

The Protective Mimicry of Insects.

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moth of America, but so fiercely threatening in appearance that it enjoys an enviable reputation for deadliness. Its green body, often half a foot in length, is capped by a vivid orange crown, which, on the approach of an enemy, is ominously shaken in a way that makes a rattle-snake seem laudable in comparison. A certain South American caterpillar startled its discoverer by its unpleasant resemblance to a viper. Indeed, snake-like appearances are not unusual. A part with such dramatic possibilities of intimidation presupposes an actor of considerable size; and accordingly we find that the caterpillars who assume it are often a foot or more in length.

These wonderful species of insects, it has been stated, are all of them products of the struggle for existence. In order to grasp the significance of that struggle as well as its necessity, and to show how leaf-like and bark-like insects developed from older and less adequately-concealed forms, we must not forget the fundamental principle that all organisms tend to reproduce their kind in geometrical ratios, and that offspring, although similar to their parents, are yet possessed of useful, inheritable differences. If all insects were permitted to give the world would be devastated by them. It happens, however, that their enemies likewise multiply in geometrical ratio, so that a proper balance is maintained. So numerous are these enemies, and so powerful, that sometimes the quest of food is anything but successful. The food of one beetle is consumed by another; rain and wind, cold and heat, kill many butterflies; in a word, premature death falls upon a creature in a thousand and one ways. Although the offspring always outnumber their parents, yet the number of living insects, thanks to birds and beasts of prey, remains fairly constant.

Because of this rapid propagation and because of the struggle that prevents an overwhelming accumulation of any one species, the exquisite adaptations of butterflies to leaves and of moths to bark have been produced. A colossal assumption must be made, however, before we can fully understand how protective resemblance and mimicry have played their part in the struggle for life—an assumption that is, indeed, the weakest spot in the Darwin theory. Natural selection presupposes that every marking, every tint, every peculiarity of habit must have been useful at some time in the history of a species; and that these characteristics are not only inherited but intensified as they are transmitted. Millions of years ago the Kallima butterfly was not the beautiful counterfeit leaf of to-day. Probably it was like many another butterfly. And like other butterflies it was unsparingly persecuted by hostile insect-eaters. Of this primeval stock some members were preserved because of some slight marking or colour which their ancestors did not possess—characteristics, in a word, that brought them more in chromatic harmony with their environment. These markings and colours were transmitted. The offspring intensified whatever resemblance there was to a leaf until finally the adaptation reached its present perfection. After that the Kallima was fairly secure and increased abundantly. Although many naturalists are inclined to doubt the possibility of intensifying useful characteristics by heredity, and have advanced theories that new species are not necessarily the products of age-long evolution but sports of nature, or spasmodic phenomena, it cannot be denied that the teachings of Darwin still hold a dominating place in biology.

Silk is not the best material for bathing costumes, especially if it has been kept for any length of time. This fact was discovered too late by a lady well-known in Society, who bears the name of one of England's most famous artists. Shortly after she had taken her morning plunge at a fashionable Continental watering-place, she had the horror of seeing her entire new costume of crimson hue come away in ribbons, and she soon found herself in a state that can be better imagined than described. Her distress was accentuated by the fact that the French boulevardiers insisted on taking the keenest interest in the methods which had to be resorted to to get her out of the water.

THE NON-COMBATANTS.

IN THE WAKE OF THE WAR.

(By PERCEVAL GIBBON, in the "Daily News.")

Normally, there are no poor in Bulgaria. The people are not yet thick enough upon the ground to have crowded out a class whose living is precarious, for whose labour there is no continuous market. A certain even level of prosperity is a character of the country. Therefore, if proof were needed that the war with Turkey is a national war rather than a political one, it would be found in the fact that now nearly everyone is poor and very many are in sight of plain want.

Those who now face a winter of poverty are of every class. Rather more than one in thirty of the total population are actually bearing arms, and over wide stretches of country, in many hundreds of villages, there remains now not a single able-bodied man, not a yoke of oxen or water-buffaloes, not a farm-cart. The net which dredged them forth for service had a small mesh; it took also grain, forage, clothing; it left this country of a victorious people nearly as naked as if it had been plundered by a conquering invader.

