critic suspects nothing of the sort, boldly pronouncing it "something absurd and overtasking the credulity of man"!

"Is it not," he asks, "more easy to believe that there is an intelligent Creator, First Cause, or Primal Cause (as men have variously expressed it), who has created things as they are?" etc., etc.—as though easiness of belief had anything to do with the matter. Then he winds up with this ingenious double question: "Are not the ideas of Sir John Lubbock