

although quite independent of natural selection, is in *no way* opposed to natural selection, and may therefore be regarded as a factor *supplementary* to natural selection." This passage occurs in the most conspicuous part of the paper, viz. at the close of the introduction. In the next most conspicuous part—viz., at the close of the paper itself—it is said, "Without natural selection, physiological selection would be powerless to create any differences of specific type, other than those of mutual sterility, and trivial details of structure, form, and colour."

So much for distinct professions. But as I am tired of controverting the statement that I both intended and perpetrated an "attack" on Mr. Darwin's theory, I will not now burden your columns by supplying the context, or otherwise easily explaining the passages which Prof. Lankester quotes in support of this statement. On a future occasion, however, I hope to avail myself of a more fitting opportunity fully to display the relation in which my "laborious essay" stands to the work of Mr. Darwin; and then I trust it will be clearly seen that, whatever we may severally think about the "complementary principle" of physiological selection, at all events it is in no way hostile to the cardinal principle of natural selection.

Edinburgh, November 19.

GEORGE J. ROMANES.

How not to Teach Geometry.

As I have come across an almost unforeseen development of the above heading, I take the liberty of bringing it before your readers. For myself, I may state that I have considered the "learn a proposition off by heart" method as sufficiently bad, but what is to be made of the method described in the following extract from a note which I recently received from my friend:—"We have half of a proposition written on the board, and then we write it at home from memory; then the other half is written on the board, and we write that at home from memory. Then we have to learn the whole proposition at once, to be able to write or say it with different letters. We are not allowed to have a printed Euclid book—we are only allowed to have a book of Enunciations."

Of course this refers to Euc. i. 1.

I beg to commend the above extract to the Association for the Improvement of Geometrical Teaching. I do not know whether to add the name of the school where the above system is followed by one of the teachers.

HERBERT J. WOODALL.

Normal School of Science, South Kensington,
November 11.

P. S.—I should like to see opinions on the teaching described.

A Brilliant Meteor.

Is not the meteor seen from Warwick School on November 4 the same as that mentioned in the following from my daughter, written from the school at Brookfield, Wigton, Cumberland?

"On Monday night (November 4), at 7.55 p.m., when out on the playground viewing the stars, I saw a most beautiful meteor. It seemed to be very near, and was in sight for quite a long time. It appeared just over Skiddaw—that is to say, due south—and went towards the south-east. It had a long tail of light, and burst, and sent out beautiful colours, and disappeared near the horizon."

I may add that, last Sunday, November 10, at about 5.56 p.m., I saw here a very bright meteor pass from a point perhaps south-south-west, and altitude about 25°, to a point perhaps south by east, and altitude about 10° or 12°. It was brighter than Venus when the planet is at its brightest, I think; and it seemed to flash out still more brightly just before disappearing; but the colour did not change perceptibly from its former soft white light, and there was no appearance of bursting. At the time of disappearance, its train of light must have extended over several degrees.

WM. SCARNELL LEAN.

Ackworth, November 16.

THE CAUSES AND CHARACTER OF HAZE.

UNLIKE fog, haze commonly occurs in this country when the lower air is in a state of unusual dryness. It is not only a frequent accompaniment of a spell of fine dry weather, but may be, when in combination with certain

other conditions, a sign of its approach. Night or morning fogs, and in winter persistent fogs, often signify a calm and settled condition of the air and the prevalence of fair weather. Heavy dews, especially in the autumn, likewise portend fine weather, but usually of shorter duration. Fogs appear usually in one of two conditions: either the air is nearly saturated up to a considerable height, or else is unusually dry, except in a stratum immediately above the ground. In the first case, radiation or condensation from some cause produces, by a slight lowering of temperature, a large precipitation of vapour; and in the second case, radiation from the earth's surface being excessive, owing to the diathermancy of the dry atmosphere, the stratum next the ground rapidly reaches its dew-point, fog is formed, and this fog continues to radiate to the clear sky and further to reduce temperature. Haze, on the other hand, appears often in weather distinguished by unusual dryness, on the surface as well as at a considerable altitude above the ground. The air remains for many days uniformly dry, the nights being nearly dewless, and the sky often free from clouds. The chief difference to be observed, then, is this, that fog requires saturation where it occurs, while haze seems to be favoured rather by a dry atmosphere.

Haze does not prevail on the continent of Europe or in the interior of North America to anything like the same extent as in England; nor, probably, in mid-ocean to the same extent as near the shores of northern countries. On the east coast of Scotland, and, indeed, over all North Britain, it is exceedingly common, especially in the spring, and during the prevalence of east wind, although with west winds the atmosphere is frequently clearer in summer than in Southern England. Over Southern England it is a common accompaniment of winds between east-south-east and north-east inclusive. It appears to prevail more on the eastern than on the western coasts when east winds are blowing. In Western Surrey, when the lower air moves from a westerly direction or is calm, the approach of east wind is announced by a light haze obscuring distant views, before the east wind has actually arrived on the spot of observation. This is not in all cases due to the descent of London smoke from a higher stratum, where the east wind first gains ascendancy, for the phenomenon may be observed in other localities. The haze produced on the first arrival of the east wind is thicker than that which remains when the east wind has gained a strong hold, and the neutral band where calm prevails between a south-west and a north-east current is marked by the thickest mist. In winter a dark fog frequently marks this neutral zone, often not more than one or two miles in breadth, and the zone moves eastwards or westwards according as the west or east wind exercises the strongest pressure. I have frequently observed this phenomenon with great distinctness. In winter, the approach of the equatorial after the prevalence of the polar current is often betokened by a damp fog and the contrary change by a dry fog; the same changes in summer are respectively marked by a great increase of transparency and by a spreading haze or mist. The following observations taken in Scotland illustrate the phenomena accompanying a change from west to east in August. St. Fillan's Hill is a small, steep, isolated volcanic cone about 300 feet in height, standing in the middle of the valley of the Earn, about two miles from the lower end of Loch Earn, in Perthshire. The air was clear, and a fresh westerly breeze was blowing when I was on the summit, about 5 p.m. The breeze suddenly began to slacken, and in about five minutes had dropped altogether. Then down the valley eastwards a blue haze began swiftly to climb the glens tributary to Strathearn, and the whole air eastwards grew obscure. The calm only lasted a little more than two minutes, and then suddenly a strong wind from the east set in, and soon the air, westwards as well as eastwards, was robbed of its transparency. The east wind