female offspring appear in increasing majority. This view has been confirmed by Goehlert, Boulanger, Legoyt, and others ; some breeders of horses, cattle, and pigeons have also accepted it Other breeders, however, deny it alto­gether ; moreover, the recent statistics of Stieda and of Berner (taken independently from Alsace-Lorraine and Scandinavia) seem to stand in irreconcilable contradiction. At any rate at present we do not seem justified in ascribing greater importance to the relative age of parents than as a secondary factor, which may probably take its place among those causes influencing nourishment discussed below,

That good nourishment appears to produce a distinct preponderance of females is perhaps the single result which can at present be regarded as clearly proven and generally accepted. Yet it would be too much to say that unanimity is even here complete ; thus, among plants, the experiments of Girou (1823), Haberlandt (1869), and others gave no certain result; those of Heyer (1883) have led him to dispute the validity of the generalization altogether, while Haberlandt (1877) brought evidence for regarding the excess of females as largely due to the greater mortality of the males. The investigations of agricultural observers, especially Meehan (1878), which are essentially corroborated by Düsing (1883), however, leave little doubt that abundant moisture and nourishment tend to produce females. Some of Meehan’s points are extremely instruc­tive. Thus old branches of Conifers overgrown and shaded by younger ones produce only male inflorescences, a fact which may be taken in connexion with Sadebeck’s obser­vation that some fern prothallia, under unfavourable con­ditions, can still form antheridia but not archegonia. The formation of female flowers on male heads of maize is ascribed by Knop to better nutrition consequent on abund­ant moisture. The only seriously contradictory observa­tions are thus those of Heyer, and it is therefore reassuring when a detailed scrutiny of his paper shows his ill-con­ducted experiments (which land him in the conclusion that the organism is not modifiable by its environment at all) to be largely capable of a reversed interpretation. The agency of temperature is also of considerable importance. Thus Meehan finds that the male plants of hazel grow more actively in heat than the female, and Ascherson states that *Stratiotes aloides* bears only female flowers north of 52° lat., and from 50° southwards only male ones. Other instances might be given.

Passing to the animal kingdom we find the case of insects peculiarly clear ; thus Mrs Treat showed that if caterpillars were starved before entering the chrysalis state the resultant butterflies or moths were males, while others of the same brood highly nourished came out females. Gentry too has shown for moths that innutritious or diseased food produced males ; hence perhaps a partial explanation of the excess of male insects in autumn, although temperature is probably more important. The recent experiments of Yung on tadpoles are also very conclusive. Thus he raised the percentage of females in one brood from 56 in those unfed to 78 in those fed with beef, and in another supply from 61 to 81 per cent. by feeding with fish ; while, when the especially nutritious flesh of frogs was supplied, the percentage rose from 54 to 92. Among mammals the difficulties of proof are greater, but evidence is by no means wanting. Thus an important experiment was long ago made by Girou, who divided a flock of 300 ewes into equal parts, of which the one half were extremely well fed and served by two young rams, while the other was served by two mature rams and poorly fed. The proportion of ewe lambs in the two cases was respectively 60 and 40 per cent. Düsing also states that it is usually the heavier ewes which bring forth ewe lambs.

Nor does sex in the human species appear to be independent of differences of nutrition. After a cholera epidemic or a war more boys are said to be born, and Düsing also points out that in females with small placenta and little menstruation more boys are found, and even affirms that the number of male children varies with the rise in prices. In towns and in prosperous families there are also more females, while males are more numerous in the country and among the poor. The influence of tem­perature is also marked : more males are born during the colder months, a fact noted also by Schlechter for horses.

The best known and probably still most influential theory is that systematized by Girou and known as that of “ comparative vigour.” This makes sex of offspring depend on that of the more vigorous parent. But to this view there are serious difficulties : thus consumptive mothers produce a great excess of daughters, not sons as might be expected from the superior health of the father. Still less weight can be attached to that form of the hypothesis which would make sex follow “ genital superiority ” or “ relative ardency ” alone. Any new theory has thus to reconcile the arguments in favour of each of the preceding views, and meet the difficulties which beset all. As Starkweather puts it, it must at once account for such facts as “ the preponderance of male births in Europe, of females among mulattos and other hybrid races, as also among polygamous animals, and for the equality among other animals. More especially it must suggest some principle of self-adjustment by which not only is the balance of the sexes nearly preserved on the whole, but by which also in cases of special disturbance the balance tends to readjust itself.” Starkweather proceeds to attempt this, and his argument may be briefly summarized. While few maintain any essential equality of the sexes, and still fewer any superiority of the female, the weight of authority has been from the earliest times in favour of the doctrine of male superiority. From the earliest ages philosophers have contended that woman is but an unde­veloped man ; Darwin’s theory of sexual selection presup­poses a superiority in the male line and entailed on that sex ; for Spencer the development of woman is early arrested by procreative functions : in short, Darwin’s man is as it were an evolved woman, and Spencer’s woman an arrested man. On such grounds we have a number of theories of sex. Hough thinks males are born when the system is at its best, more females when occupied in growth, reparation, or disease. So, too, Tiedman and others regard every embryo as originally female and remaining female if errested, while Velpau conversely regards embryos as all naturally male, but frequently degenerating to the female state. Starkweather points out some of the difficulties to the view of female inferiority, and lays it down as the foundation of his work that “ neither sex is physically the superior, but both are essen­tially equal in a physiological sense.” But, while this is true of the average, there are many grades of individual differences and deficiencies in detail, involving a greater or less degree of superiority in one or other of every pair. Starkweather’s theory then is “ that sex is determined by the superior parent, also that the superior parent produces the opposite sex.” The arguments adduced in favour of this view, however, are scarcely worthy of it, since, save a chapter of pseudo-physiological discussion of vital forces and polarities, of superiority,—nervous, electrical, &c.,— they rest mainly on the vague and shifting grounds of physiognomy and temperament. And when superiority is analysed into its factors,—cerebral development and activ­ity, temperament, state of health, of nutrition, &c.,—soon we find under the appearance of simplicity a law has been obtained not by discovering any real unity under the many