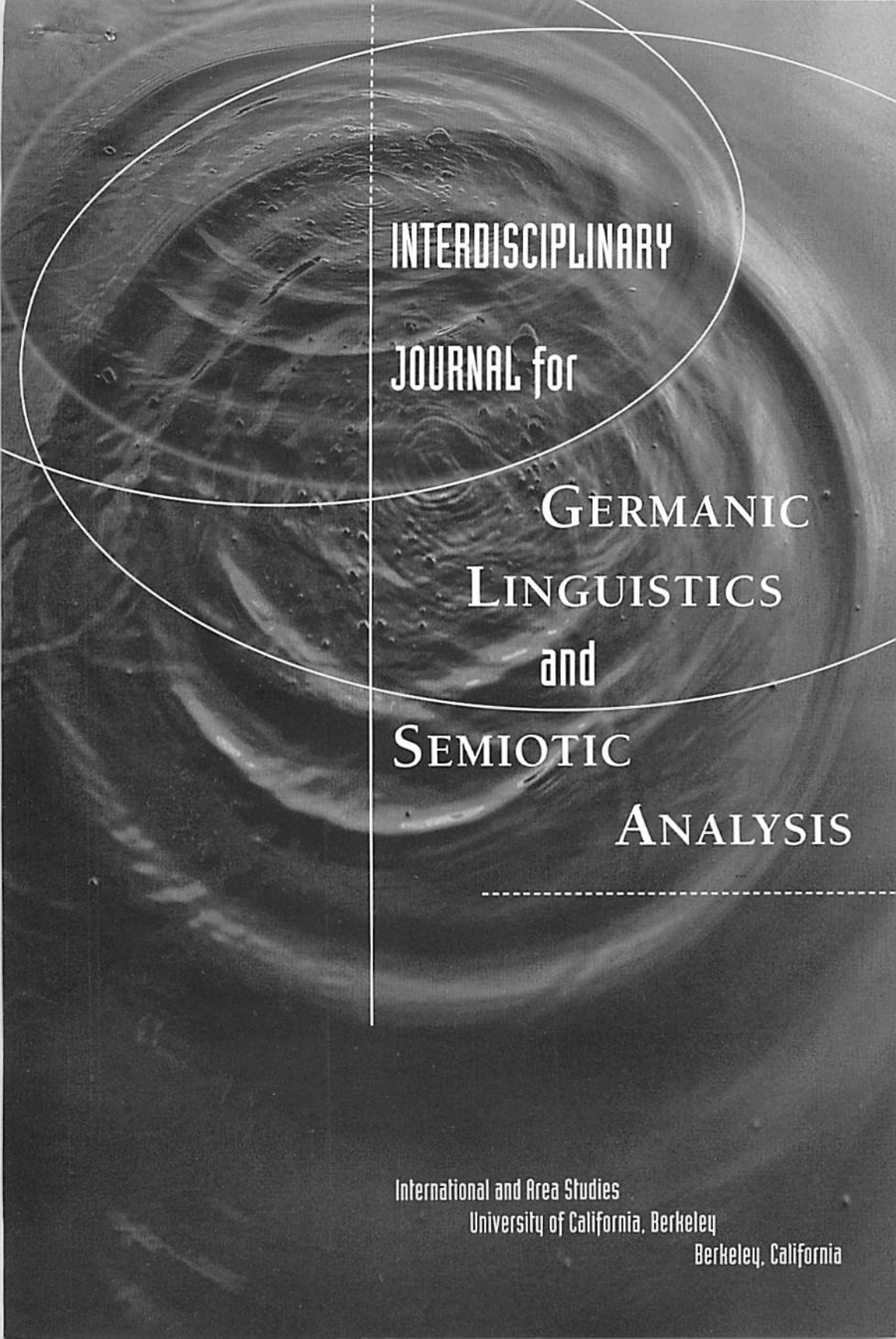

International and Area Studies
University of California, Berkeley
Berkeley, California

The Interdisciplinary Journal for Germanic Linguistics and Semiotic Analysis (IJGLSA) *is an innovative biannual journal which reaches out to the international community of researchers in two disciplines. While maintaining the integrity of each field, their appearance side-by-side, on the one hand, adds a new Post-modern focus to Germanic Linguistics and opens the door to its place among related humane and natural sciences in keeping with the holistic trends of contemporary research. On the other hand, research in the affable discipline of Semiotics, the general science of signification, finds its closest allied sister science in linguistics. Yet the specification of "Germanic" prevents the total merger/assimilation of these two disciplines, which would be a real possibility with simply "Linguistics." This journal proposes a bold experiment in the actual instantiation of the clustering of Germanic Linguistics and Semiotic Analysis.*

Germanic Linguistics subsumes principally German, Yiddish, English, Frisian, Scandinavian, Netherlandic, as well as their genetic affiliation, Indo-European , and thus the numerous proximate and distal languages and cultures with which the Germanic languages interdigitate in the present as well as the past. Semiotic Analysis studies all of life as a perfusion of signs and symbols whose purpose is to communicate. Whether the signs and symbols are medical symptoms or vital signs, political codes or flag symbols, the sounds of music or of animals (human and non-human), clothes that make a fashion statement or money that talks, body language or the language of poetry, an enticing taste or an intimate touch, they all demonstrate that the human experience is essentially one of endless sending and receiving of messages by means of signs and symbols.

