The reader may be perplexed and confused by the introductory material presented hitherto in chapters 1 and 2 both as to the divergent and conflicting claims and counterclaims about Macedonia; and, importantly, on the Macedonian ethnic identity and the question of appropriate methodology by which some of these perplexities can be addressed. The subject of methodology is focused on in the present chapter in order to provide an overall framework of approach to the general issue of ethnic identity. The specific problem addressed is the circumscription of evidence, that is, the question of what counts as evidence for an ethnic identity. The approach taken in the present work is to look into methods beyond historiographic ones, into methods belonging to the behavioral sciences. This has already been done in part by anthropologists in their studies of the Macedonian identity (Danforth, 1995; Karakasidou, 1997).

In the basic sciences, an intractable problem to be addressed successfully needs a paradigm shift (Kuhn, 1970). A paradigm shift involves a conceptual restatement of the problem with a concomitant shift in the methodology of data identification, collection, and/or selection. A successful paradigm shift will encompass all these elements. As applied to the intractable problem of the Macedonian ethnic identity (in light of the 100-year legacy of the “Macedonian Question” with no end in sight), a paradigm shift would entail a shift away from conceptualizing the ethnicity of the Macedonians as a political/historical problem into a problem of science to be approached through application of multidiscipline behavioral science methods as found in anthropology, sociology, social, and political psychology, psycholinguistics, and, most recently, by archaeological methods. Historiographic methods are not excluded; rather, they are integrated as a part of the overall approach. At day’s end, however,
the question still remains whether this new multidiscipline behavioral science approach would be a significant improvement over the current single-discipline historical and/or anthropological studies of ethnicity. There is apparently no gold standard against which the new methodology can be compared as in new drugs compared to a standard, well-established drug.

A recent application of an alternative well-developed methodology is the use of genetic DNA research protocols using haplotype blocs flanked by informative SNPs (single nucleotide polymorphisms) (see Glossary of Terms)\(^1\) across select regions in the 23–46 human autosomal chromosomes focused on geographically defined European population samples roughly corresponding to parallel ethnically defined population groups, including a Macedonian sample and, for contrast/comparison, Greek and Bulgarian samples (Gentest.ch GmbH iGENEA, Schlossgasse 9, Postfach 7179, Zurich, Switzerland). In another, but this time, a scholarly study using a similar haplotype bloc analyses focused on determining characteristic features of the haplotype blocs and flanking SNPs that would differentiate selected large population groups, that is, European based, West African, Afro-American, and Asian population groups (Gabriel et al., 2002). In a subsequent but more comprehensive scholarly study, multiple DNA genetic analyses were carried out using a set of 199 from more than 650 diallelic markers previously identified as ancestry informative markers (AIMs) that included 165 SNPs and 34 insertion/deletion markers of specified distance across the 23–46 chromosomes with selection restriction criteria (Yang et al., 2005). The markers were mapped into \(k=4\) to \(k=7\) clusters on the basis of the genotype results taken from their samples by a standardized statistical analyses (STRUCTURE) in the European-based American sample (89) Mexican (94), South Asian (88), American Indian (72), West African (95), African American (94), and Puerto Rican (96) population groups. The various population groups were then distinguished in terms of differences within and across each cluster.

In another alternative commercial approach, selected regions of the human genome, already in use in forensic genotyping with genotype profiles across 13 loci standardized for forensic genetic DNA identification in exclusion/inclusion outcomes pertaining to criminal suspects, were extended to the study of ethnicity and race (DNA Tribes: Genetic Ancestry Analysis, P0 Box 735, Arlington, VA 22216).

Potentially, anyone of these DNA genetic approaches briefly described above could provide the gold standard against which purely behavioral methodologies for studying ethnicity may be compared.