

The industrial development of England since 1851, and her apparent position in 1881, might, on the whole, be regarded with satisfaction; nor could any changes since 1881 have seriously affected the result. The growth of the population of Scotland ($6\frac{1}{2}$, $9\frac{1}{2}$, and $11\frac{1}{2}$ per cent for the three decades) had been slower than that of England, and the proportions engaged in each main division of industry were somewhat different; but the points of similarity were much more noticeable than the points of difference.

If the picture given of the condition of agriculture in England and Scotland was gloomy, that of the whole condition of Ireland was much more so. The numbers employed in agriculture had decreased since 1841 by 858,000, out of a total of 1,844,000; and those who might, perhaps, be counted as supported by agriculture, by 2,500,000 out of 5,000,000. Nor was that all; for, these reductions being proportionately greater than those of the whole population, the percentage employed in or supported by agriculture had decreased, as well as the total numbers. The land in England and Scotland employed as many, and probably supported nearly as many, as it did in 1841; and meanwhile other productive industries supported the bulk of our great increase of population. In Ireland, on the other hand, not only did the land fail to support half of those it once in some fashion maintained, but other productive industries (e.g., building and manufacture) were even worse off, and, like agriculture, showed it both in numbers and percentage, those engaged in building and manufacture (taken together) being 10.9 less in percentage, as well as 626,000 fewer in number, than in 1841. It was when taken together that these facts appeared so serious as evidence of decadence. Nevertheless, the view was commonly held, that, in general well-being, Ireland had enormously improved since the famine. No evidence of this improvement was to be found in the occupation returns, which, on the contrary, pointed to a demoralization of industry likely to be the cause, as well as consequence, of poverty and waning trade, and certain to be the source of political discontent. He knew that figures might be, and were, drawn from bank deposits and other returns which seemed to tell a different story. He would not attempt to reconcile this conflict of evidence, as to do so would be beyond the scope of his paper.

The *Times*, continuing its comments, says, "Before drawing conclusions as to the amount of labor applied to the soil, we have to remember that much of the apparent loss is simply due to the substitution of machinery for human activity, and also that numbers of men now included in

the manufacturing class are, in fact, employed, though indirectly, in extracting food from the soil. A reaping-machine supersedes a great deal of rural labor, but its construction involves the labor of a great many miners and artisans. It is perfectly proper to include these in the manufacturing classes for statistical purposes; but it would be a wanton misuse of statistics to ignore the fact, when the supply of food is in question, that it is the growth of food which provides them with employment. Mr. Ruskin asserts for himself the right to rail at all substitution of machinery for human handicraft; but practical men who accept labor-saving machines in cotton-mills cannot consistently object to their introduction into corn and beef factories, however much they may lament the tendency of 'progress' to transfer men from the open air to confined workshops. It curiously illustrates the continual failure of statistics to overtake the changes occurring in the social organism, that the distinction, apparently so sound and simple, between agricultural and manufacturing industry, utterly breaks down upon examination. There may be an actual decrease in the amount of energy applied to the production of food; but statistics do not tell us what it is, because they fail to discriminate between real withdrawal of energy from agriculture and mere change in the methods of applying it."

MRS. SIDGWICK AND THE MEDIUMS.

THE May meeting of the London society for psychical research was the occasion of the presentation of a paper by Mrs. Henry Sidgwick, which has been looked forward to with interest. The title of the paper was "Results of a personal investigation into the physical phenomena of spiritualism, with some critical remarks on the evidence for the genuineness of such phenomena." By physical phenomena of spiritualism, Mrs. Sidgwick means those which, if correctly described, and not due to conscious or unconscious trickery, nor to hallucination on the part of the observers, exhibit the action of a force in the physical world which has been previously unknown. Such physical phenomena would include raps, movement of tables without contact, materializations, psychography, and so forth. The writer stated that her experience in spiritualism extended over a period of twelve years, and had been entirely inconclusive except in cases where the phenomena were proved to be due to the action of the medium. She had had *séances* with all the leading English mediums (including Dr. Slade), and in every case there was evidence pointing more or less directly to deception and conjuring. The first part

of the paper was concluded with a description of the kinds and methods of deception practised by a medium named Haxby.