MICHAEL ST.CLAIR, UNIVERSITY OF CALIFORNIA, BERKELEY

Population Genetics and the Humanities: Crimean Goths and Contemporary European Romani.

ABSTRACT: Genetic studies examining the non-recombining region of the Y-chromosome of Romani population in Hungary, Slovakia and Portugal yielded a surprising discovery. About ten percent of the males in these populations have the I-M253 mutation, which is very common in Scandinavian populations, but rare elsewhere. This paper proposes assimilation of some of the Crimean Goths by Romani living in the Byzantine empire and illustrates the potential of population genetics in creating new and innovative research opportunities for scholars in the humanities.

Recent studies examining the genetic history of European Romani provided a surprising discovery, the presence of a genetic marker commonly found in Scandinavian populations. This paper has two goals. First, to provide a plausible explanation for this discovery using linguistic and historical analysis. Secondly, to demonstrate the potential of population genetics as a tool for research in the Humanities.

The label Romani has supplanted the word Gypsy, a term that identifies one of the ethnic groups of modern-day Europe. Linguistic evidence points to India as the original homeland of the Romani people. *Ethnologue*, for example, classifies the Romani language as part of the Indo-Iranian sub-group of the Indo-European language family. The Romani may have left India sometime in the middle of the fifth century. Around this time, Varhan V, the Sassanid king of Persia, is said to have requested 20,000 musicians from King Sangul of India. The Indian king acquiesced and among the Indian musicians he sent to Persia may have been Romani (Tcherenkov and Laederich 2004:16-17). Linguistic evidence also identifies the possible route taken by the Romani during their migration to Europe. The Romani lexicon is rife with loan words of Persian, Armenian, and Greek origin (Tcherenkov and Laederich 2004:18-25, 51). Words of Greek origin probably filtered into the Romani language when they lived in the

Byzantine Empire. Nevertheless, the presence of the Romani in the Byzantine Empire remains poorly documented. Thus, scholars are divided on exactly where they lived and how long they stayed in Asia Minor (Tcherenkov and Laederich 2004:56-61). However, Ottoman tax records confirm that the Romani left Asia Minor and settled in the Balkans by the end of the fifteenth century (Tcherenkov and Laederich 2004:56). From the Balkans, the Romani later splintered into several different groups that eventually migrated and settled across the European continent.

Two recent genetic studies, one focusing on Romani populations in Hungary and Slovakia (Pamjav et al. 2011), and another focusing on the Romani of Portugal (Gusmão et al. 2008), provide genetic evidence that places Romani origins in India, as linguists have long suspected. Both studies used data from the non-combining region of the human Y-Chromosome. St. Clair (2012) attempted to show that genetic data are a useful tool for linguistic research. His work focused on benign mutations found on the non-recombining region of the human Y-chromosome. St. Clair took advantage of a new research direction that arguably emerged in 1987, when three researchers in the Biochemistry Department at the University of California at Berkeley published a paper asserting that female human beings trace their genetic history to a woman living in Africa about 200,000 years ago, the so-called "mitochondrial Eve" (Cann, Stoneking and Wilson 1987). The term "mitochondrial" refers to a type of genetic marker, mitochondrial DNA (mtDNA), which is passed through the female line of descent. Later, a "Y-chromosome Adam" emerged, using data from the non-recombining region of the Y-chromosome, which is passed down through the male line of descent (Underhill et al. 2000).

Hundreds of reports have been published by geneticists detailing mtDNA and Y-chromosome DNA variation throughout the world. These reports, in turn, paint a pattern of human origins in Africa and several subsequent migrations to the other continents. The term 'haplogroup' is used to describe a variation within both of these markers. Thus, for example, mtDNA haplogroup L and Y-chromosome haplogroup A signal the emergence of modern humans about 200,000 years ago in Africa. Y-chromosome haplogroup Q and mtDNA haplogroups A, B, C and D signal the founding populations of North and South America about 20,000 years ago.

POPULATION GENETICS AND THE HUMANITIES: CRIMEAN GOTHS AND CONTEMPORARY EUROPEAN ROMANI.

