6. Mapping the geolinguistic spaces of the brain


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Nothing could be easier than ordinary cartography; find out where something is; show it on a map. Even things that aren’t physically there can be assigned coordinates and represented as points or boundaries. And human factors — people who believe this or that or act this or that way — can be located and represented on a map. Even when people in the same area disagree, clever maps that show what percentage of people act this or that way can be prepared. This book is full of clever maps that show where people speak in different ways, but this chapter is about something else.

Have you ever traveled (by whatever mode) from A to B and then returned by exactly the same route (same mode, same speed)? Have you had the feeling, however, that the trip back to A was much shorter (or longer) than the way to B? On reflection, some logical part of your brain attributes such impressions to emotion, tiredness, activity during the trip, or eagerness to arrive at one point or the other. You do not conclude that the physical distance between A and B is different in one direction or the other, but it certainly felt that way. How would you draw a map of the way you felt? This chapter is about those sorts of maps, perhaps not all as complex as this problem, but all as concerned with what people believe about the distribution and character of linguistic objects in space rather than the facts of such distribution, i.e., a perceptual rather than production dialectology. (The term perceptual dialectology in relation to these studies was first used, so far as I know, in Preston [1981]. I chose it in part due to the common and unfortunate misunderstanding of folk as ‘false’, but I would now prefer folk dialectology, and that use would make it clear that this initiative is but one of any number of subareas of investigation in folk linguistics.)
1. Early studies

In the earliest work in perceptual dialectology, linguistically naive respondents evaluated the degree of similarity or difference of the speech of surrounding localities. This work was primarily carried out in two areas, Japan and the Netherlands, and a number of different mapping techniques were developed.

1.1. Dutch studies

Maps of similarity were used in the Netherlands, and an early one was based on the following question from a 1939 survey: “In which place(s) in your area does one speak a definitely different dialect than you do? Can you mention any specific differences?” (Rensink 1955: 20). Weijnen (1946) used a little-arrow method to represent the information uncovered by this question; arrows point from a respondent’s home area to another that he or she says is similar. Groupings of these connected areas are identified as unities – i.e., perceived dialect areas.

Such a map (for the North Brabant) appeared in Weijnen (1946). Map 0601 shows only the westernmost portion and allows a detailed illustration of the method. The dark, thick lines are the traditional dialect divisions (i.e., production isoglosses), and the perceptual areas are determined by clusters of arrows. I have outlined these latter with lighter gray lines (not done in the original). In the northwest of this section of map, the respondent from W (Willemstad) indicates that no nearby community sounds like W by drawing no arrow towards any. Similarly, no surrounding communities have identified W as similar, so no arrows are drawn towards it; therefore, the gray circle around W indicates that it is a perceptual isolate. In contrast, the respondent from D (Dintelooord) believes that the variety in F (Fijnaart) is the same as D, and the respondent from F returns the favor; hence, an arrow points from D to F and one from F to D. The F respondent also identifies K (Klundert) as the same, but this perception is not reciprocal. Again, a gray boundary line indicates this perceptual region, and, although it is easy to see that W is an isolate, one must consult the arrows in detail to see the different relationships between D and F (reciprocal), F and K (one-way, F to K) and D and K (mediated by an intervening site).

In a perfect match between perception and production, every site within the production boundary (W, D, F and K) would be connected to every other one with two arrows (W to D, D to W, W to F, F to W, D to F, F to D, etc.). That is not the case, but the perception–production match is good, for, although not all the sites within the production area are connected to one another, no one identifies as similar a site outside the production boundary, nor is any identified as similar by a site outside the production boundary.

A more complex relationship exists in the area just to the east. There, Z (Zevenbergen) identifies M (Moerdijk, just to the north) as the same, although reciprocal identification is not given, and Z itself is identified as the same by a respondent from one site to
its southwest. In both these cases, however, the production boundary just to the east is not crossed. A respondent from Z, however, asserts the similarity to Z of both ZH (Zevenbergen Hoek) and L (Langeweg) across the production boundary, although neither the respondent at ZH nor at L identifies Z as similar. This one crossing, however, creates a very large perceptual unity, one that runs across the entire east–west area of the territory. A better representation of the perceptual areas might be made by circling only the most densely clustered areas of arrow linkages, but there does not appear to have been a proposal about how that might be done quantitatively. In general, however, there are very few production boundary crossings, and the groupings of arrow connections clearly represent those areas most often linked by similarity judgments.

The little-arrow mapping technique was developed in the late nineteenth century by P. Willems, who began a study of Low Franconian in 1886 and collected 347 questionnaires from 337 sites. He died in 1898, however, and the work was never finished. Map 0602 shows the results of Willems’ questioning of respondents about how similar and different nearby places were. Goeman (1989) contains a detailed account of this earliest map of perceptions and such later uses of it as Ginneken’s (1913) in determining a general map of Dutch dialect areas. Map 0602 is the portion of this map that corresponds to the territory of Map 0601. Although the sites are not identified in Map 0602, it seems clear that the northernmost site is the W (Willemstad) of Map 0601. In this much older map, respondents from two nearby sites draw arrows towards Willemstad, and their placement suggests that they might be D (Dinterlood) and K (Klundert) in Map 0601, neither of which identified W as similar in the later study. If accurate, this is the first indication we have of a historical dimension in perceptual dialectology. It is also interesting to note that this earliest map contains graphic conventions for identifying dissimilarity (and degrees of it) as well as similarity.

