Science Notes.

THE DISTRIBUTION OF SEEDS.

The fifteenth part of the English translation of "Kerner's Natural History of Plants," which appeared last month, deals very appropriately to the season, with the dispersal of seeds.

In the minds of some persons there is an idea that there is something in Science antagonistic to Art, and that the botanist and zoologist, who sometimes destroy life in order to pursue their studies, are lacking in their appreciation of plants and animals from the æsthetic point of view. This idea is surely a mistake, for the delight in form and colour as seen in Nature must be deeper and more lasting where there is linked with it an appreciation of the meaning of what the eye beholds; so in reading Professor Kerner's description of the different fruits adapted to different methods of dispersal, one looks round on the rich tints of the autumn foliage, the glowing berries, the brilliant silky white of the cotton sedge lighted up by the sun and kept in constant motion by the breeze blowing over the moorland, and all acquires a new interest.

We do not mean to convey that English students of botany are indebted to Professor Kerner and his translations for the main facts concerning the distribution of seed by the wind and by animals, but this part of his book, like the rest of it, is of equal interest to the general reader and the student, combining as it does the most lucid description with a wealth of examples and excellent illustrations. In the section concerning the consumption of seeds and fruits by different birds, however, there is much information derived from experiments made by Professor Kerner himself and, we believe, not previously published in English. The partiality of various birds for fleshy and juicy fruits is well known and we are justified in believing that this, so far from being destructive to plants as a race, is of great advantage to them, since in many cases the seeds escape destruction and are removed to a distance from the parent plant and so placed under conditions more favourable for growth.

As the result of 520 separate experiments, Professor Kerner divides birds into three groups in relation to the matter of the fate of the seeds they swallow. Some birds grind all their food into very small particles in the "gastric mill" or gizzard, where the material ingested is mixed with small stones and sand. The excrement of such birds very naturally contained hardly any seeds capable of germinating. In the case of the second group (such large birds as jackdaws and ravens) it was found that soft-coated seeds were destroyed during their passage through the alimentary canal, but hard-coated seeds, such as cherry stones, were always in a condition to germinate. In the case of a third group (of which the black-bird and song-thrush are representatives) many seeds were ejected from the birds' crops after being swallowed; of the seeds not so rejected, many were excreted in a surprisingly short time (in some instances half-an-hour) and whether they remained in the alimentary canal for a long or for a short period, by far the greater proportion of seeds swallowed were capable of subsequent germination.

It is familiar to everyone, even though the reason of the phenomena may never have engaged attention, that edible fruits become conspicuous in colour and attractive by their scent as they ripen. Berries on evergreen trees are usually red, as in the case of the yew and the holly. Where the foliage assumes autumn tints after the fruit has disappeared, red fruit is also found, as illustrated by the strawberry and raspberry. Where, however, the foliage has become red at the season of ripe fruit, black is a more conspicuous colour, and so we can give a reason for the tint of the blackberry and the dogwood fruit.

Notes on Art.

THE NATIONAL GALLERY.

Why do English people look at, admire, and take the greatest pains to go and see, all the foreign pictures they can, when they have never been inside the doors of our grand national collection? Over and over again, when abroad, I have asked myself this question. There can be but one answer; we are so constituted that we are unable to appreciate what costs us neither money nor effort.

But, until I went abroad, I never realized to what an enormous extent this was true. A young man—an Oxford graduate—in Dresden, was deeply interested in the fine Gallery there. What particularly charmed him was the single small example therein contained of Il Perugino's work. "But," said I, "this is not to be compared with the triptych at home in London, in our National Gallery."

"Oh," was the reply, "have we a Perugino? I did not know—I have never seen the National Gallery."

This was merely one example in hundreds that I encountered. Nobody had any real knowledge of the range of our collection—many had never even seen it. Yet every day its doors stand open, and on four days of each week, admission costs nothing, and no real judge of Art would dispute the assertion, that, although the Dresden Gallery contains a few incomparable gems, yet that, as a thoroughly representative collection, the average of our own Gallery is far higher.

More especially is this the case of late, since the new curator (Poynter) has re-arranged the pictures belonging to the different schools with such wonderful care and knowledge. The merest tyro might for herself acquire a complete history of painting from Cimabue to the final flickering out of the flame in Italy with Guardi and Canaletto, from the Van Eyeks to Sir Peter Lely, from Mr. Hudson, the insignificant master of a great pupil, down to Rossetti and Cecil Lawson.

It is six years ago since I was in Dresden, and perhaps they have altered things since then; but at that date, the confusion in the Gallery was something scandalous. In the same room hung Correggio's matchless "*Heilige Nacht*," and a worthless copy of Raffælle's "St. Cecilia." The small reading Magdalen, painted on copper, and now conclusively known *not* to be Correggio's work, was unblushingly ascribed to him, and the copy of the Titian's Venus was marked as an original! The exquisite little Mantegna was poked away in a small room where people hardly ever went, and *not a single photograph of it was to be obtained* in the whole of Dresden, though copies of

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