PRESIDENTIAL ADDRESS

Ladies and Gentlemen, my dear Colleagues:

As circumstances prevent me from attending the Ottawa Meeting of the Lepidopterists' Society and officiating as its President, I send this letter to express my cordial good wishes to the meeting. A gathering of entomologists all deeply interested in an order of insects that is so attractive by the many scientific problems it presents for study and the beauty of colouring and design a multitude of species displays is bound to be enjoyable socially and profitable scientifically, and I much regret that I cannot be with you at Ottawa. Here I am instead in the Basses Alpes of France at a low altitude in a fruit-growing district, in pursuit of entomology assisted by my daughters. I am trying to sort the species of butterflies which flutter about us and to point out the species of which an additional series from this low locality would be welcome at home. When MENDEL'S results in plant-breeding were re-discovered at the end of the last century and Mendelism was claimed to solve the problems of the origin of species, the study of the species produced by nature was eclipsed, for as a prominent Mendelian said at an offical dinner, "we can now make species ourselves." This enthusiastic pronouncement sprang back into my mind when I contemplated the landscape and noticed a very striking contrast between the rows of apple- and pear-trees; the stems and branches were clean and glossy in all, but the foliage of the apple-trees was dry, only the epidermis remaining, the substance having been eaten by the caterpillars of one of the Microlepidoptera, the pear-trees being untouched. The Micro evidently had distinguished the two species of *Pyrus* from each other, and evolution had provided the female with the botanical knowledge to determine which species of plant was appropriate food for its offspring. The phytophagous insects have this kind of botanical knowledge, which is a primary necessity for them, the short-living insects having no time to learn by trial and error. What nature has done in this way for insects should imbue us with some respect for the knowledge of specific distinctions. Anyhow, I do not feel downhearted when remembering some species I have described; taxonomy, if reliable, gives biology a sound basis.

In my life-time, LINNÉ'S concept of the constant species has gradually been replaced by a concept embracing in most instances two or more populations which differ from each other in some way. Before the publication of the results of the explorations of the two famous entomologists (essentially lepidopterists) BATES (Amazonas) and WALLACE (Malay Archipelago), STAUDINGER had issued (1861) a catalogue of the European Lepidoptera in the Introduction of which he restricts the term *var.* (*varietas*) to the geographical variety and says that this sometimes is so different that one may be in doubt whether it is a variety or a distinct species, using for it the term "spec. dist?." In the next issue of the *Catalogus* (1871), after Darwin's theory had become generally known, he replaces "spec. dist." by "sp. Darw.," species Darwiniana, and thus deliberately introduces evolution into taxonomy. It would be an interesting study for some lepidopterist to compare the taxonomic ideas as they existed in 1870 in various classes of animals with the concepts the

lepidopterist STAUDINGER defined in his *Catalogus*. I think he has priority, which does not mean that the names of his concepts have to be accepted.

One of the terms employed by STAUDINGER is of special interest; his *"var. et ab."* is used when the *"var."* (now=subspecies) is defined by a character obtaining in all specimens of the population (=*"var."*) and occurs also in one or more specimens of another population (the specimens differing therein from the others of the population, therefore = *"ab."*). At that time *"vars."* were generally distinguished from each other by some difference in colour or pattern or wing-shape. Specimens of a subspecies which resemble another subspecies have usually been looked upon as connecting the two subspecies, and Julian Huxley has introduced the term "cline" for this variation, which includes specimens intermediate in character and usually also intermediate geographically. But a subspecies is usually distinguished by more than one difference, and it may happen that a cline A-B-C arranged according to distinction *n.* will be a cline B-A-C arranged according to distinction *z.* As an illustration of *"var. et ab."* I will refer to the ♂♂ of the African *Papilio dardanus.* In East Africa the fore- and hindwing have a broad black band and the ♂-claspers have a tooth on the inner side; in the West-African subspecies the band is much reduced, interrupted, and the tooth of the clasper is absent, only a few speciemens having a short tooth. In Uganda we find a more or less intermediate population. This is a cline in two characters, but if the populations of Tanganyika and South Africa are included (both with tooth on clasper), the cline in the amount of black on the upperside of the wings is much less steep than that in the development of the tooth. Incidentally this example of variation shows that the tooth of the clasper is *not* correlated with the breadth of the black band, the West-African specimens with the black band exceptionally broad have no clasper-tooth, and the specimens of *P. d. polytrophus* (from the highlands north of Nairobe) with the band strongly reduced have the tooth as well developed as specimens of *polytrophus* with broad band.

This question should be further studied, especially in Nearctic and Palearctic species in which at least two independent (non-correlated) characters distinguish the subspecies from each other. It is a straightforward morphological study without great difficulty, if one can gather together the necessary series of specimens.

The problems of evolution which can conveniently be studied in Lepidoptera are numerous. But enough of it; I must stop suggesting what one or the other of you might do. Talking of these problems unburdens my mind, for I should have liked to try to solve them myself if there had not been many other matters which required my attention and consumed my time.

I conclude therefore, and repeat that you have my most cordial good wishes for a successful meeting.

With kindest greetings to all

Yours very sincerely

(signed) H. E. KARL JORDAN