Rensink (1955) provided the first general map of Dutch-speaking areas (cf. Map 0603) based on the perceptions gathered in the 1939 survey, in which lines are drawn around the bundles of little arrows, as done with thick gray lines in Map 0601. of contiguous(The only later specific use of the little-arrow method I am aware of is Kremer [1984], a study that asks to what degree perceptual dialect areas may or may not cross national boundaries [here the Netherlands–German border], where dialect similarity from a purely linguistic point of view may be great. In fact, the border is seldom crossed by little-arrow identifications.)

In general, the principal motivation in this early Dutch research seemed to have been a desire to give production dialect boundaries greater or lesser weight by establishing their folk validity. This is thoroughly discussed by Weijnen (e.g., 1966 and 1968) and is explicitly realized in Daan and Blok (1969) who, in an ambitious study Dutch-speaking areas, provide a map
based on both perception and production data. This is the only map I am aware of where such a combination is attempted (Map 0604). In such perceptual studies, however, one might ask what non-linguistic facts influence perception. Daan (1969 [1999]) suggests, for example, that a religious boundary may account for respondents’ strong feelings that there is also a linguistic one there when none in fact exists. As we shall see next, this question became a primary one in the difference between Japanese and Dutch perceptual studies and has been addressed in more recent work as well.

1.2. Japanese studies and the Dutch–Japanese controversy

In the late 1950s and 1960s a series of articles introduced the study of and controversy over subjective boundaries. Grootaers (1959) notes that the survey of the Itoigawa region in western Japan included perceptual questions partially inspired by the work in the Netherlands, specifically by the summary of Rensink (1955). He also states, however, that the Japanese interest in where boundaries are to be drawn and if folk information should be referred to in the earlier work of Misao Tôjô.

In the Itoigawa research (Sibata 1959), respondents indicated which nearby villages were (1) not different, (2) a little different, (3) quite different or (4) mostly incomprehensible. The question from which maps for Dutch perceptual areas were derived, which asked where dialects were similar, presumably the equivalent to question 1), was found to be of little or no value in the Japanese research. Grootaers says that the first (no difference) and the second (slight difference) were “superfluous” (1959: 356). Therefore, the results of question 1) were ignored, and the results of questions (2) and (3) were combined in one map, while those for question (4) were treated separately. The Dutch maps, therefore, appear to be ones of similarity and the Japanese maps ones of difference (but see below).

The Japanese researchers indicated by increasingly thick lines those areas that formed the difference boundaries for groups of respondents (Map 0605). When respondents performed similarly in stating where such differences were, they were grouped into a subjective speech community. Sibata (1959) and Grootaers (1959, 1964) claim that the resulting subjective boundaries were of little or no interest to linguists since they did not correspond to traditional ones.

Although the Itoigawa and Dutch studies gathered very similar data, they produced maps based on different facts. In Map 0601, the speakers who say that other areas are the same form an interconnected network, and such areas were taken into consideration in the preparation of such maps as Map 0603. For example, sites D, F and K form such an area in Map 0601. In Map 0605, however, the sites inside the “toothed” outlines (one on the left, a second on the right) belong to a perceptual area not because of respondent claims that they sound like one another but rather due to their agreement about which areas sound different. Two different sorts of facts are being dealt with here; one cannot prepare a Dutch-style map for the Itoigawa area since the respondents did not provide data about areas which sounded the same, and one cannot prepare a Japanese-style map for the Dutch-speaking area
since the data concerning differences, although sought in the Dutch questionnaire, were not made available.

Mase (1964a), who also asked respondents to indicate surrounding areas that sounded the same or different, provides the first opportunity after Willems to look at maps based on both differences and similarities, since, unlike the respondents in Itoigawa, the Alpine Japanese in Mase’s survey also named surrounding sites which sounded the same. Mase, however, did not draw maps based only on similarity. He was doubtless influenced by the work in Itoigawa, and he first mapped responses to two questions — which sites sound the same and which sites sound a little different. Map 0606 shows how he combines these results in constructing his map.

The respondent at #57 in Map 0606 has called #58 and #59 the same. He has also called #62, #63, #56, #55 and several sites in Nagawa a little different. Speakers from #58 and #59 agree, not only that they are similar to one another and #57 but also that the same sites are a little different. Finally, not shown in Map 0606, respondents from surrounding areas classify #57, #58 and #59 together in their evaluations. In short, the perceptual dialect area made up of these three sites is based on reciprocal (not individual, as in the Dutch research) perceptions of similarity, on similar perceptions of the first degree of difference (as in the Itoigawa research) and on the perception by surrounding areas of their similarity to one another. The identification of #57, #58 and #59 as a circumscribable area in Map 0606 is based, therefore, on three criteria: two of their similarity (internal and external) and one of their agreement about differences. Although this mapping technique seems more sophisticated than the Dutch or Itoigawa research, it mixes ratings of similarity and difference and does not allow us to see boundaries produced by those different considerations.

