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NATURAL SELECTION AND SOCIAL SELECTION¹

PREPONDERANCE OF SOCIAL SELECTION

Aristotle, the founder of political science, defined man as "the animal which lives under social conditions." These conditions force themselves upon man so peremptorily that solitary life implies a very serious psychic anomaly, barring the special cases which produce Robinson Crusoes. However shy a savage may be, he carries with him a rudimentary society, — his mate and his young; and the population is never so sparse that he can avoid meeting other groups with whom he must have relations and exchange courtesies or spear cuts.

His situation, then, is quite different from that of the common run of animals. He thinks; he speaks; he is armed. He will never pass his fellow as animals do without looking at him. His existence will all of it be dominated by social relations, rudimentary as they may be, and natural selection ceases to exercise the same pressure upon him as upon the rest of the animated world. I mean that it is transformed into social selection, in proportion as the social environment surpasses in influence the environment of nature.

In man, social selection overrides natural selection. This, I believe, is the oldest principle of selectionism. Wallace, Darwin's rival, rightly maintained in entering upon the then new and dreadful question of the origin of man ("The Origin of Human Races," *Journal of the Anthropological Society*, 1864, p. 158) that on the day when man's brain had acquired its power, natural selection ceased to have a hold on him. Broca, in his critical

¹ From *Les Sélections Sociales*, by G. Vâcher de Lapouge, Paris, Librairie Thorin & Fils (A. Fontemoing, successeur), 1896, chap. vii. Translated by Steven T. Byington.

report on Darwin's *Descent of Man* ("Les Sélections," *Revue d'Anthropologie*, 1872, pp. 705 *et seq.*) said with still greater accuracy: "[Society] . . . cannot exempt man from the ineluctable law of the combat of life, but it does profoundly modify the field of battle. It substitutes for natural selection another selection in which natural selection no longer plays any but a diminished (often almost obliterated) part, and which deserves the name of social selection." This sentence is memorable; it is the first in which we see the name of social selection appear.

Moreover, it must be that man was already under the pressure of this selection before he was man, if one may so speak; for, as a matter of fact, evolution must have been so slow, so gradual, that it would be very difficult to draw the line in the ascent. True social relations exist among all species of Primates, and it must have been so among our ancestors when they were still in the matrix of animality; even among those from whom we are separated by series of successive forms. The most human institutions — the family, government, the state, property — are found in a simple and frail form among apes. It is not at all probable that man ever passed through the state of entire independence and absolute individualism assumed by philosophers. According to all the data of zoölogy, the first man was born of a female that had her male, in a troop that had its chief, on land which was the country and the property of his kin.

To-day the social state dominates even the most savage man; it removes him from the independence of animal life and from its consequences. One is frightened to see the prodigious complication of social usages which regulate the most immaterial act of the Fuegian or the Australian. The wretched Bushman, the Mincopie, are as much the slaves of rites and social usages as the emperor of China. If one looks closely, it is among civilized men that a relative liberty reigns, and that each depends least on his neighbor for the acts of his private life.

By the aid of fire and clothing man exempts himself from the action of cold; in his huts where the air penetrates he escapes the action of the sun; by his intelligence he provides more surely for his nourishment; by his weapons he is victorious in conflict

with other animals, he makes some his prey, he escapes being the prey of others. Nay, in countries entirely civilized, he no longer has enemies to fear, — the dangerous animals are destroyed ; he no longer has to occupy himself in seeking food, — he finds it at the merchant's. The struggle for existence is now only with his fellow : *Homo homini lupus*. It is carried on only by social acts ; it is none the less hard and murderous for having changed its manner and its name.¹

SELECTION BY CLIMATE ; BY DIET

Let us rapidly go over the restricted domain, growing narrower and narrower, of natural selection. All that touches climate and diet we already know. It is by way of natural selection, not of transformation — transmutation — that races are modified when carried to countries whose climate is new to them. The same selection operates in extreme climates even on individuals who have for long generations been acclimated, and gives a character to the normal mortality in each country : here affections of the respiratory channels, there of the liver. The mountaineer's abode is also the cause of a selection of the same order ; bacteria of all sorts are infinitely rarer in water flowing from springs, and in the air of high elevations. This is a point of bacteriology too well known to dwell on. So mountaineers, aside from race, have more chances to escape from bacterial disorders than the inhabitants of plains, and especially than those of cities. As to diet, I have dwelt so much on its selective influence that I need not return to it.

