

inclination towards suicide we shall speak in the following section; and then the true professionals, tradespeople, and all those reckoned in the vagrant professions." The statistics with regard to the military are remarkable. Thus in Prussia the average suicide over the whole male population is 394 per million, while in the army it rises to 600 or 620. In Austria the proportion is still higher, viz. 866 per million as against 122 of the civil population, and in the Belgian army the case is nearly as bad. In the English army from 1862-71 the suicidal tendency was more than triple that of the male civilian population. "This tendency, moreover, augmented as time advanced; from 1862-71 it grew from 278 per million to 400, and even reached 569 in 1869. The tendency increases with the sending away the troops from Europe, so that in the kingdom (*at home*) the number is 339 per million, but in the English possessions in India it rises to 468." Of the different sections of the British army members of the cavalry are most addicted to suicide (in one year the percentage among the dragoons being as high as 785 per million), next the artillery, then the infantry, foot-guards, engineers, and lastly the household cavalry.

Analysis of the motives which lead to suicide shows this as a general result:—"In man the manifestation of personal interest rules in [almost] every case, and as only a fourth or fifth of the suicides are committed by women, the already small proportion of those which are due to noble and generous motives becomes still more attenuated."

Concerning the methods and places chosen by suicides,

"Each country certainly has its peculiar predilections, but in the aggregate of the peoples by whom suicide is practised, the rope appears to be chosen before every other instrument, and immediately after that water (both giving 5-10ths to 8-10ths of cases); firearms follow; then those arms which cut or stab; falling from a height is preferred to charcoal and poison; and lastly come all the other means."

Hanging stands in inverse ratio to drowning. For in Italy and other countries where hanging is most rarely resorted to, drowning is most common, while in Russia, where hanging is the favourite mode (four-fifths of all the suicides) drowning is very rare (hardly 6.9 per cent.). Firearms are preferred in the South of Europe and by the military everywhere, while in England poison and throatcutting are most favoured. It is curious that "there is a constant difference between the sexes in falls from heights and crushing under railway trains, the former being proportionally more frequent among women, the latter, on the contrary, much more so amongst men." There are other "sexual divergences" of the same kind, and as showing the combined influence of sex and age we may quote one other passage:—

"Males under 15 years of age choose hanging (86 per cent.), and women choose drowning (71 per cent.); in the ages between 15 and 20 the same predilection of the two sexes continues, but it lessens (hanging amongst males is 72 per cent.; drowning among women 65), and it grows still less between the ages of 20 and 30. With the diminution of the tendency towards hanging, that towards drowning increases amongst the men, the greatest number of deaths by this means falling between the ages of 40 and 50; but in advanced age the old people return to a preference for hanging, even more than children (91 per cent.)."

The book concludes with a short "Synthesis," which leads to the proposition that "Suicide is an effect of the struggle for existence and of human selection [*i.e.* natural selection operating in the human species], which works according to the laws of evolution among civilised people." From the present sketch it will be seen that the work as a whole contains many facts of interest to sociologists, although to the rest of the world its somewhat repulsive details will appear useful only as showing the practically emphatic answer which sundry classes of the community respectively give to the question "Is life worth living?"

GEORGE J. ROMANES

#### OUR BOOK SHELF

*Catalogue of the Phænogamous and Vascular Cryptogamous Plants of Michigan—Indigenous, Naturalised and Adventive.* By Chas. F. Wheeler and Erwin F. Smith. (Lansing: George and Co., 1881.)

THIS excellent contribution to the flora of the United States has been compiled at the suggestion of the State Horticultural Society of Michigan. It is prefaced with a list of the various catalogues, from that by Dr. Jno. Wright, embracing 850 species, and published in 1839, to that of Dr. Palmer in 1877. With reference to its flora the Peninsula may be roughly divided into two great divisions—the hard wood and the soft wood-lands—one representing the Appalachian flora, the other the Canadian. The hard-wood country lies south of latitude 43°, and consists of very fertile sand, clay, or loam, mostly cleared of the original forest and largely cultivated. The upper Peninsula has a much colder climate than that of the lower Peninsula, and its flora is in many respects decidedly northern. Pines, fir, cedar, larch, elms, poplars, maples, and birch, are among the principal trees; the proximity of the great lakes exerts a marked influence on equalising the temperature, and the effects thereof are well seen. Trees like *Liriodendron tulipifera*, *Cercis canadensis*, *Gleditschia triacanthos*, *Cornus florida*, and *Morus rubra*, which belong to Ohio and Central Illinois, have crept northward, favoured by the mild influence of the lake winds through the central and western part of the Lower Peninsula often beyond the middle. The flora as detailed shows 1634 species. The composites claim the larger number of species—182—about one-ninth of all. Sedges follow with 176 species; Grasses, 139; Rosaceæ, 61; Leguminosæ, 55; Scrophulariaceæ, 46; Umbelliferæ, 27. Of the 165 species of trees and shrubs about twenty are valuable for their timber. About twenty species of woody and herbaceous native climbers are frequent, and some seem worthy of cultivation. The arrangement followed is that of the fifth edition of "Gray's Manual," and a coloured map of Michigan is annexed.

#### LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.]

[The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to ensure the appearance even of communications containing interesting and novel facts.]

#### Pendulum Observations in London

THE reference by the President of the Royal Society in his recent annual address to the subject of contemplated pendulum operations permits me to assume that enough interest exists in those operations to render the offer which I now wish, with your kind assistance, to make, not altogether inopportune. I am now engaged in swinging pendulums, *in London*, under conditions