In fact, Mase’s calculation is even more complex. In many cases, there is no such nice agreement among sites as shown in Map 0606. When that occurs, Mase relies only on difference ratings and uses two-thirds and one-third ratios. In Map 0607, such a complex relationship arose in #11 through #26. Mase’s procedure was as follows: he counted a full point for each site at which any respondent mentioned a first degree of difference boundary (a little different). He counted a half-point if the respondent modified that degree downward (e.g., a very slight difference). He then calculated the number of points for all respondents in the region. If they equaled two-thirds or more of the respondents, he considered the boundary a major one; if they equaled more than one-third (but less than two-thirds), he considered it a minor one. In the situation described above, 11.5 points were calculated for the boundary between #14 and #15. Since eleven and a half is greater than two-thirds of sixteen (the total number of sites, i.e., #11 through #26), #11 through #14 are grouped into one major perceptual region, labeled (d) in Map 0607, while #15 through #26 are grouped into a second, (e). Within those regions, however, seven points were given between #24 and #25, six between #25 and #26, and five and a half between both #12 and #13 and #19 and #20. As Map 0607 shows, these divisions are indicated by dashed lines since their point totals amount to more than one-third but less than two-
thirds of the total respondent judgments from the sites under consideration. (Mase [1964a] goes on to develop similar procedures for drawing separate maps for greater degrees of difference, but they do not contribute methodologically and are not discussed here.)

This resolution of complex areas with reference to difference ratings, however, reduces our ability to distinguish which regions are identified on the basis of similarities (exclusively or predominantly) and which are identified on the basis of differences. Nevertheless, Mase’s treatment of boundaries is more quantitatively sophisticated than any of his predecessors’, for, although the Itoigawa research team drew thicker lines to indicate areas which were agreed on as different by a larger number of respondents, it is nowhere clear that a numeric standard was used. There is also no quantitative approach in the little-arrow technique, since only one connection (i.e., one similarity judgment) appears to cause a site to be included in a perceptual area.

Mase (1964a, 1964b) also compares his perceptual boundaries to grammatical, lexical and phonological isoglosses and finds a good correspondence between linguistic boundaries and ones determined from his perceptual study. (A similar technique is suggested by the most outspoken proponent of the need for perceptual data in drawing dialect boundaries. Jernudd [1968] contends that folk knowledge is an integral part of the scholarly representation of dialect divisions. He outlines a program for such research in which he recommends eliciting folk responses to actual dialect features, a procedure used in very little of the previous work in Dutch-speaking areas or in Japan except in Nomoto [1963] and Mase [1964a, 1964b]. A similar strategy is used in several studies reported below, and Diercks [1988] used actual voice samples in determining regional speech awareness in a small area of northern Germany.) On the non-linguistic side, however, Mase (1964a, 1964b) and Nomoto (1963) find school districts — rather than feudal and other political administrative zones (the areas which dominated the linguistic boundaries of the Itoigawa research) — to be very similar to perceptual boundaries. These findings, however, were not incorporated into general maps of Japanese dialect differentiation.

Nomoto’s work, by the way, is an early example of the results being given in tabular or abstract form rather than in an actual map. Since he deals with a string of villages on a shoreline (in a north–south dimension) he simply represents the relationships among the sites on a straight line graph interrupted by numbers of “///”s to indicate degrees of perceived (and actual production) differences. We shall see later developments of perceptual dialectology that do not use maps at all.

Weijnen (1968) criticized the Japanese approach by noting that the Sibata and Grootaers team asked people if there were differences, which, according to him, always exist, rather than asking where others spoke the same. He praises Mase, however, who found a greater parallel between perception and production, for his use of the more appropriate question. Since Mase nowhere bases maps exclusively on local judgments of similarity, however, Weijnen might not have approved if he had had full access to the original version (Mase 1964a).

The last word in this Dutch–Japanese controversy may have to do with ends rather than means. If one seeks to supplement the details of production dialect maps with folk awareness weights, then subjective maps that result in boundaries that do not generally correspond to production boundaries will be of little help, although Daan (1969) seems to have been interested in what one might learn from the mismatches as well as the matches.
If one seeks a more general approach to dialect mapping, there may be disappointment that subjective boundaries do not provide a guide to language distribution. If, however, one seeks corroborating and explanatory evidence for dialect distribution, as Grootaers (1964) himself concludes, then the voice of the folk should not be ignored. That this voice has independent value and application does not seem to be a conclusion reached in any of this early work.

2. A revival of perceptual dialectology

In the 1980s and 1990s, motivated by a trend in cultural geography (e.g., Gould and White 1974) known as mental mapping, a series of studies that extended the Japanese and Dutch studies was begun. The first of these appears to have been Preston (1981), but, due to its similarity to the earlier work in the Netherlands and Japan, I will begin with a review of work done a little later.

2.1. The degree of difference

The form of this revivalist research most directly parallel to previous studies asked respondents to rank 52 regions — the 50 US states (see Map 0608), New York City and Washington, DC — on a scale of one to four (1 = same, 2 = a little different, 3 = different, 4 = unintelligibly different) for the degree of dialect difference from the home area (e.g., Preston 1993a, 1996). Map 0609 shows the responses of southeastern Michigan respondents to this task; the mean score ratings were divided as follows: 1.00—1.75, 1.76—2.50, 2.51—3.25, 3.26—4.00.

Map 0609 shows that when Michigan raters evaluate degree of difference they perceive a rather large local area of similarity, behaving like Mase’s raters rather than like those in Itoigawa. A large South emerges as a territory rated 3 (the same rating given the Northeast). Texas, Arkansas, Oklahoma and Missouri are rated along with obviously Southern states (e.g., Georgia and South Carolina), but a core South (Alabama, Mississippi and Louisiana) earns a 4. These ratings suggest that the Michigan raters are aware of a wide area of influence of Southern speech, emanating from an unintelligibly different core. Even in the generally similarly rated Northeast there is no such unintelligible core.

