sympatry is more than an observer's criterion for deciding whether two populations are distinct as species; in any given case it may have been the final and essential factor that actually forced the species separation.

Since no such mechanism is operative in the differentiation of allopatric populations, there will be no clear-cut lower delimitation of species. *These populations must be dealt with arbitrarily* by gauging the genetic divergence through observed characters—morphological, physiological, and behavioral—according to standards based on comparison with the observed divergence of related sympatric species populations.

Therefore, Mayr's interbreeding criterion for the species, if qualified by the restriction of absolutely definable units to a single time-transect and to sympatric situations (the "non-dimensional species"; Mayr, 1949), and extended arbitrarily but with obvious justification through the analogy of character divergence to allopatric populations, seems to provide a natural, consistent, and practicable baseline for systematic theory.

Geographical Variation: The Subspecies Concept

Along with his analysis of the nature of the species, Mayr (1942) gave an extensive review of the evidence on variation within the species. He was mainly concerned with variation of populations as correlated with geography, and particularly with the properties and evolutionary significance of the subspecies, a category generally regarded as synonymous with the geographical race. The subspecies were conceived of as genetically distinct, geographically separate populations belonging to the same species and therefore interbreeding freely at the zones of contact. Many populations previously considered species were found to fit these conditions and were combined as subspecies in a single polytypic species. Mayr also extended the racial category to include closely related but geographically isolated populations, particularly those inhabiting different islands of tropical archipelagoes.

The taxonomic field has not been slow to exploit the opportunities opened up by the general recognition of the geographical race as a formal taxonomic category, expressible nomenclatorially as the trinomial subspecies. At the present time, it is clear that a great part of the total taxonomic effort is directed toward the detection, characterization, and formal nomenclatorial registration of "new" subspecies. This is particularly true in the case of specialist fields dealing with animal groups in which a large proportion of the full species have already been formally described and named, leaving the burden of the unceasing search for novelties to rest upon the subspecific populations.

The past two decades have witnessed an increasing tendency on the part of taxonomists to rely upon the theoretical basis so firmly promulgated by Mayr. With the progressive accumulation of seemingly sound trinomials in relatively well-worked groups such as the birds, there has grown up a complacency in systematics concerning the objectivity and usefulness of the subspecies. Specialists in many less well-worked groups, and especially those where insufficient time and material are available for detailed analysis of geographical variation, have all but forgotten the early claims of subjectivity for the race, and have come to regard it as a concrete geographical population capable of being recognized by one or a few "diagnostic" characters most accessible for study in preserved material. Many massive revisions have of late depended on the authenticity of this notion.

The tacit but very fundamental theoretical assumption most systematists make is that when characters vary geographically, their variation is co-ordinated. In terms of evolutionary genetics, the predominant genome of a given population constitutes a "coadaptive system," an aggregation of genes which are best adapted as a unit to the special environment of