It is well to note that these selections by environment are themselves not altogether comparable to those that take place among animals. It is social causes that determine emigration to colonies, the crowding of population in cities, the abundance or scarcity of food. Society appears as the indirect first cause of the selection which thus goes on under natural forms.

¹ This simply means that men must adapt their economic activities more and more to a social, and less and less to a physical, environment. The hunter and the financier are at opposite extremes. — ED.

SEXUAL SELECTION

Of all natural selections, this is the most important for mankind. Darwin thought that the evolution from the precursor to man took place under the influence of sexual selection. Broca, in the work cited above, rejects this explanation. The selection which produced this result was no other than that of intelligence ; or, at least, one cannot in the present state of our knowledge think of a more effective one. None the less, sexual selection has played a great part in all ages, and its importance has decreased without disappearing. Sexual preference—among us it is called love—is limited by the necessities of social life in our countries of intense civilization, but it is not suppressed. One still sees unions inspired by sentiments foreign to social considerations. True cases are not very frequent ; many very sincere loves have had for their first object the *beaux yeux de la cassette*, and material interests have formed a fascinating halo about the loved one. One loves the dowry, then one is caught in one's own snare and loves the woman. Come ruin, love takes flight.

Yet the statistical researches of H. Fol of Geneva have proved that unions were being often formed under conditions of morphological resemblance sufficient to let us assume a sexual preference between similar individuals. It seems that among the persons who combine the desired circumstances, that one is preferred with whom the analogies are closest. M. Hermann Fol brought together the photographs of 251 couples ; he made one lot of young couples, comprising 198, and another of old couples, comprising the 53 others. In each lot he divided the couples according as the resemblance of the parties was very great, moderate, or dubious or none, and he obtained the following results.

	RESEMBLANCE VERY GREAT	MODERATE RESEMBLANCE	DUBIOUS OR NONE
Young couples	27.3%	39.4%	33.3%
Old couples	24.5%	47.2%	28.3%

To sum up, the cases of appreciable resemblance between the parties amount to 66 per cent in the series of young couples, 71 per cent among the old couples. "Let us note," remarks this naturalist (*Revue Scientifique*, 1891, Vol. 47, p. 49), "that if unions were formed by chance, or, what comes to the same thing from our point of view, solely from motives of convenience or of interest, the number of cases of resemblance between young married people would not reach to 2 per cent." Hence he concludes, first, that couples unite in accordance with the rule of conformities and not in accordance with that of contrasts; second, that the resemblance between old married people is not a fact acquired in consequence of conjugal life.

It would be important to repeat under different circumstances these researches, which bore chiefly on the lower classes of the population, — those classes in which personal initiative is more marked and choice less limited.

J. Beddoe, operating at Bristol in a different ethnographic environment, found analogous results. Studying women from 35 to 50 years of age — the age of definitive coloring — in the Bristol Hospital, he found the following relations between color of hair and matrimonial position.

