4 | Common ground

If a lion could talk, we could not understand him.
Ludwig Wittgenstein, *Philosophical Investigations*

Everything we do is rooted in information we have about our surroundings, activities, perceptions, emotions, plans, interests. Everything we do jointly with others is also rooted in this information, but only in that part we think they share with us. The notion needed here is common ground.

Common ground is a *sine qua non* for everything we do with others – from the broadest joint activities (Chapter 2) to the smallest joint actions that comprise them (Chapter 3). For my son and me to act jointly, he and I have to coordinate what we do and when we do it. And to coordinate, we have to appeal, ultimately, to our current common ground. At the same time, with every joint action he and I perform, we add to our common ground. This is how joint activities, from chess games to business transactions, progress (Chapter 2). When my son and I enter a conversation, we presuppose certain common ground, and with each joint action – each utterance, for example – we try to add to it. To do that, we need to keep track of our common ground as it accumulates increment by increment.

Common ground is important to any account of language use that appeals to "context." Most accounts don't say what context is, but rely on our intuitions about the circumstances of each utterance. These appeals are no better than a psychic's visions of next year's stock prices – and less predictive. With an undefined notion of context, as with an indefinite future, anything is possible. What these approaches need is a proper theory of common ground.

What, then, is common ground? What forms does it take? What information does it represent? How is it created, maintained, and incremented?

What is common ground?

The technical notion of common ground was introduced by Robert Stalnaker (1978; cf. Karttunen and Peters, 1975) based on an older family of notions that included *common knowledge* (Lewis, 1969), *mutual knowledge* or *belief* (Schiffer, 1972), and *joint knowledge* (McCarthy, 1990). Two people's common ground is, in effect, the sum of their mutual, common, or joint knowledge, beliefs, and suppositions. There has been considerable confusion about these notions. At issue is how they are to be represented. Three main representations have been proposed, and although they may seem equivalent, they aren't (Barwise, 1989; Clark and Marshall, 1981). Paradoxically, the best-known one is impossible psychologically, whereas the other two are not. I will argue that it is the second and third representations we need for language use.

THREE REPRESENTATIONS

I am at the beach examining a rare conch shell I just found. Although my attention is focused on the shell, I am vaguely aware of the entire situation – the beautiful day, the beach, the sea, the shell, and, of course, myself. It is as if ten meters down the beach there is a gigantic mirror in which I can see all these things reflected. In it I see myself, not as another inanimate object, but as a sentient being looking at the entire situation. I see myself thinking about what I am seeing – including me thinking about all this. If I am agent A thinking about the current situation *s*, we might represent the circumstances as follows:

s includes the beautiful day, the beach, the sea, A, and a conch shell near A.
s includes A's awareness of *s*.

What is represented by the second statement along with the first is a piece of my *self-awareness*.

Now my son walks up, and the two of us examine the conch shell together. How does my representation change? If all I did was add his name to the list in the first statement, that wouldn't do him justice. After all, I am sure he too is vaguely aware of the entire situation – that what he sees in the mirror is analogous to what I see. What I add instead is his version of the second statement, where he is B:

s includes the beautiful day, the beach, the sea, A, B, and a conch shell between A and B.
s includes A's awareness of *s*.
s includes B's awareness of *s*.

Note that this representation doesn't change when my son and I switch places. So long as I assume he is like me in his awareness of the situation, his and my self-awarenesses are exact analogs. If my wife comes along and the three of us look at the shell together, I will add: *s* includes C's awareness of *s*.

What I have just described is a shared basis representation of common ground. It is common ground for my son and me that, among other things, there is a conch shell between us. It is part of our common ground because it is included in a situation that also includes his and my awareness of that very situation. The situation *s* is the *shared basis* for our common ground. In this view, common ground is a form of self-awareness – self-knowledge, self-belief, self-assumption – in which there is at least one other person with the analogous self-awareness.

Common ground for a proposition *p* in a community C of people can therefore be represented this way (Lewis, 1969):

Common ground (shared basis)

p is common ground for members of community C if and only if:

1. every member of C has information that basis *b* holds;
2. *b* indicates to every member of C that every member of C has information that *b* holds;
3. *b* indicates to members of C that *p*.

