*πίvακες* were published, scribes evidently thought it was needless to repeat what could be found there; and thus it is that so few MSS. have descended to us which are marked in this way. A more natural reason for the scarcity of such details is that scribes and booksellers suppressed them in order to impose upon their customers.

The application of the system to Latin MSS. was fully recog­nized. The unit of measurement was the average Virgilian line. This is recorded in an interesting memorandum written in the 4th century, found in a MS. in the Phillipps Library at Cheltenham, containing a computation of the στίχοι in the books of the Bible and the works of Cyprian. The writer states that in the city of Rome it had become the practice not to record the number of verses in the MSS., and that elsewhere also, for greed of gain, the numbers were suppressed. Therefore he has made a calculation of the contents of the text under, his hand and has appended to the several books the number of Virgilian hexameters which would represent its length. The rate of pay of the scribes in Diocletian’s reign was fixed by his edict *de pretiis rerum venalium* at 25 denarii for 100 *στίχοι* in writing of the first quality, and at 20 denarii for the second quality; what the difference was between the two qualities does not appear.

The system of measurement described above has been called “ total stichometry,” in distinction from “ partial stichometry,” which was the calculation and marking off in the margins of the *στίχοι* from point to point, just as we mark off the lines in a poem at convenient intervals and number the verses of the chapters of the Bible. This method was for convenience of literary reference. Instances of such “ partial stichometry ” are not very numerous among existing MSS., but they are sufficient to show that the system was in vogue. In the Bankes Homer in the British Museum the verses are numbered in the margin by hundreds, and the same practice was followed in other Homeric papyri. In the Ambrosian Pentateuch of the 5th century at Milan the book of Deuteronomy is likewise numbered at every hundredth *στiχoς*. Euthalius, a deacon of Alexandria of the 5th century, marked the στίχοι of the Pauline epistles by fifties. In the Codex Urbinus of Isocrates, and in the Clarke Plato of a.d. 888, at Oxford, there are indications of partial stichometry.

There was also in use in biblical texts and in rhetorical works a stichometrical system different from that described above, in which the στίχοι, as we have seen, were lines of measurement or *space-* lines. This other system, which is more correctly entitled colometry (see Manuscript), consisted in the division or breaking up of the text into short sentences or lines according to the *sense,* with a view to a better understanding of the meaning and a better delivery in public reading. The Psalms, Proverbs and other poetical books were anciently thus written, and hence received the title of *βlβλοι* *στιχήρεις*, or *στιχηραl*; and it was on the same plan that St Jerome wrote, first the books of the prophets, and subsequently all the Bible of his version, *per cola et commata “* quod in Demosthene et Tullio solet fieri.” In the Greek Testament also Euthalius, in the 5th century, introduced the method of writing *στιχηδόv*, as he termed it, into the Pauline and Catholic epistles and the Acts. The sur­viving MSS. which contain the text written in short sentences show by the diversity of the latter that the rhythmical sentences or lines of sense were differently calculated by different writers; but the original arrangement of St Jerome is thought to be represented in the Codex Amiatinus at Florence, and that of Euthalius in the Codex Claromontanus at Paris. With regard to St Jerome’s reference to the division *per* *cola el commata* of the rhetorical works of Demos­thenes and Cicero, it should be noticed that there are still in exis­tence MSS. of works of the latter in which the text is thus written, one of them being a volume of the *Tusculans* and the *De senectute* in the Bibliothèque Nationale at Paris. The same arrangement of the text of the orations of Demosthenes is also mentioned by the rhetoricians of the 5th and subsequent centuries.

Authorities.—C. Graux in *Revue de philologie* (1878), ii. 97; T. Mommsen in *Hermes,* xxi. 142; W. Sanday in *Studia biblica* (1891), iii. 217; J. Rendel Harris, *Stichometry* (1893). (E. Μ. T.)

**STICKÉ,** a game played in an enclosed court, taking its name from “ sphairistiké,” the parent of lawn-tennis. The implements are an ordinary lawn-tennis racket and lawn-tennis balls not covered with flannel. The walls of the court may be made of wood, cement or brick to the height of 9 or 10 ft., with netting above—unless the court is roofed—to prevent the balls from going out: the floor may be of wood, cement or asphalt, perfect accuracy not being essential. The dimensions of the court are 78 ft. by 27 ft.; it is bisected longitudinally by a painted line, laterally by a net 3 ft. 6 in. high, above which is stretched a tape 8 ft. from the ground. In each of the corners a 9-ft. square (the "service ” court) is painted, and 18 ft. from each back wall lines (“service” lines) are drawn across the breadth of the court. The rules are similar to those of lawnrtennis, except that a ball can only be "out of court ” if it is struck over the walls.

**STICK-INSECT,** the name given to certain orthopterous insects of the family Phasmidae, of extremely variable form and size, and deriving their name from a resemblance to the branches and twigs of the trees in which they five and feed. The resem­blance is produced by the’ great length and slenderness of the body and legs. Protection is afforded to some species, like *Heteropteryx grayi* from Borneo, by sharp thorníike spines. The anterior wings, when present, are always small; but the posterior wings are sometimes of large size and very beautifully coloured. The colouring, however, is only visible when the wings are expanded and in use. Many species are wingless at all ages. As in the leaf-insects, to which the stick-insects are closely allied, the egg-cases are very similar to seeds. Stick-insects are intolerant of cold, and attain their largest size and greatest pro­fusion of species in the tropics, one West African species, *Palophus centaurus,* reaching a length of 9 in. Species of small size are found in southern Europe, one belonging to the genus *Bacillus* advancing as far north as the middle of France.

**STICKLEBACK,** the name applied to a group of small fishes *(Gastrosteus)* which inhabit the fresh and brackish waters as well as the coasts of the temperate zone of the northern hemi­sphere. As far as the European kinds are concerned, all may be met with in the brackish water of certain littoral districts. The majority have a compressed well-proportioned body, which in the marine species is of a more elongate form, leading to the allied group of flute-mouths *(Fistulariidae)*, which are, in fact, gigantic marine sticklebacks. Their mouth is of moderate width, oblique, and armed with small but firmly set teeth. The head is almost entirely protected by hard bone; even the cheeks are cuirassed by the dilated infraorbital bones. There are no scales developed on any part of the body, but a series of hard and large scutes protects a greater or lesser portion of the sides. The first dorsal fin and the ventrals are transformed into pointed formidable spines, and joined to firm bony plates of the endo­skeleton. With regard to the degree in which this armature is developed, not only do the species differ from each other, but almost every species shows an extraordinary amount of varia­tion. About ten kinds may be taken to be specifically distinct.

So far as is known at present, all sticklebacks construct a nest for the reception of the spawn, which is jealously guarded by the male until the young are hatched, which event takes place in from ten to cighteen days after oviposition. He also protects them for the first few days of their existence.

Sticklebacks are short-lived animals; they are said to reach an age of only three or four years; yet their short life, at least that of the males, is full of excitement. During the first year of their existence, before the breeding season begins, they live in small companies in still pools or gently flowing brooks. But with the rcturn of the warmer season each male selects a territory, which he fiercely defends against all comers, especially against intruders of his own species and sex, and to which he invites all females, until the nest is filled with ova. At this period he also assumes a bridal dress, painted with blue and red tints. The eggs are of comparatively large size, one female depositing from 50 to 100. *Gastrosteus aculeatus,* var. *noveboracensis,* Three-Spined Stickleback.

Of the species known not one has so wide a geographical range, and has so well been studied, as the common British three- spined stickleback *(Gastrosteιιs aculeatus).* It is found every­where in northern and central Europe, northern Asia, and North