	RED HAIR	FAIR HAIR	LIGHT CHESTNUT HAIR	DEEP CHESTNUT HAIR	DARK HAIR
Single	9.8%	9.0%	28.7%	38.5%	13.9%
Married	5.5%	10.2%	35.0%	40.8%	8.4%

It follows from these figures that the scarce colors, red and dark, are comparatively given the go-by in this region of England (*Races of Britain*, p. 226). The dark are left on the counter, the red little in demand. In Switzerland and in other countries it appears to be otherwise, according to statistics by De Candolle ("Hérédité de la Couleur des Yeux," *Archives des Sciences Physiques et Naturelles*, 1884, p. 14): "The 158 dark-eyed men married 52 per cent of wives of their color and 48 per cent with gray or blue eyes. As there exist 44 per cent of dark eyes

among the women of French-speaking Switzerland, it appears that these pleased them more. The 167 men with blue or gray eyes married 59 per cent of dark-eyed wives; this is much more than the proportion among the women of the country." This exception is perhaps due to the liveliness and pleasingness of dark eyes, which are much superior to medium ones. In countries with a population formed of a mixture of *Homo Alpinus*¹ and *Homo Europaeus*,¹ like Switzerland, such a choice is calculated to favor the former race, for it presents more dark eyes. The tendencies observed at Bristol are rather unfavorable to it; but in these matters questions of imitation, fashion, and taste may play a very great part.

A very important remark of De Candolle: "In French-speaking Switzerland there have been observed for 91 concolorous couples (couples with eyes of the same color) 246 children above the age of ten, and for 122 bicolorous couples 389; this gives 2.7 per concolorous couple and 3.18 per bicolorous couple. In Germany, for 98 concolorous couples 289 children, and for 82 bicolorous 252; that is, 2.9 and 3.07 per couple. Not even the returns from Liège fail to show the same difference, though their figures are very slight. They indicate for 17 concolorous couples 44 children, and for 17 bicolorous 59, which makes 2.5 for the first and 3.47 for the second." Such an inequality in the birth rate is very serious; the question is to know whether it is due to biological or to social causes. I should be quite willing to believe that the higher birth rate of the bicolorous unions is due to the fact that they are formed more among the lower classes, the brachycephalic masses that are pullulating so. This supposition is given a certain weight by the observations which follow. ". . . I find for 72 concolorous dark couples 221 children, and for 131 concolorous blue or gray couples 357, or 3.07 and 2.72 per couple." The birth rate of the fair races being very low, we must assume that the fair couples belonged mainly to the upper classes, who are everywhere less prolific and richer in elements derived from the European race. At any rate, these researches are very curious, and any one who would undertake

¹ Linnæus.

the work of generalizing them, using large numbers as his basis, would probably find himself paid for his pains.

PATHOLOGICAL SELECTION

The races present different degrees of resistance to certain diseases. Between *Homo Europaeus* and *Homo Alpinus* there exists a very decided difference as regards miliary fever,¹ granular conjunctivitis, and myopia. The first disease decimates the dolicho-blonds of the west of France at each epidemic; it hardly touches their competitors. At Montpellier, a case of granular conjunctivitis on a brachycephalic is a rarity. The map of frequency of exemptions from military service for myopia is approximately identical with the map of the cephalic index. In America, the negro is nearly immune against yellow fever and against various local diseases very destructive to the whites. Contrariwise, in Africa, in Indo-China, the Europeans are almost entirely refractory to certain local diseases. In this sphere of ideas numerous researches have been made by Dr. Bordier and by various naval physicians, to whose works I confine myself to referring, being desirous not to risk myself on ground where I have hitherto made no personal researches. It would be superfluous to repeat what others have said more competently than I could.

SOCIAL SELECTIONS

To sum up, the domain of natural selection is quite limited. The part it plays in evolution is superior to that of the causes of transmutation, but does not come near to that of the causes of social selection. The philosophy of history is almost entirely comprised in the study of social selections. There remains yet a wide field for statisticians, historians, and anthropologists, to complete the picture of the social selections.

¹ *La suette miliare*, not typhoid fever or prickly heat (which are definitions given for "miliary fever" by some authorities), but an epidemic apparently identical with the "sweating sickness" of the sixteenth century, though its modern manifestations differ in certain symptoms. England, which was the special home of the earlier disease, seems to be exempt in our day, and likewise America; hence the frequent ignoring of the modern disease by English and American authorities. — TRANSLATOR.