In this form, *b* is the basis for the piece of common ground that some proposition p holds. *C* is a community of two or more members. And *has information* is intended to allow "believe," "know," "is aware that," "supposes," and verbs like "see," as in "I see my son looking at the conch shell." On the beach, my son and I form a minimum community. (1) He and I have information that a certain basis *b* holds – the beach scene in front of us exists. (2) It indicates to each of us that he and I have information that this very beach scene exists, and (3) it indicates to each of us that there is a conch shell between us. Conclusion: It is common ground for him and me that there is a conch shell between us. If in place of *have information* we substitute *believe*, *know*, *assume*, or *is aware*, we get the technical notions of *mutual belief*, *mutual knowledge*, *mutual assumption*, and *mutual awareness*. These notions are all subtypes of common ground. Let me denote this representation of common ground *CG-shared*.

In CG-shared, the basis for each piece of common ground is explicit. The conch shell is common ground for my son and me on the basis of the

beach scene as we perceive it. But once he and I have established this piece of common ground, we can derive a second representation that eliminates any mention of the shared basis:

Common ground (reflexive)

p is common ground for members of C if and only if:
(*i*) the members of C have information that *p* and that *i*.

What this represents, instead, is my son's and my information – say, our belief – that there is a conch shell between us (the proposition *p*) and that he and I have that very information (the entire proposition labeled *i*). The proposition *i* is reflexive because it contains a reference to itself – just as the following statement does: "This sentence contains five words." Let me denote this representation *CG-reflexive*.[1]

A third representation can be derived from CG-reflexive, but only by adding certain assumptions. Suppose my son and I each start drawing the inferences that follow from *i*. He infers he has information that I have information that *p*, that I have information that he has information that *p*, that he has information that I have information that he has information that *p*, and so on ad infinitum. If I infer the analogous propositions, the result is this:

Common ground (iterated propositions)

p is common ground for members of C if and only if:

1. members of C have information that *p*,
2. members of C have information that members of C have information that *p*,
3. members of C have information that members of C have information that members of C have information that *p*,
   and so on ad infinitum.

For my son and me, proposition 1 really expands into two propositions: "A has information that *p*," and "B has information that *p*." Likewise, 2 expands into four propositions, 3 into eight, and so on. Let me denote this representation as *CG-iterated*.

MENTAL REPRESENTATIONS

CG-iterated obviously cannot represent people's mental states because it requires an infinitely large mental capacity. Also, it is unrealistic to

[1] CG-shared also contains a reflexive statement, namely "*b* indicates to every member of C that every member of C has information that *b* holds." Both of these represent the fundamental idea, expressed in the conch shell example, that common ground is a type of self-awareness: I am aware of myself, including that very awareness.

think my son or I represent such mind-boggling statements as "I think he thinks I think he thinks there is a conch shell between us," which is only level 4. And the moment my wife joins us, my son and I each increase the number of propositions at level (1) from 2 to 3, at level (2) from 4 to 9, at level (3) from 8 to 27, and at level (4) from 16 to 81. When we are joined by a fourth, the numbers go up to 4, 16, 64, and 244. My son and I wouldn't welcome any company at all if they put us to that much work. Plainly, CG-iterated is inconceivable as a mental representation (Clark and Marshall, 1981).

The basic representation, I suggest, is CG-shared. First, for my son and me to have a mutual belief, we have to assume it has a basis. Ordinarily, we are vaguely aware of that basis – e.g., the beach scene with the conch shell between us. Second, the basis for that mutual belief must be the same for the two of us. Suppose, under CG-reflexive, that my son and I mutually believe I will be home at six. If I hold this belief because of a note I left him but he didn't read, and he holds it because of a note he left me but I didn't get, we hold our mutual beliefs on different bases, and neither of us is justified in our beliefs. Put another way, we can infer CG-reflexive from CG-shared, but not vice versa.

The suggestion is that people are ordinarily able to justify their common ground. They believe or assume each piece has a basis that meets the requirements for CG-shared:

The principle of justification. In practice, people take a proposition to be common ground in a community only when they believe they have a proper shared basis for the proposition in that community.