This procedure is unlike those used in Itoigawa, in the Dutch-speaking areas, or in Mase’s work. It focuses on a number of demographically diverse respondents from one area. In contrast, all the studies cited above, inspired by traditional work in dialectology, surveyed only one or very few (older, usually male) respondents from each area (the NORMs — nonmobile, older, rural males — of Chambers and Trudgill [1980: 33]). Generalizations from such studies, therefore, face the task of combining responses from more
than one area. The maps realized from the US research, and much work derived from it, provide a statistical generalization about the area ratings given by a number of respondents from a single area and in some cases, demographic subsets of those respondents.

In general, the US work has focused on a broad, non-local assessment of dialect distinctions. This is perhaps justified, since US dialects do not usually reveal the same finely tuned local differences one finds in rural Japan and Dutch-speaking areas. Unless there is a significant speech or culture boundary nearby, asking about the difference in speech from one town to the next in the US, within areas as small as those surveyed in the Japanese and Dutch-speaking research, might reveal only vast areas of similarity. This is, however, an empirical question, and more recent survey data which asks respondents to rate nearby sites suggests that respondents are, in fact, capable of much finer distinctions (e.g., Benson 2003 for Ohio and Diercks 1988 for the area around Schleswig in northern Germany). Evaluations of the degree of difference have been done in several other sites in the US, Canada, France, Germany, Great Britain, Turkey and other areas. (I do not provide here extensive lists of journal articles and chapters in anthologies that illustrate this or the following techniques in perceptual dialectology. There are three resources one might consult, two of which contain extensive bibliographies of primary and secondary work in the field in general: Preston [1999a] and Canobbio and Iannàcci [2000]. Long and Preston [2002] is a volume of works devoted exclusively to perceptual dialectology, and, although there is no bibliographical section, the individual chapters contain references not found in the two more extensive but earlier bibliographical treatments. An updated resource list is obviously needed.) In addition to the reporting of means scores and statistical tests of their significance, some of these studies have employed multidimensional scaling and cluster analyses to arrive at generalizations concerning the ratings and have used the results of these computations to create maps. For example, Tamasi (2003) introduced a strategy borrowed from cultural anthropology in which respondents are given cards with all the areas to be distinguished and asked to make as many stacks of cards for similar areas as they like. She has represented results of the cluster analyses of these sortings in maps that show more detailed groupings than those done in the four-level degree of difference task.

Generally speaking, these more recent studies have seldom been concerned with the correlation between their findings and those of traditional dialectology. That, of course, is a major difference between them and the earlier studies. The maps in all this research have, however, used pre-established units (villages, states, cities) as the targets of investigation in determining respondent mental maps.

2.2. Hand-drawn maps

To avoid the use of pre-set areas, another early task in US perceptual dialectology asked respondents to draw on a blank US map (featuring only state lines and occasionally other prominent geographic features) lines around areas where they believe regional speech zones exist and to label them with names of the area, of the dialect, of typical speakers from them and/or representative examples of speech for each (Preston 1981). Although respondent hand-drawn maps were well known in cultural geography (e.g., Gould and White 1974), there does not appear to be a tradition for the use of this
technique in the study of dialect perceptions. Map 0610 is an example of such a hand-drawn map from a southeastern Michigan respondent.

One might first note that, although Michigan respondents include a wide territory in category 1 (the same) in the degree-of-difference task (see Map 0609), this respondent singles out Michigan exclusively for the label average normal, an early suggestion that different tasks elicit different responses. There are a number of interesting cultural stereotypes evident from this map (hillbillies for Texas, British for New England, Eskimo’s for Alaska and Sunny Side for California), and studies of such labels have attracted some attention (e.g., Preston 1981, 1993b; Hartley and Preston 1999; Long 1990 [1999]). The labels themselves provide the researcher with clues to the underlying causes of dialect identification, particularly those of the sort Daan suspected might have their roots in non-linguistic facts.

Since such maps were collected from a number of respondents all from one site, it was desirable to prepare a generalization, and a technique developed by Preston and Howe (1987) allows computerized generalizations. Each respondent’s map is traced onto a digitizing pad that feeds the outline information into a program keyed to a map. For each respondent’s outline of an area, the program records one hit for each pixel enclosed in or touched by the respondent’s boundary, allowing automatic compilation of composite maps based on large numbers of respondents.

The generalizations which emerge from the computer compilations are not automatic. For example, 138 southeastern Michigan respondents drew some representation of the US South, and their maps were subjected to the computer process outlined above. If one asks the computer to display the entire territory of the South for which even one respondent included a pixel, such an uninformative map as Map 0611 emerges, an exaggeration and most likely the result of one or two sloppy or idiosyncratic drawings.

It is necessary, therefore, to seek other patterns of agreement; the territory outlined by fifty percent of the respondents provides a good generalization, although, to be precise and to provide additional insights (as will be illustrated below), one will want to sample a number of such percentages. Map 0612 shows the “South” for southeastern Michigan and southern Indiana respondents at a fifty percent level of agreement. The Michigan map-drawers obviously have a bigger vision of the South, and there is a ready explanation of this difference. There is a prejudice against the speech of the US South, and the territory outlined by the Michiganders comes dangerously close to the southern Indiana respondents’ home area. The Indiana respondents appear to have pushed the South to the south, away from themselves, so that they will not be associated with, or allow others to believe that they are contaminated by, Southern speech.

This procedure allows questions other than that of the best generalization to be asked. For example: (1) Where is the core of a region? (2) Do increasing or decreasing percentages of re-
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Respondent agreement show concentric patterns of area outlining, or do irregularities suggest alternative interpretations?

