observations on the birds of Paraguay *(Apuntamientos,* No. 340), wherein he gave an account of it under the name of “ Sana,” which it bore among the Guaranis,—that of “ Cariama ” being applied to it by the Portuguese settlers, and both expressive of its ordinary cry.@@1 It was not, however, until 1809 that this very remarkable form came to be autoptically described scientifically. This was done by the elder Geoffroy St-Hilaire *(Ann. du muséum,* xiii. pp. 362-370, pl. 26), who had seen a specimen in the Lisbon museum; and, though knowing it had already been received into scientific nomenclature, he called it anew *Microdactylus marcgravii.* In 1811 J. K. W. Illiger, without having seen an example, renamed the genus *Dicholophus—*a term which has since been frequently applied to it—placing it in the curious congeries of forms having little affinity which he called *Alectorides.* In the course of his travels in Brazil (1815-1817), Prince Max of Wied met with this bird, and in 1823 there appeared from his pen *N. Act. Acad. L.~C. nat. curiosorum,* xi. pt. 2, pp. 341-350, tab. xlv.) a very good contribution to its history, embellished by a faithful life-sized figure of its head. The same year Temminck figured it in the *Planches coloriées* (No. 237). It is not easy to say when any example of the bird first came under the eyes of British ornithologists; but in the Zoological *Proceedings* for

1836 (pp. 29-32) W. Martin described the visceral and osteological anatomy of one which had been received alive the preceding year.

The Seriema, owing to its long legs and neck, stands some two feet or more in height, and in menageries bears itself with a stately deportment. Its bright red beak, the bare bluish skin surrounding its large grey eyes, and the tufts of elongated feathers springing vertically from its lores, give it a pleasing and animated expression; but its plumage generally is of an inconspicuous ochreous grey above and dull white beneath,—the feathers of the upper parts, which on the neck and throat are long and loose, being barred by fine zigzag markings of dark brown, while those of the lower parts are more or less striped. The wing-quills are brownish black, banded with mottled white, and those of the tail, except the middle pair, which are wholly greyish brown, are banded with mottled white at the base and the tip, but dark brown for the rest of their length. The legs are red. The Seriema inhabits the *campos* or elevated open parts of Brazil, from the neighbourhood of Pernambuco to the Rio de la Plata, extending inland as far as Matto Grosso (long. 60°), and occurring also, though sparsely, in Paraguay. It lives in the high grass, running away in a stooping posture to avoid discovery on being approached, and taking flight only at the utmost need. Yet it builds its nest in thick bushes or trees at about a man’s height from the ground, therein laying two eggs, which Professor Burmeister likens to those of the Land-Rail in colour.@@2 The young are hatched

fully covered with grey down, relieved by brown, and remain for some time in the nest. The food of the adult is almost exclusively animal,—insects, especially large ants, snails, lizards and snakes, but it also eats certain large red berries.

Until 1860 the Seriema was believed to be without any near relative in the living world of birds;@@3 but in the Zoological *Proceedings* for that year (pp. 334-336) G. Hartlaub described an allied species discovered by H. C. C. Burmeister in the territory of the Argentine Republic.@@4 This bird, which has since been regarded as entitled to generic division under the name of *Chunga burmeisteri (P.Z.S.,* 1870, p. 466, pl. xxxvi.), and seems to be known in its native country as the “ Chunnia,” differs from the Seriema by fre­quenting forest or at least bushy districts. It is also darker in colour, has less of the frontal crest, shorter legs, a longer tail, and the mark­ings beneath take the form of bars rather than stripes, while the bill, eyes and legs are all black. In other respects the difference between the two birds seems to be immaterial.

There are few birds which have more exercised the taxonomer than this, and the reason seems to be plain. The Seriema must be regarded as the not greatly modified heir of some very old type, such as one may fairly imagine to have lived before many of the existing groups of birds had become differentiated, and it is probable that the extinct birds known as *Stereornithes,* and in particular the fossil *Phororhachos* from the Miocene of Patagonia, were closely allied to its ancestors. It is now placed in the family *Cariamidae* of Gruiform birds (see Bird). (A. N.)

SERIES (a Latin word from *serere,* to join), a succession or sequence. In mathematics, the term is applied to a succession of arithmetical or algebraic quantities (see below); in geology it is synonymous with *formation,* and denotes a stage in the classification of strata, being superior to *group* (and consequently to *bed,* and *zone* or *horizon)* and inferior to *system;* in chemistry, the term is used particularly in the form *homologous series,* given to hydrocarbons of similar constitution and their derivatives which differ in empirical composition by a multiple of CH2, and in the form *isologous series,* applied to hydrocarbons and their deriva- tives which differ in empirical composition by a multiple of H2; it is also used in the form *isomorphous series* to denote elements related isomorphously. The word is also employed in zoological and botanical classification.

In mathematics a set of quantities, real or complex, arranged in order so that each quantity is definitely and uniquely determined by its position, is said to form a series. Usually a series proceeds in one direction and the successive terms are denoted by *u*1, *u*2, . . . *u*n, . . . ; we may, however, have a series pro- ceeding in both directions, a back-and-forwards series, in which case the terms are denoted by

. . . u-m, . . . u-2 u-1, u0, u1, u2, . . . un . . . ;

or its general term may depend on two integers positive or nega­tive, and its general term may be denoted by *um*, n; such a series is called a double series, and so on. The number of terms may be limited or unlimited, and we have two theories, (1) of finite series and (2) of infinite series. The first concerns itself mainly with the summation of a finite number of terms of the series; the notions of convergence and divergence present themselves in the theory of infinite series.

Finite Series.

**I.** When we are given a series, it is supposed that we are given the law by which the general term is formed. The first few terms of a series afford no clue to the general term; the series of which the first four terms are 1, 2, 4, 8, may be the series of which the general term is 2n; it may equally well be the scries of which the general term is 1/6 (n3 + 5n + 6) ; in fact we can construct an infinite number of series of which the leading terms shall be any assigned quantities. The only case in which the series may be completely determined from its leading terms is that of a “ recurring series.” A recurring series is a series in which the consecutive terms, after the earlier ones, are connected by a linear relation ; thus if we have a relation of the form

αpWri+op-ïMr+ï + σp-2Wr+a+ . . . +αιMr+B-ι4-αo‰M>==o, the series is said to be a recurring series with a scale of relation

though taken from a genuine specimen; but little that can be called Ralline in character is observable therein. The same is to be said of an egg laid in captivity at Paris; but a specimen in Mr Walter’s possession undeniably shows it (cf. *Proc. Zool. Society,* 1881, p. 2).

@@@1 Yet Forbes states *(Ibis,* 1881, p. 358) that *Seriema* comes from *Siri,* “ a diminutive of Indian extraction,” and *Ema,* the Portuguese name for the Rhea (see Emeu), the whole thus meaning “ Little Rhea.”

@@@2 This distinguished author twice cites the figure given by Thienemann *(Fortpflanzungsgesch. gesammt. Vogel,* pl. lxxii. fig. 14) as

@@@3 A supposed fossil *Cariama* from the caves of Brazil, mentioned by Bonaparte *(C.R.* xliii. ρ. 779) and others, has since been shown by Reinhardt *(Ibis,* 1882, pp.. 321-332) to rest upon the misinterpretation of certain bones, which the latter considers to have been those of a Rhea.

@@@4 Near Tucuman and Catamarca (Burmeister, *Reise durch die La Plata Staaten,* ii. p. 508).