samples and usually only one or two independent diagnostic characters, rarely present any valid general information with regard to the nature of geographical variation in its own right. Most formally named subspecies are in effect little more than special cases deduced from the established concept of subspeciation, and their validity is no stronger than the concept itself. For this reason it is important that we do not stop at disclosing the inconsistencies of the concept; rather, we should attempt to revise it to conform as rigorously as possible to fact. From the data supplied in studies such as those by Goldschmidt, Moore, Welch (1938), Crampton (1932), Vanzolini (1951), Brown and Comstock (1952), and others, it is possible to draw several outstanding conclusions having an important bearing on the taxonomic application of the subspecies concept.

1. Where one character varies geographically, other genetically variable characters can be found to vary also.

2. The geographical variation of independent characters tends to be discordant to some degree. The degree of concordance increases with the degree of isolation of populations, but complete concordance from locality to locality is rarely if ever attained. In fact, complete concordance of several known independent characters in an isolated population may (usually?) be a good indication that the population has attained species level. For example, Goldschmidt's *Lymantria dispar hokkaidoensis* shows concordance of at least three characters, more than any other race of this species, but at the same time it appears to be sufficiently cross-sterile with adjacent races to justify recognition as a distinct species.

3. It follows from (2) that the greater the number of characters, the greater will be the total discordance. As a result, the racial lines first drawn from the most prominent "diagnostic" characters will be increasingly obscured or contradicted by the addition of characters, and the situation will be resolved only by either recognizing additional races marked by different combinations of characters, or by recognizing only the major tendencies in concordance. The first of these two solutions, that of recognizing all racial limits by whatever characters can be used to demarcate them by conventional standards, may be the better one in populations that have differentiated *in situ*, i.e., without initial isolation. When this approach is used, the number of distinguishable races has been found in practice to increase at a slightly more than arithmetical progression with the addition of characters used in combination. The second solution, involving the determination of what might be called *peaks of concordance*, seems the more promising where distinguishable populations are totally isolated or are undergoing secondary intergradation. However, since races are then defined according to character peak concordance, nonconforming characters will of necessity have to be omitted, while the extensiveness of the intergrade zones of the species will increase in proportion to the number of characters included in the peaks. The taxonomist will find himself faced with a dilemma: he must either ignore certain poorly conforming characters or else he must incorporate them in his subspecies diagnosis and thereby broaden the zones of intergradation.

4. It would not be too much of a truism to mention that the greater the geographical area encompassed, the less homogeneous will be the population. Conversely, it appears that in geographically very variable species the only thoroughly homogeneous and concordant units, if any exist at all, are the demes (*sensu* Carter, 1951), which tend to be isolated and completely panmictic within themselves. Where clines occur they are marked between but not within these populations.

As noted previously, most taxonomic recognition of subspecies so far has proceeded on the oversimplified "coadaptive system" concept of the race, which assumes that genetically independent characters will tend to be concordant in their geographical variation. We believe that