(1900); for the United States, J. Bryce, *American Common­wealth,* M. P. Follett’s *The Speaker of the House of Representa­tives* (New York, 1896); H. B. Fuller, *Speakers of the House* (Boston, 1909).

**SPEAR (O.** Eng. *spere,* O. H. Ger. *sper,* mod. Ger. *speer,* &c., cL Lat. *sparus;* probably related to “ spar, ” a beam), a weapon of offence. Developed from a sharp-headed stake, the spear may be reckoned, with the club, as among the most ancient of weapons. All the prehistoric races handled the spear; all savage folk thrust with it or hurl it; civilized man still keeps it as the lance and the boar-spear; indeed, the bayonet is a spear-head with the rifle for a shaft.

The English before the Norman conquest were a spear-bearing race. The freeman’s six-foot ashen spear was always near his hand; and its head is found beside the bones of every warrior. The casting javelin was commoner than the bow. Norman horsemen made the long lance, a dozen feet long, its pennon fluttering below the point, the knightly weapon. Throwing spears became rare, the Black Prince’s English knights wonder- ing at the Spanish fashion of casting darts. In the 14th century the vamplate came into use as a guard for the lance hand above the grip. At this time also the coronet head was devised for the better safeguard of the jousters, many of whom, how- ever, preferred the blunted or “ rebated ” point. The next step in development gave the shaft a swell towards the hand on both sides of the grip, a swell exaggerated in\* the jousting lance of the 16th century, which, fluted and hollowed, is found weighing twenty pounds, with a girth of as much as 27½ in. at its broadest part. Leather “ burres ” were added below the grip and, before the end of the 14th century, the weight of the jousting lance called for the use of the lance-rest, a hook or catch screwed to the right breast of the harness.

The Scots, always weaker than the English in archery, favoured the long spear as the chief weapon of the infantry, and from Falkirk onwards held their own in their “ schiltron ” formation against all cavalry, until riddled and disarrayed by the arrow-flights. Their English enemy, when harquebusiers began to ’oust the archers, exchanged the old bills for those 18 and 20 ft. pikes which bristled from the squares pro­tecting the “ shot.” At the same time, the English horsemen began to leave the lance for sword, pistol and musketoon. During the civil wars in the 17th century every man on foot was either pikeman or musketeer. After 1675 the long pike gave way to the bayonet in its first shape of a dagger whose hilt could be struck into the muzzle of the musket, and, some fourteen years later, the bayonet with a ring-catch gave the infantry­man the last form of his pike. Sergeants, however, carried through the 18th century a “ halbert ” *(q.v.)* which, in its degen­erate form, became a short pike, and infantry officers were sometimes armed with the spontoon. In 1816 certain dragoon regiments were given the lance which had been seen at work in the hands of Poles and Cossacks; and the weapon is still part of the service equipment although controversy is still hot over its value in action, its supporters urging the demoralizing effect of the lance against broken troops. Queen Victoria’s navy gave up, in favour of the cutlass bayonet, the pikes which were once served out to repel attacks of boarders. At the present day the High Sheriff’s party of javelin-men are the only Englishmen who march on foot with the ancient weapon. (See further Lance.)

**SPECIES,** a term, in its general and once familiar significance, applied indiscriminately to animate and inanimate objects and to abstract conceptions or ideas, as denoting a particular phase, or sort, in which anything might appear. In logic it came to be used as the translation of the Gr. *cιδos,* and meant a number of individuals having common characters peculiar to them, and so forming a group which with other groups were included in a higher group. The application of the term was purely relative, for the higher group itself might be one of the “ species, ” or modes of a still higher group. In medicine it was used for the constituents of a prescription. In algebra it denoted the characters which represented quantities in an equation.

Early writers on natural history used the term in its vague logical sense without limiting it to a special category in the hierarchy of classification. To John Ray, the famous English naturalist, the credit is generally given of first making species a definite term in zoology and botany, but Ray owed much of his classification to Kaspar or Gaspard Bauhin (1550-1624), pro- fressor of Greek and of Anatomy and Botany at Basel, and much of his clear definition of terms to an unpublished MS. of Joachim Jung of Hamburg (1587-1657). Sir W. T. Thisleton Dyer *(Edinburgh Review,* 1902, p. 370) thinks that Ray’s use of the word may be traced to the last-mentioned authors. It is clear, however, that through Ray’s work in the 17th century the common biological application of species became fixed much in its modern form, as denoting a group of animals or plants capable of interbreeding, and although not necessarily quite identical, with marked common characters. Working on these lines, and attaching special importance to common descent, naturalists applied the term with more and more precision, until Linnaeus, in his *Philosophia botanica,* gave the aphorism, “ species tot sunt diversae, quot diversae formae ab initio sunt creatae ”—“ just so many species are to be reckoned as there were forms created at the beginning. ” Linnaeus’ invention of binomial nomenclature for designating species served systematic biology admirably, but at the same time, by attaching preponderating importance to a particular grade in classification, crystallized the doctrine of fixity. The lower grades in classification such as sub-species and varieties on the one hand, and the higher grades on the other, such as genera and families, were admitted to be human conceptions imposed on the living world, but species were concrete, objec- tive existences to be discovered and named. G. L. L. Buffon and J. P. B. Lamarck practically conceded the objective existence of species in arguing that they might be modified by external conditions, and G. L. Cuvier proclaimed their fixity without reserve. Charles Darwin found the conception of species so definite and fixed that he chose for the title of his great book (1859) the words *On the Origin of Species by Means of Natural Selection,* although his exposition of evolu- tion applied equally to every grade in classification. E. B. Poulton, in an admirable discussion of contemporary views regarding species (presidential address to the Entomological Society of London 1904), has shown that Darwin did not believe in the objective existence of species, not only because he was led to discard the hypothesis of special creation as the explanation of the polymorphism of life, but because in practice as a working systematist he could neither find for himself nor ascertain from other systematists any settled criteria by which a group of specimens could be elevated into a genus, accepted as a species, or regarded as a variety.

The vast advance in knowledge of the existing forms of living things that has been acquired and recorded since 1859 has accentuated the difficulty of finding any morphological criteria for species. A few writers have insisted that they are discon- tinuous, and that real gaps exist between them. Equally great gaps, however, may exist between males and females, between climatic phases or summer and winter forms. The attempt to find a physiological criterion has similarly failed; many forms that have been universally accepted as true species produce fertile hybrids (see Hybridism). In modern practice (sec Zoological Nomenclature) systematists no longer regard species as more than as an artificial rank in classification, to be applied chiefly for reasons of convenience, so that the word is reverting to its older logical significance. The word “ species ” now signifies a grade or rank in classification assigned by systematists to an assemblage of organic forms which they judge to be more closely interrelated by common descent than they are related to forms judged to be outside the species, and of which the known individuals, if they differ amongst them- selves, differ less markedly than they do from those outside the species, or, if differing markedly, are linked by intermediate forms. It is to be noted that the individuals may themselves be judged to fall into groups of minor rank, known as sub-species