If this principle is correct, people should work hard to find shared bases for their common ground, and that should affect how they proceed in language use.

INDIVIDUAL REPRESENTATIONS

Common ground isn't information that I have by myself, or that my son has by himself. Only an omniscient being can say: "It is common ground for the two of them that there is a conch shell between them." All my son and I can do, as individuals, is make claims like: "I believe that it is common ground for us that there is a conch shell between us." When he and I act "on the basis of our common ground," we are in fact acting on our individual beliefs or assumptions about what is in our common ground.

Individual beliefs about common ground are directly represented in CG-shared but not in CG-reflexive. In CG-shared, here is how an omniscient being would represent my son's and my mutual belief that there is a conch shell between us:

1. A and B each believe that the situation *s* holds
2. *s* indicates to A and to B that A and B each believe that *s* holds
3. *s* indicates to A and to B that there is a conch shell between them

By the first statement, I believe that the situation *s* holds. That situation is also the shared basis on which my son and I mutually believe there is a conch shell between us. So the first statement, paired with the second and third, also represents my belief that he and I mutually believe there is a conch shell between us. For CG-reflexive, I would have to add to the omniscient being's representation in this way:

A believes that (*i*) A and B believe that a conch shell is between them and that *i*.

With the addition of *A believes that*, we get a more complex form, suggesting, again, that CG-shared is more basic.

Two people may have conflicting information about what is common ground between them, and they recognize this. On the beach I might assume my son and I mutually believe that the shell I'm holding is a snail shell, but he assumes we mutually believe it is a conch shell. An omniscient being would realize we didn't have a mutual belief about this, but he and I would believe we did. In the end, it is our individual beliefs that count. Later, I might ask my son, "What did you think of the snail shell?" believing we mutually believed the shell was a snail shell. Only when he asked "What snail shell?" would I discover the error.

People are also deceivable. To get my son to a surprise party, I might tell him an outright lie: "Our neighbors have a new dog they want to show you." In CG-reflexive, he (B) represents the resulting mutual belief this way:

B believes that (*i*) A and B believe that the neighbors have a new dog and that *i*.

For me (A), the representation is more complicated:

A believes that B believes that (*i*) A and B believe that the neighbors have a new dog and that *i*.
A believes that the neighbors do not have a new dog.

Lies ought to require a more complicated representation, and in CG-reflexive and CG-shared they do. In CG-iterated, they don't, another reason for rejecting it as a mental representation of common ground.

QUALITY OF EVIDENCE

Shared bases vary a great deal in how much they justify each piece of common ground. They vary in what I will call *quality of evidence*. For my son and me, our joint gaze on the conch shell is *excellent* evidence that we each have information that there is a conch shell between us. Yet it is *poor* evidence that we each have information that the shell is six years old. I would judge it highly likely that the conch shell is part of our common ground, but unlikely that its age is. People tacitly evaluate shared bases for quality, recognizing that pieces of common ground range in likelihood from 0 to nearly 1.

Shared bases also vary in the type of information they give rise to. With the evidence at hand, my son and I might infer (1) that we mutually *know* there is a conch shell between us, (2) that we mutually *believe*, and strongly so, that it washed up on the beach that morning, (3) that we mutually *assume* that we want to take it home, and (4) that we mutually *see* that it is so long. People also evaluate the *type* and *strength* of information indicated by a shared basis.

People are fallible in these judgments, and they know it. I might take the beach scene as a strong indication of some common ground, whereas my son may take it as a weak indication. I might take the beach scene as justifying mutual knowledge, whereas he might take it as justifying only a weak mutual belief. Fortunately, we have practical strategies in using language for preventing such discrepancies and repairing them when they arise (Chapter 8).

COORDINATION AND COMMON GROUND

Common ground is essential to coordination with joint actions, and I suggest that the shared basis for common ground plays a crucial role in that coordination. When you and I make an explicit agreement to meet at Jordan Hall at eight, we are creating an entity *b* with three properties:

1. you and I both believe that we reached agreement *b*
2. *b* indicates to you and me that we reached agreement *b*
3. *b* indicates to you and me that we each expect to go to Jordan Hall at eight

But this is just CG-shared for our mutual belief that we each expect to go to Jordan Hall at eight. An explicit agreement is nothing more than a shared basis *b* for a mutual belief, and it is that shared basis that enables you and me to coordinate in performing a joint action.