Returning to the studies focusing on Romani populations in Portugal, Hungary, and Slovakia, Table 1 summarizes the results obtained by Pamjav et al. (2011) and Gusmão et al. (2008). The table lists the percentages of several different Y-chromosome haplogroups found in Romani populations in Portugal, Hungary and Slovakia.

Table 1.

	Portugal	Hungary	Slovakia
E	3.1%	9.3%	12.9%
G	0.8%	3.1%	0.0%
H	16.7%	31.4.0%	30.6%
I-M253	9.5%	8.2%	9.9%
I (except I-M253)	0.8%	7.2%	1.6%
J	38.9%	17.5%	33.9%
R	28.6%	20.1%	11.3%

Haplogroup H (see Table 1) is significant because it provides genetic evidence that places the origins of the Romani in India. Mutations defined by this haplogroup are common in Indian populations, but rare in Asia Minor and Europe. The remaining haplogroups in the table confirm that modern-day Romani populations are a blend of several different populations encountered on their trek from India. Nonetheless, the presence of I-M253 mutation is very surprising. The I-M253 mutation is found in approximately one-third of all men residing in Scandinavia, eventually disappears in southern European populations, and is virtually non-existent in Asia and Africa (St. Clair 2012:35-36, 125-129).

Pamjav et al. (2011) and Gusmão et al. (2008) simply blame "genetic drift" for the presence of I-M253, which seems too simplistic. This paper proposes that the presence of I-M253 may well reflect the assimilation of people of Gothic ancestry during the Byzantine period of Romani history. According to the Gothic historian Jordanes, who wrote *The Origins and Deeds of the Goths* in the sixth century, the Gothic people (or Goths) came

to mainland Europe via ship from the island of Scandza (lines 25-26). Perhaps Jordanes refers to the island of Gotland, located off the coast of Sweden in the Baltic Sea. Based on archaeological evidence from the Wielbark and Ĉernjachov culture, the Goths then migrated from the Baltic Sea to the Black Sea over a period of two hundred years, from the middle of the first century to the middle of the third century (Heather 1996:11-30). After the Goths reached the Black Sea, a series of Gothic raids on Roman towns and settlements ensued. This, in turn, marks the appearance of the Goths into the historical record. The bulk of the Gothic migration eventually passed through Italy, the Iberian Peninsula, and even Northern Africa in a struggle for spoils of the collapsing Western Roman Empire. However, some of the Goths sought sanctuary in the Byzantine (Eastern Roman) Empire, escaping the full onslaught of the fourth century Hun invasion, and perhaps religious persecution from non-Christian Goths.

Based on historical, linguistic, and genetic evidence, it is safe to assume the I-M253 mutation was very prevalent among those Goths who sought sanctuary in the Byzantine Empire and settled in the Crimea. First, according to Karlsson et al. (2006), this mutation has been present in Scandinavia for at least 6,200 years. Next, as noted above, approximately one-third of the men in Scandinavia have the I-M253 mutation. Jordanes, as noted earlier, places Gothic origins in Scandinavia. Finally, Bishop Wulfila's bible translation from the fourth century (cf. Rauch 2011: 2-3) confirms that the Goths spoke a Germanic language. This is significant because specialists in Germanic linguistics believe that Germanic languages originated in Scandinavia sometime in the prehistory.

Assuming that the I-M253 mutation was prevalent among the Crimean Goths, what facilitated the assimilation of some members of this population among the Byzantine Romani? *The Goths in the Crimea* by Alexander Vasiliev (1936) probably represents the best source of information about the Goths who settled in the Byzantine Empire in the early fourth century. These Goths settled on the southern tip of the Crimean peninsula and along the northern shore of the Black Sea in a region that later became known as Gothia. The story of Gothia, according to Vasiliev, begins with the Christianization of the Goths in the fourth century, and ends with the mass exodus of 30,000 Christians from the Crimea between 1771 and1786. Gothia fell into the hands of the Ottoman Empire, and hence Islamic control,

in 1475. Thus, the decision to leave had a religious dimension. Religion, in turn, was probably a factor that created cultural cohesion among the Goths during the 1,300 year period that they lived in the Crimea.

The Gothic language very likely played a role in maintaining cultural cohesion. Vasiliev (1936) presents several attestations of Crimean Gothic by Europeans who traveled in the region, some of which seem credible, and others which seem dubious. An interesting but questionable attestation of Crimean Gothic stems from a fifteenth century report by Italian adventurer Giosofat Barbaro. He reports an encounter with a Crimean Goth in 1436 who spoke *Tedesco* (German). Barbaro further states that his German servant understood the Goth as easily as an Italian from Florence understands an Italian from Forli (Vasiliev 1936:219-221). The most credible attestation, and certainly the most cited among philologists, is provided by Ogier Ghiselin de Busbecq, who traveled to the Ottoman Empire in 1554 as an ambassador of Ferdinand I and the Holy Roman Empire. During his travels he reports meeting two Crimean Goths. Busbecq recorded Crimean Gothic words which he published in his book *Turkish Letters* (Vasiliev 1936 269-271).