Since some respondents drew outlines which overlapped with no part of another’s, one cannot see one hundred percent agreement. Map 0613 shows, however, that 96 percent of the Michiganders find the core of the South in central eastern Alabama. On the other hand, Map 0614 shows that a concentric set of boundaries does not emerge from this Alabama heartland. When a 91 percent reading is taken, a tail reaches to the Atlantic coast, suggesting that, although the heart of the South may be in eastern Alabama, its eastern and coastal ties are significant.

Map 0615 shows every computer-generalized dialect area drawn by at least fifteen percent of the respondents. The frequency of representation of an area allows an approach to what the Dutch dialectologists were after in their search for weight. Here, for example, the South is overwhelmingly the most salient area; the 138 Michigan respondents who drew a South represent 94 percent of the total of 147 respondents in the study. The second most salient area (a small, central northern area) was drawn by only 61 percent (90 of the respondents), and the Northeast was the third most salient area (54 percent).

For that weight to be important to traditional dialectology, however, these generalized perception boundaries must correspond to production ones. Map 0616 shows a recent, generally well agreed on linguistic map of the US (phonological, morphological, syntactic and lexical data combined where available).

Comparing just the northern boundary of the most salient area from Map 0615 (the South) with any of the production boundaries represented in the same area in Map 0616 shows that the US map-drawing enterprise would not satisfy those who seek confirmation in subjective perceptions. Perhaps that is not surprising. Since the hand-drawn map task asked for speech boundaries over the entire country, what one learns is more general rather than more precise, but what is learned is not at all without benefit.

First, we now know which speech areas of the region under study are salient for a specific group of respondents, and we also know the degree of that salience. Second, although we cannot correlate the area assigned to these regions with precise linguistic measurements, we can calculate the core and extent of these regions in straightforward mathematical ways (i.e., as in Maps 0611 through 0614). Finally, perhaps most importantly, having determined what the cognitively real as opposed to linguistically determined speech areas of a region are, we may proceed to ask a number of related questions or use this information in related research. Some of the next steps in this program of research move in that direction. Work with hand-drawn dialect maps outside the five areas of the US reported in Preston 1986 and elsewhere has now been done in several US sites, Great Britain, Brazil, France, Japan, Germany and other areas.
2.3. Regional attributes

In their recognition of regional speech areas in both degree of difference and hand-drawn map tasks, non-linguists seem to be using factors other than the perception of purely linguistic differences, and cultural geographers have also asked respondents for attitudinal evaluations of regions (e.g., Gould and White 1974) and displayed the results on maps. Hand-drawn maps collected over the years show that many, perhaps most, respondents do not use labels such as “Midwestern English” or “Southern Speech”. Their annotations range from such positive labels as standard, regular, normal and everyday to such negative labels as scratch and claw, hillbilly, damn Yankees, annoyingly nasal and spoken mainly by ignorants.

These labels suggest that a regard for language correctness is a dominating one, at least in US perceptions. Areas perceived as least and most correct seem to have greatest distinctiveness, and, referring to the areas outlined in Map 0615, the South is the most frequently drawn area and the Northeast (the area that includes New York City) is also often represented. They are, in US linguistic lore, the areas where the most incorrect English is spoken. The area around Michigan is clearly regarded as standard by the Michigander who drew Map 0610, and it is also the second most frequently identified area.

Correctness is not, however, the only theme to emerge. Labels such as soft, down-home, gentlemanly, pleasant, friendly (and negative opposites) also appear. The respondents were clearly distinguishing between correct and pleasant varieties.

Language attitude studies have explored just such affective dimensions of diversity, beginning by sampling attitudes towards different languages (Lambert et al. 1960) and moving on to different varieties of the same language (e.g., Tucker and Lambert 1969). Giles and his associates (summarized in Ryan and Giles 1982) have investigated a large number of such reactions to varieties and have suggested a general pattern: speakers of regional varieties, where that implies nonstandardness, find speakers of their own varieties warm, friendly, honest, sympathetic and trustworthy, but often slow, unintelligent and plodding; they regard speakers of the standard as cold, dishonest and unsympathetic, but quick, intelligent and ambitious. To the extent that listeners find their own varieties less prestigious, they suffer from what Labov (1966) called linguistic insecurity.

Language attitude studies confirm, then, that regional varieties are not all equal, and such findings help further establish the basis for another perspective on varieties: an account of what speakers of various regions (and classes, sexes, ethnic groups, age groups and so on) believe about dialect variety. Here we are concerned with mapped representations of such attitudes.

If speakers are given the task of identifying areas where the most correct variety is spoken, how will they respond? If they are all linguistic relativists, they will indicate that the task cannot be done, claiming that each area supports a standard. If, however, as the two tasks already surveyed have suggested, they have regional linguistic prejudices, they will readily rank areas of the country for language correctness. Additionally, if the studies by Giles and his associates apply, one might also find that speakers who consider their accents to be regional nonstandards will rank their home areas lower for correct speech but prefer the local area along affective dimensions (friendliness, honesty and so on).
Such tasks are distinctly different from typical language attitude surveys. In the latter, respondents check off attributes which they assign to the speaker, based on a short tape-recorded sample. These studies generally conclude that attitudes to voices from a particular place are thus and so, but they do not, as a rule, ask the respondents where they thought each voice was from (but see Milroy and McClenaghan 1977). It is possible, then, that language attitude research reports may be accurate but misleading. First, the respondents might not recognize where the voices were from (or might, in fact, believe the voices were from somewhere else). Second, the respondents might not have a cognitive speech area to which the voice samples might be readily assigned. In short, folk linguistic considerations must be made a part of social psychological studies of language.