Mrs. Sidgwick then went on to discuss the various causes of error. She did not believe that hallucination, i.e., perception without objective counterpart, which Von Hartmann suggests as the explanation of what is seen at *séances* of this kind, had occurred in her own experience; but illusion, meaning the misinterpretation of what is really perceived or the confusing of inference with observation, was very common. It was believed that this was often the case when friends and relations are recognized in the 'materialized' forms.

Moreover, in estimating evidence concerning *séances*, a wide margin must be left for conjuring of a more special kind, and also for mal-observation arising from other causes, such as the ignorance of the observer as to the precise phenomena and conditions to be expected. Mrs. Sidgwick said that two arguments against the reality of the physical phenomena of spiritualism gained in force every year: 1°, the absence of phenomena about which there could be no question as to conjuring raised; and, 2°, the fact that almost every medium who had been prominently before the public had been detected in fraud. Nevertheless, the writer felt that there was some evidence not to be neglected, and which made it a duty to seek for more; but she considered it a waste of time to seek it with professional mediums under the conditions imposed at present. It is probable that many of the conditions supposed to be necessary, and which complicate the investigations and increase their difficulty, are invented merely to facilitate trickery.

Mrs. Sidgwick's paper was candid and able, and dealt with evidence, not theories. It is one more example of the good work being done by the Society for psychical research in determining just what basis there is for the multitude of current beliefs concerning certain classes of psychical and semi-psychical phenomena. In this case the conclusions are negative—or, as was remarked in the discussion of the paper, positive—as to imposture.

THE EVOLUTION OF LANGUAGE.

THE present advanced condition of our knowledge of language reflects, as well perhaps as any other study, the advantages of the modern method of research. One marked feature of that method is the taking of a broad general point of view, from which almost any pertinent fact bears an interest and a meaning: it does not narrowly and pedantically say such and such is my domain;

what is outside does not concern me. The condition of logic about one hundred years ago shows what happens when the latter position is taken. A second feature of modern methods of study is the importance assigned to the evolution of things: we want to know not only how things are, but quite as well how they came to be so; only then do we say we understand them.

Both these methods have been applied to language. Language is considered from a broad biological point of view as the means of communication between the same or different animal species. Human speech is but the highest stage of a special development of one form of such a means of communication. We shall see below how it is related to more lowly forms of making one's self understood. Not only its evolution, but its devolution, its loss and impairment in disease, have been wrought out. This has led to the formulation of an important law, which tells us that the latest acquired and best organized is the first to drop out. Moreover, it has sifted out the separate moments in the acquisition of speech, by a comparison of cases in which one special function is lost, while all others remain intact. Its anatomical seat in the brain is localized with as much exactness as that of other less complex faculties. The purely philological study of language is certainly flourishing, and is making its way back into the remotest antiquity, when it seems almost to touch hands with the prehistoric man of the anthropologists.

A recent writer in *Kosmos* (Dr. Carl Francke) has presented a very readable account of the relation of human speech to that of other animals. Any thing is regarded as a language which serves as a means of communication: the system of signals (probably by use of the antennae) by which ants tell each other of a precious find is perhaps the most rudimentary type of language. When we ascend to mammals and birds, which have lungs and use them as men do, we find that the sounds thus uttered are variously affected by emotional states, and soon serve to express the presence of such emotions. The dog barks with joy, howls with pain, and pleads by whining. In this tendency of psychic states to express themselves by vocal utterances, we have the origin of speech; for they become real speech-sounds as soon as other animals appreciate their meaning. The next great step is taken when an animal utters a cry for the purpose of calling its mate, not as a half-reflex expression of its own condition. Young birds probably have not reached this stage, but dogs certainly have. A dog will bark before a closed door till some one opens it. Some animals post sentinels, which give a definite cry of