The point holds for any coordination device – not only explicit agreements but conventions, precedents, perceptual salience, and all the rest. The principle is this:

Principle of shared bases. For something to be a coordination device, it must be a shared basis for a piece of common ground.

When it comes to coordinating on a joint action, people cannot rely on just any information they have about each other. They must establish just the right piece of common ground, and that depends on them finding a shared basis for that piece. The shared basis is what Schelling called the key to the coordination problem and what Lewis called the coordination device (Chapter 3).

HISTORICAL ASIDE

Common ground and its relatives mutual knowledge, mutual beliefs, and mutual expectations have had a rough history – and all because of the issue of representation. One of the first formal representations of common ground was proposed by Lewis (1969, p. 56), and it was CG-shared. Lewis showed, among other things, how it led to the higher order beliefs of CG-iterated, but he warned, "Note that this is a chain of implications, not of steps in anyone's actual reasoning. Therefore there is nothing improper about its infinite length" (p. 53). CG-reflexive was proposed not long afterwards by Gilbert Harman (1977) and Philip Cohen (1978).

Despite Lewis' well-known proposal, most investigators assumed that the only proper representation for common ground and its relatives was CG-iterated (e.g., Green, 1989; Radford, 1966; Schiffer, 1972; Sperber and Wilson, 1986). They focused on infinite sequences such as "I know that *p*; I know that you know that *p*; I know that you know that I know that *p*..." and noted that all these statements had to be satisfied simultaneously. But once they pointed out its fatal defects, they dismissed the notion of common ground in general (e.g., Cargile, 1969/70; Green, 1989; Sperber and Wilson, 1986).[2] Some investigators who saw these defects tried to make CG-iterated work by cutting off all

[2] For example, when Radford (1966), describing a case of mutual knowledge, claimed, "Any adequate account of what is learned and known in the most simple of conversations requires a complex description involving many iterated 'know(s) that's'" (p. 336), Cargile (1969/70) replied that there could be "no such structure" (p. 155) because people cannot reason this way.

statements beyond level 3 or 4.[3] But this solution had its own problems and only sidestepped the problem posed by the infinite regress (Clark and Marshall, 1981).

CG-shared and CG-reflexive, which have none of these problems, were apparently shunned for another reason: They contain self-reference, as in "I am aware that I am looking at a conch shell and that I have this very awareness." The problem is that self-reference isn't permitted in traditional logics, where it leads to such paradoxes as the liar's paradox and Russell's paradox. But to dismiss CG-shared and CG-reflexive for this reason is like dismissing Einstein's relativity theory because it cannot be accommodated within Newtonian physics. Self-reference is now a legitimate part of certain logics and is no longer an issue (Barwise, 1989; Barwise and Etchemendy, 1986).[4]

Let us now turn to the problem for language users: How to find or create shared bases for common ground in coordinating on joint actions. I suggest people make use of two broad types of shared bases. The first type is evidence about the cultural communities people belong to. Shared bases of this type lead to *communal common ground.* The second type is evidence from people's direct personal experiences with each other, which leads to *personal common ground.*

Communal common ground

We often categorize people by nationality, profession, hobbies, language, religion, or politics as a basis for inferring what they know, believe, or assume. When I meet Ann at a party and discover she's a classical music enthusiast, my picture of her suddenly expands. I assume she knows everything any such enthusiast would know – and that is a great deal. Once she and I establish we are both enthusiasts, we have a shared

[3] Bach and Harnish (1979) limited mutual beliefs to level 3, arguing "Higher beliefs are in principle possible, and indeed among spies or deceptive intimates there could be divergence at the first three levels, but we think such higher-level beliefs are not possible for a whole community or large group" (p. 309). In a similar move, Harder and Kock (1976) remarked, "There is no logical limit to the number of levels that may be necessary to account for a given speech event. But there are psychological limits...Probably not even the most subtle mind ever makes replicative assumptions in speech events involving more levels than, say, six" (p. 62). And Kaspar (1976), in reply to Keller (1975), said he doubted the need to go beyond "the first four or five orders" (p. 24). See Clark and Marshall (1981).