Since earlier studies suggested that geographical identification seems to be firmly based in evaluative notions, respondents were simply asked the more direct question: “Where are the most (and least) ‘correct’ and ‘pleasant’ varieties spoken?” Such ranking procedures have a long history in cultural geography (e.g., Gould and White 1974) for such concepts as residential preference and political climate. Map 0617 is a map of means scores for such a task from southeastern Michigan and Map 0618 from southern (mostly Alabama) residents.

Very few respondents complained about this task, and a relativist position was not taken by the great majority of them. Although they often complained that they did not have information about an area, ranking for correctness was for them a reasonable task and represented opinions overtly held about the sites where better and worse English was spoken.

Maps 0617 and 0618 show that for both southeastern Michigan and southern respondents the areas most definitely associated with incorrect English are the South and the New York City area; they are the only areas which have mean scores within the range 4.00–4.99. For Michigan raters, Alabama dips into the 3.00–3.99 range, and for southerners New Jersey reaches the same low. In addition, areas bordering on the South and New York City are given ratings in the 5.00 to 5.99 range. Turning to the other end of the scale, predictions about linguistic security also seem to be borne out. Michigan raters, most strikingly, see themselves as the only state in the 8.00–8.99 range, exposing considerable linguistic self-confidence. Southern respondents, however, rate themselves in the moderate 5.00–5.99 range but clearly regard some other areas as superior. This lower ranking of the home area must indicate some (but not rampant) linguistic insecurity. Southern respondents are clearly different from Michigan raters, who, apparently, see themselves as the only speakers of Standard American English in the US. These correctness ratings show the predicted differences between the secure Michigan and insecure southern raters and confirm the low prestige assigned Southern and New York City varieties.

Maps 0619 and 0620 display the ratings of the same Michigan and southern respondents for pleasant speech. The suggestion by Giles and associates that local speech is affectively preferred, regardless of its correctness, is strongly confirmed. The southern respondents rate only Alabama in the 8.00–8.99 range for pleasantness, but the Michigan raters put Washington, Colorado and neighboring Minnesota and Illinois in the
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same 7.00–7.99 range along with their home site. These results suggest, therefore, that the preference for local norms along affective lines is stronger in areas where there is linguistic insecurity, for the Alabama rating is as uniquely pleasant as Michigan was uniquely correct. Although Michigan raters are not so harsh on the South with regard to pleasantness, both groups agree that the New York City area is most unpleasant, and the rating given New Jersey by the southern respondents (2) is the lowest given in any of these studies.

These correct and pleasant ratings provide confirmation of the general patterns of linguistic security and insecurity. Areas with greater insecurity focus on regional solidarity to express local identity. Areas with considerable security do not use local speech to express such identity. More importantly, details of stereotype and caricature are more definitively cataloged through such tasks, interpretations that were only hinted at in the earlier work of Daan (1969) and Mase (1964a). Recent mapping studies of pleasant and correct varieties have been done in several areas of the US, Brazil, Canada, France, Germany, Japan, Great Britain and other areas.

For all these tasks except for the hand-drawn technique, the resulting maps characterize respondent views of regions selected by the researcher, whether political divisions (as in the US state regional studies and others modeled on it) or others. Some use has been made in ratings tasks of such maps as Map 0615 (e.g., Preston 1999b), and one might assume that such composite maps would be more effective in eliciting respondent evaluations of cognitively real territories.

Fumio Inoue (1977–1978, 1978–1979) has devised a technique for characterizing speech regions that he calls dialect image. Although Inoue (1995) is a more recent publication, it illustrates the foundation for much of his work. He elicits evaluative words associated with regions, much in the same way pairs of opposites are elicited for the semantic differential evaluation of matched-guise presentations. He subjects these dialect labels to a Japanese version of multidimensional scaling known as Hayashi 3, which allows a researcher to group together both the evaluative labels assigned to varieties and, later, the varieties themselves. The two principal characteristics associated with dialect image in Japan, for example, are intellectual and emotional. These correspond closely to the status versus solidarity factor groups that emerge from most quantitative work done on language attitudes and to the correct versus pleasant characteristics of varieties used in the work described above.

Inoue has also applied this technique in Great Britain, where, interestingly, the components selected in the statistical treatment of labels were not emotional and intellectual, as they were for earlier work in Japan, but rural and standard. Map 0621 shows how a variety of English-speaking regions are evaluated on these same dimensions, renamed “Accentedness − Standardness” and “Urbanness − Pastoral (Rural)”. One might argue that multidimensional plots are not maps in a geographical sense, but this work, and work derived from
it done in other areas, provides a cognitive map of a dimension of geographical distribution, one related to attributes assigned to regional varieties, and deserves to be ranked alongside the use of any sort of graphic representation of the cultural aspects of areas.

Inoue, who has also had respondents draw maps of dialect areas in Great Britain (Inoue 1996), concludes, like Sibata and Grootaers, that there is little or no correspondence between perception and production boundaries. In fact, he sees a stronger correlation between folk dialect perception and the sorts of maps one encounters in public school education and in such popular media vehicles as weather maps.

2.4. Maps of recognition

The bulk of work in perceptual dialectology leaves the features of the speaker up to the memory or imagination of the folk respondent. Even in the earliest work, however, in both Dutch-speaking areas and Japan, researchers wondered about the linguistic features responsible for folk salience. More recently, several studies have provided respondents with spoken language clues and asked them to situate these voices spatially. Diercks (1988 [2002]: 66), for example, showed that Schleswig respondents in northern Germany, after hearing four short dialect samples, regarded the dialect of Treia as equally distant from Schleswig as those of Thumby and Jagel, when, in fact, it shares many more features with Schleswig Low German.