Even at the beginning of things, before war was actually declared, I heard at Sofia of societies of women and old men organised in the villages to carry on the work of tillage in the absence of the peasants. Not all of those societies, I think, were serious; some possibly had a church bazaar quality of playfulness and pose; but there were districts enough in which no such societies existed, in which the lonely women turned out as a matter of course to take up the labour for which men were lacking. With such cattle as were left, beasts which even the Requisition Commission had rejected as unfit to serve the army, women undertook the ploughing of the sodden lands.

When the Men Return.

A farm, however, has a sort of momentum; it does not cease to furnish food the moment the farmer is withdrawn. The true hardship will come later, when the men return, handicapped for their work by the loss of the oxen and horses expended on the road to Kirk Kilisse and Lule Burgas, and the little gaily-painted carts that

poured in endless lines towards Adrianople, by the want of all that homely equipment of life which the war turned to strange uses and destroyed.

In the towns hardship came more swiftly for those who were left behind. A typical example is that of a small official's family. He was summoned to the colours midway between one monthly pay-day and the next, and with his departure his meagre income forthwith ceased. Such cases number themselves by thousands. Many, also, are the small shops, whose whole stock of goods—or that part of it which remained after the Requisition Commission had been satisfied—was sold out. Business in any case was dead, and, with the railways choked with troops and war material, there were no means of renewing the stock even if there had been customers for it. Meanwhile, despite the efforts of the authorities to fix prices, the cost of food inevitably rose. The whole aspect of life altered. Families accustomed to comfort suddenly knew want; in every class there were folk who went in fear of starvation; and though in some towns the municipality strove to establish a system of relief, the money for an adequate provision was lacking. In Sofia, for example, the grant made to families whose bread-winner was at the front was thirty centimes—a fraction over twopenny—per day per person; but even in the capital this meagre grant could not be extended to all those who stood in need of it.

Grim Realities.

Down at the frontier, upon the edge of the actual war, one saw misery in a plainer shape. Mustapha Pasha is one of the main gates between Turkey and Bulgaria, and through it drifted the mournful processions of hapless peasants who had seen the war flow across their villages and destroy them. The burning of villages has been a feature of this war; the Turks have left a trail of flaming thatch to mark the line of their retreat, and the Bulgarians themselves, despite their pretensions to forbearance, have not been guiltless. These peasants, lean, terrorised, sore-footed, were folk who had lost all they possessed. Even their ploughs had been smashed where they lay by the field-edge; too often the ploughman lay dead likewise, and there were yet other wrongs of which his widow might have told if she would. They came afoot across the empty country, escorted by reservists, making day-long northward

marches and lying by night at the roadside. Among them were women who had limped for days carrying children in their arms, and men with wounds and injuries. They came slowly up the narrow main street of that abominable town, edging their way past the unceasing convoys that poured through it, silent, scared and broken, to the yard of the old Konak where they would wait the Staff's decision as to what was to become of them. When questioned, they seemed to answer with no sense of wrong, in no tone of protest or rebellion. They had suffered this and that; they were weary; their one hope was to get beyond the radius of the fighting and burning, into Bulgaria where there was peace.

The Country Has Spent Itself.

Of such, many thousands have already taken refuge in Bulgaria—over 30,000, according to one statement which was made to me. A small proportion of the men have been given employment with the transport, but the rest are a mere burden on a community already taxed to the uttermost. It must be remembered that Bulgaria has no system of poor relief at the best of times; there are neither workhouses nor poor rates, these people have to be maintained out of meagre funds hastily appropriated for the purpose and badly needed elsewhere. They complicate the situation with which the authorities have to deal in the towns where they settle down, which hitherto have numbered no paupers among their inhabitants, and they have already proved that in their wretchedness they are the carriers of disease, of cholera and typhus and even of leprosy. Their death-rate is high; what is appalling is that even in their misery they have also a birth-rate.

Even should peace ensue immediately, distress and hardship must continue throughout the winter in a very large number of families. The return of the men to their homes will take time; it will require even more time before they can resume their interrupted occupations and become wage-earners again. Among them will be many permanently crippled by wounds and others not yet recovered from wounds; and there is fear, too, that, with their return, the cholera which is raging about Chatalja may make good its foothold in Bulgaria. The country has spent itself upon the war until its resources are all but exhausted; there is little left to spend upon the labour of recovery.

SMOKE
WINFREE
CIGARETTES
AND SMILE