As shown above, language and religion played an important role in Crimean-Greek identity. Prior to 1242, Greek culture, as an extension of Byzantine influence, also played a role in the Crimean Gothic identity. After settling in the Crimea, Gothic identity essentially evolved from Arian Christian, Germanic and Gothic into Greek Orthodoxy, Hellenic and Gothic. This evolution in identity reflects assimilation of the Crimean Goths into the Byzantine Empire. An interesting attestation of assimilation stems from title of the twelfth century Byzantine emperor Manuel I, which includes the words "Isauricus, Cilicius, Armenicus, Dalmaticus, Ugricus, Bosniacus, Chrobaticus, Lazicus, Ibericus, Bulgaricus, Serbicus, Zikhicus, Azaricus, and Gothicus" (Vasiliev 1936:140). The title suggests that Manuel I was the emperor of a multiethnic realm that included Goths (Gothicus) as well as Armenians, Bulgarians, Serbians, Hungarians, and other ethnic groups (Vasiliev 1936:142).

In 1242, the Tartars, Turkic-speaking nomads from Russia, invaded the Crimea. They established a presence in this region which lasted until 1475, when the Crimea fell to the Ottoman Empire. The Crimean Goths paid tribute to the Tartars, but otherwise were allowed to govern themselves (Vasiliev 1936:182-183). Contact with the Tartars eventually led to a change in identity among the Crimean Goths and included the adoption of Tartar "language, customs and manners," a conversion which may have occurred within the course of a single generation (Vasiliev 1936:172). However, despite assimilation with Tartars, the Crimean Goths retained the Greek Orthodox religion (Vasiliev 1936 276-280).

Contact between Crimean Goths and Romani living in the Byzantine Empire was probably mediated by the Greek language and a shared culture. Consequently, the year 1242 and the Tartar occupation of the Crimea potentially place an upward limit on the time frame for cultural exchange between both groups. While the presence of Romani in the Byzantine Empire is poorly documented, according to Tcherenkov and Laederich (2004:51-53), based on the influence of Greek on the contemporary Romani language, the Romani nevertheless lived in the Byzantine Empire for a substantial period of time. In the fragments of historical documentation that have surfaced, scholars know that the Byzantines used the term "Athinganoi" to describe the Romani. In the twelfth century, the Athinganoi started to appear in Byzantine texts. These documents suggest that Byzantine Romani supported themselves through fortune telling and taming animals. (Tcherenkov and Laederich 2004:41-42). Moreover, this historical documentation confirms the simultaneous presence of Goths and Romani in the Byzantine Empire.

Burns (1984:109-110) and Gajdukevic (1971:385) suggest the Goths had acquired metalworking skills by the fourth century, when they settled in the Crimea. This is significant, because as noted above, the Byzantine Romani made a living from animal taming and fortune telling. However, in the Ottoman controlled Balkan region of Europe of the sixteenth century, many of the Romani were blacksmiths, and the number of hearths may have totaled 20,000 (Tcherenkov and Laederich 2004:116). Furthermore, metal working skills appear to have been a path to upward social mobility in the Ottoman Empire as the Romani blacksmiths were exempt from Ottoman taxes (Tcherenkov and Laederich 2004:117). Higher income may have

meant the ability to support larger families, meaning better reproductive success for blacksmiths, including some with the I-M253 mutation. Thus, I propose that a knowledge of metalworking skills, combined with the Tartar invasion in the thirteenth century, may explain how some of the Crimean Goths became assimilated among the Byzantine Romani. This, in turn, may explain the mysterious presence of the I-M253 mutation in Romani populations in contemporary Europe.

This paper strove to explain the presence of the I-M253 mutation in contemporary Romani populations. The paper also attempted to demonstrate how a knowledge of population genetics may create new and innovative research opportunities for linguists and other researchers in the humanities. Genetic data provided by Pamjav et al. (2011) and Gusmão et al. (2008) clearly invite analysis among scholars in several disciplines in the Humanities, including linguists and historians. Additional perspectives by specialists in the fields of Byzantine and Romani studies are especially warranted and encouraged.

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BIOGRAPHICAL NOTE

Michael St. Clair currently lives in the San Francisco Bay Area. He received a Ph.D. in German from the University of California at Berkeley in 2012. He is currently working on a book that examines, from a global perspective, the correlation between genetic and linguistic diversity.