In similar work in the US, the voices of nine middle-class (college educated) middle-aged European American males were recorded at relatively evenly spaced distances on a north—south continuum in the middle of the country (Map 0622). The short samples selected from these conversational interviews were devoid of all dialect-specific features except pronunciation. The respondents, from southernmost Indiana and southeastern Michigan, were asked to match these voices (played in scrambled order) with their sites. A simple account of their guesses was tallied; if respondents identified the voice from site #1 as being from site #1, a “1” was tallied for voice #1; if they identified the voice from site #3 as being from site #1, a “1” was counted for voice #3, and so on. The scores were averaged and arranged in order. The results are shown in Table 6.1 and Maps 0623 and 0624.

Both the Michigan and Indiana respondents assigned site numbers to the voices they heard which, when averaged, showed a fairly steady north—south progression, with the exception of both placing the Saginaw and Coldwater, MI voices farther south than they belonged and both placing the Bowling Green, KY voice farther north than it belonged. The symbols in Table 6.1 and the shadings in Maps 0623 and
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0624 show which voices were not statistically distinct (ANOVA, Tukey post-hoc).
For both groups of judges, there are three degrees of distinctiveness, although there is considerable overlap in the placement of voices in the northern and middle regions, especially by the Indiana judges. For both, however, there is no statistical difference in the ratings of the three southernmost voices. Both the New Albany and Bowling Green voices were ranked in the middle (or for Bowling Green, even north by the Indiana judges). More recently, Montgomery (2007) has devised a test in which the respondent simply makes an X on a spot on a blank map where he or she thinks a sample voice is from. Subsequent statistical and graphic representations show, for example, how accurately the voice is placed, in which directions it is misplaced, and how accurately the voice is placed in the perceptual and production regions of the area under investigation.

Although the US study illustrated in Table 6.1 and Maps 0623 and 0624 reveals that respondents hear a continuum of northern and southern voices, we do not know, since each sample was about a 30-second stretch of speech, what phonetic characteristic(s) was/were most responsible for the relatively northern or southern selection of a site. US dialectologists (as well as folk respondents) are confident that /ay/ is one such clue, and it occurred at least once in all the samples played. Generally speaking, the /ay/ phoneme is diphthongal in the northern US and monophthongal in the south. The next task attempts to determine if increasingly monophthongal variants of /ay/ will be identified as belonging to sites farther south.

A web-based experiment presented male and female seven-step resynthesized pronunciations of the word *guide* and asked respondents to indicate which of the nine sites in Map 0621 they thought each token was from. The gender, age, profession, ethnicity and region of the respondents was determined, each of whom heard each resynthesized token of *guide* three times (42 tokens). The linear predictive coding (LPC) analysis/resynthesis was done from samples in which target F1 (maximum change 150 hertz) and F2 (maxi-

<table>
<thead>
<tr>
<th>Michigan judges</th>
<th>Indiana judges</th>
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<tbody>
<tr>
<td>rank</td>
<td>mean</td>
</tr>
<tr>
<td>9</td>
<td>Saginaw</td>
</tr>
<tr>
<td>8</td>
<td>Coldwater</td>
</tr>
<tr>
<td>7</td>
<td>South Bend</td>
</tr>
<tr>
<td>6</td>
<td>Muncie</td>
</tr>
<tr>
<td>5</td>
<td>New Albany</td>
</tr>
<tr>
<td>4</td>
<td>Bowling Green</td>
</tr>
<tr>
<td>3</td>
<td>Nashville</td>
</tr>
<tr>
<td>2</td>
<td>Florence</td>
</tr>
<tr>
<td>1</td>
<td>Dothan</td>
</tr>
</tbody>
</table>
mum change 550 hertz) values at each 20 millisecond frame were calculated to obtain the seven-step continuum of monophthongization and fronting. Fronting of the onset was added since — at least in the part of the US studied here — fronting as well as reduction of the glide is common.

Regional, professional (i.e., status) and ethnic distributions among the respondents were not large enough for statistical tests to be run, but both age and sex were calculated (61 female, 35 male; 19 under 20 years old, 15 from 21 to 30, 23 from 31 to 40, 19 from 41 to 50, 16 from 51 to 60 and four over 60 years old); however, neither sex nor age of the respondents showed any difference in the pattern of responses.

Respondents were, however, very outspoken concerning the appropriateness of the task, most complaining that they could not hear the fine distinctions and/or that they did not have experience in hearing the speech of the nine sites. The following are typical responses:

I don’t do surveys ordinarily. … Unfortunately, after doing the sample. [sic] I realized that I am clueless. My ignorance could only compromise your findings. Had I a printed version of the word before it was sounded, I might have had more of a snowball’s chance.

I’ve just done the web linguistic survey and I kept going even though I was quite clueless. How should anyone other than travelling salesmen have any familiarity with these regional dialects? Who’s a “good respondent” as opposed to one like me who’s mostly guessed in a tripartite way: north, middle, south?

I had one stop in Indianapolis once during which I was so struck by a sixteen year [old] waitress’s accent that I’ve always remembered the difficulty of understanding her, but I sure haven’t remembered her voice. I hope your survey produces something of value, but I’m curious how you might get there if other respondents are as clueless as I am!

In spite of such claims, similar to ones made even by linguists who have heard the seven-step continuum, the respondents did very well in placing the seven tokens along the nine-step north—south continuum (Map 0622).

In fact, only steps one and two (the most diphthongal) were not significantly different from one another; an ANOVA with a Tukey post-hoc test shows every other step, whether for male or female voices, to be significantly different from the adjacent (and all other) values.

The complaint by respondents, therefore, that they could not discriminate among these small differences in degree of monophthongization was realized only for steps 1 and 2. I conclude, therefore, that at least one element which guided respondents in placing the nine voices in the older test was degree of monophthongization. More importantly, although not discussed here at any great length, is the fact that minimal degrees of phonetic difference can be perceived in such tasks and that they are perceived gradually, not categorically.

What is most important here, however, is the fact that a sociolinguistic element, namely sex of speaker, resulted in a significant difference, as determined by independent t-tests, in the ranking for each step between the male and female voice. As Figure 6.1 shows, the male voice was always rated as more southern (i.e., assigned a site farther south among the nine choices given in Map 0622). Since the resynthesized signals offered no phonetic clue to this, the two well-established caricatures have come together to force this perception. First, as shown above and elsewhere (e.g., Preston 1996), Southern
speech in the US is not only salient to US English speakers; it is salient because of its perceived nonstandardness. Second, perhaps beginning with Fischer (1958) but elaborated on in Trudgill (1972) and confirmed in considerable further sociolinguistic work, women have been shown to be much more likely to use more standard or overtly prestigious forms than men.

It follows that, if female usage is generally more standard, both men and women would perceive female speakers as more standard and males as less so and that respondents would be much less inclined to rate a female voice, regardless of the phonetic reality, as one from farther south, a region caricatured as nonstandard.

One hopes that as more data are gathered and more regions are studied, we may be able to show that characteristics of the hearer (age, sex, region, ethnicity, etc.) may also be important in the recognition of varieties and the specific elements of those varieties. Considerable advances have been made in dialect recognition, the features which promote recognition and the variation in the demographic identity of respondents in a series of recent papers (e.g., Clopper 2004).

3. Conclusions

I believe the many scholarly perspectives reviewed here of maps of the folk identity and recognition of and regard for language varieties are worthy of the attention of
dialectologists, sociolinguists and students of the social psychology of language, and perhaps that is a foregone conclusion.

I also believe, however, that there is a more general interest among social and cognitive scientists (including those who would like to apply their knowledge to such public spheres as law, medicine and education) in knowing what the folk believe about this most human of enterprises.

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Map 0601: The westernmost section of the North Brabant, showing production boundaries (thick dark lines), little arrows of respondent similarity perceptions and perceptual areas (thick gray lines); adapted from Weijnen (1946)

Map 0602: The westernmost section of the North Brabant (as in Map 0601), showing Willems' little-arrow method (enlarged portion of Goeman 1999: 140)
Map 0603: Perceptual areas of the Netherlands based on the little-arrow technique (Rensink 1955: 5) as featured on Map 0601. The thick lines show areas reported as having the same dialects.
Map 0604: Dutch dialect areas, perceptual (little-arrow) and production data combined (Daan and Blok 1969)
Map 0605: The determination of two subjective areas in Itoigawa (Sibata 1999: 42): two different views of the same area. Numbers in the map refer to respondent locations.

Map 0606: The subjective dialect boundaries indicated by a respondent at Hiwada, site #57 (Mase 1999a: 75). Based on responses to the questions A “Where do people speak the same as here (giving the name of the hamlet)?” and B “Where do people speak a little differently from here? How is it different?” Numbers in the map refer to respondent locations.

Map 0607: Mase’s 16 perceptual dialect areas for a section of Alpine Japan (1999a: 80). Based on responses to the same questions as Map 0606; numbers in the map refer to the same respondent locations as in Map 0606.
Map 0608: United States of America: location of states
Map 0609: Mean degree of difference ratings of Michigan respondents (n = 147) for 50 regions (states) on a four-step scale (1 = same, 2 = a little different, 3 = different, 4 = unintelligibly different)

Map 0610: A hand-drawn map from a young, university-enrolled southeastern Michigan respondent
Map 0611: Southeastern Michigan respondents' computer-generalized map, showing where even one respondent outlined a South as in Map 0610

Map 0612: Southern Indiana (outlined – 53 of 106) and southeastern Michigan (shaded – 69 of 138) respondents' generalizations of the US South at the 50% level

Map 0613: Michigan respondents' core “South” at the 96% agreement level

Map 0614: Michigan respondents' 91% agreement for the South
Map 0615: Speech regions for southeastern Michigan respondents based on computer-generalizations of drawings at a minimum level of 15% of the respondents.

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Map 0617: Mean scores of southeastern Michigan correctness ratings for 52 regions (states plus New York City and Washington DC; cf. Map 0608)

Map 0618: Mean scores of southern correctness ratings for 52 regions (cf. Map 0608)
Map 0619: Mean scores of southeastern Michigan ratings of pleasant speech for 52 regions (cf. Map 0608)

Map 0620: Mean scores of southern ratings of pleasant speech for 52 regions (cf. Map 0608)
Map 0621: Distribution of dialects as a result of Hayashi’s quantificational theory type 3 for British University students (Inoue 1999b: 154), interpreted as a cognitive map.
Map 0622: Sites at which nine middle-class, middle-aged, European American male voices were recorded

Map 0623: Michigan site identification of regional voices. Voices shaded the same were not statistically different from one another in their site assignments

Map 0624: Indiana site identification of regional voices. Voices shaded the same were not statistically different from one another in their site assignments