[4] For discussions of mutual knowledge in artificial intelligence, see Halpern and Moses (1990); in game theory, see Aumann (1976) and Brandenburger (1992); and in double binds, see Dreckendorff (1977).

basis for taking all this information to be common ground. That, in turn, opens the door to a plethora of new topics – from *Aïda* to *Die Zauberflöte*. How does this work?

CULTURAL COMMUNITIES

The main categories we exploit identify people as members of certain cultural groups, systems, or networks that I will call *cultural communities*. When I discover that Ann is (1) an English speaker, (2) a New Zealander, and (3) an ophthalmologist, I am identifying her as a member of three communities: (1) English speakers, (2) New Zealanders, and (3) ophthalmologists. From that point on, what I infer depends on whether or not I am also a member of these communities. (1) I assume Ann tacitly knows basic English vocabulary, syntax, phonology, and usage. Since I too am an English speaker, I assume I tacitly know the particular features of English I expect her to know. (2) I also assume Ann knows basic New Zealand history, geography, and customs. But not being a New Zealander, I assume I know only the types of information she knows and only scattered pieces of the information itself. Likewise, (3) because I know what an ophthalmologist is, I assume Ann knows all about eyes – their anatomy, diseases, and treatment. I assume I know some of the *types* of information she has but few of the particulars.

The information people have about a community depends on whether they are insiders or outsiders. Let me contrast two types of information:

Inside information of a community is particular information that members of the community mutually assume is possessed by members of the community.

Outside information of a community is types of information that outsiders assume is inside information for that community.

I have inside information about English speakers and classical music enthusiasts, but only outside information about New Zealanders and ophthalmologists. That leads to shared bases for two different types for common ground.

Case 1. Suppose Ann and I establish the mutual belief that she is a New Zealander and I am not. We can use the mutual belief as a shared basis b for common ground. What propositions does b justify – what can she and I now take to be common ground? Only outside information about New Zealand. We can mutually assume that Ann knows such things as the population, the name of the prime minister, the appearance

of the coins, and the current price of gasoline. We cannot mutually assume that we both have this information. That is inside information I wouldn't be expected to know.

Case 2. Suppose Ann and I establish the mutual belief that we are both classical music enthusiasts. Again, that gives us a shared basis b, but this time for taking all inside information to be common ground. She and I can now mutually assume such information as who the Bachs were, what Mozart sounds like, what a minor key is, what bassoons look like.

Inside information goes beyond outside information in two ways. Outside information covers only a fraction of the types of information insiders actually have. And inside information surpasses outside information in sheer volume. Ann and I, realizing this, look especially hard for communities in which we are both insiders.

SHARED EXPERTISE

A cultural community is really a set of people with a shared expertise that other communities lack. Ophthalmologists don't all live in one place or know each other. What makes them a community is a shared system of beliefs, practices, nomenclature, conventions, values, skills, and know-how about eyes, their diseases, and their treatment. New Zealanders are experts on New Zealand, English speakers on the English language, philatelists on stamps, and Presbyterians on the Presbyterian church. Each type of expertise consists of facts, beliefs, procedures, norms, and assumptions that members of the community assume they can take for granted in other members. This expertise is graded. Some information is assumed to be central – highly likely to be part of every member's repertoire – and other information is only peripheral.

Cultural communities are therefore identifiable by their expertise. Here are some common types of expertise and the communities they define:

Basis for expertise	Examples of community	Examples of expertise
Nationality	American, Canadian, Dutch	nation's cultural practices, civil institutions
Residence	New Zealanders, Californians, Glaswegians	local geography, civil institutions, practices, argot
Education	university students, law students, high school graduates	book knowledge, educational practices
Occupation	ophthalmologists, plumbers, used car dealers	occupational practices, jargon, conventions, values, skills, know-how
Employment	Ford auto workers, Stanford faculty, *Newsweek* reporters	facts about employer, other employees, company practices
Hobby	pianists, baseball fans, philatelists	special skills, know-how, training, jargon
Language	English speakers, Japanese speakers, Gaelic speakers	phonology, morphology, syntax, semantics, lexicon
Religion	Protestants, Baptists, Muslims	religious doctrines, rituals, icons, historical figures
Politics	Democrats, libertarians, Fabians	political stands, values, prominent politicians
Ethnicity	Blacks, Hispanics, Japanese Americans	facts of heritage, ethnic experiences, ethnic practices
Subculture	rock musicians, drug addicts, teenage gangs	underground resources, subculture slang, know-how
Cohort	teenagers, senior citizens, thirty-year-olds	historical events of cohort, life concerns of cohort
Gender	men, women	bodily functions, gender-specific social mores

Once Ann becomes an ophthalmologist, she believes she has done more than become expert in ophthalmology. She has joined a select group of people – those who share certain beliefs, practices, conventions, values, know-how. She has become an insider and expects to be viewed as an insider by those who know about her membership.

Cultural communities like these generally form nested sets. San Franciscans, for example, are a subset of Californians, who are a subset of Western Americans, and so on. Here are several illustrative nestings:

Residence	North Americans ⊃ Americans ⊃ Westerners ⊃ Californians ⊃ Northern Californians ⊃ San Franciscans ⊃ Nob Hill residents
Education	high school graduates ⊃ university graduates ⊃ medical school graduates
Occupation	middle class ⊃ professionals ⊃ physicians ⊃ ophthalmologists ⊃ ophthalmic surgeons
Employer	Stanford University employees ⊃ Stanford faculty members ⊃ Stanford psychology faculty members ⊃ Stanford professors of psychology
Language	English speakers ⊃ speakers of New Zealand English ⊃ speakers of Auckland English dialect
Religion	Christians ⊃ Protestants ⊃ Baptists ⊃ Missouri Synod Baptists

Nestings like these allow graded inferences about what people are likely to know. When a San Franciscan and a Los Angeleno identify themselves to each other, they establish as common ground the inside information for Californians but not for smaller categories. These judgments can be quite subtle. When I meet a psychologist named Kay, I infer more and more specialized common ground as I discover she is an experimental psychologist, a cognitive psychologist, a psycholinguist, a psycholinguist working on speech production, a student of Charles Osgood's, and a recent visitor to the Max Planck Institute for Psycholinguistics.

We all belong to many communities at once. We each have a nationality, residence, level of education, occupation, employment, set of hobbies, set of languages, religion, political affiliation, ethnic affiliation, cohort, and gender. Many of these communities are correlated. A San Franciscan is likely to speak a California dialect of English. A professor of psychology is likely to be a psychologist, have a Ph.D. in psychology, and be over thirty. The organization of these communities is complex, and these few observations hardly do it justice. For deeper theories, we must consult sociologists, anthropologists, economists, and geographers.

A cultural community, I stress, isn't just any collectivity of people. Its very definition depends on the members' possession of a common ground. Football fans comprise a cultural community, not because they know one another or have a sure-fire way of identifying each other, but because they take certain information about football to be universal, indeed common ground, for members of the community. What defines such a community, Thomas Scheff (1967) argued, is consensus, which he based on Schelling's notion of mutual expectation: "Complete consensus on an issue exists in a group when there is an infinite series of reciprocating understandings between the members of the group concerning the issue. I know that you know that I know, and so on" (p. 37). Although Scheff's consensus is CG-iterated, his arguments go through for CG-shared and CG-reflexive too. The point is, consensus is fundamental to defining cultural communities. According to Scheff, it is essential to the sociological and anthropological notions of norms, roles, institutions, group goals, tradition, and culture itself (see also Klapp, 1956/7).

Do we identify people by their cultural communities? English – like most languages – has a wealth of nouns for classifying people by community. Here are examples for the categories just listed:

Nationality	Scot, Frenchman, Spaniard, Finn
Residence	American, Westerner, Californian, San Franciscan
Education	college graduate, psychology major, Yalie, Oxonian
Occupation	physician, lawyer, plumber, ophthalmologist, bricklayer, cowboy
Employment	Stanford employee, Stanford psychologist
Hobby	birder, philatelist, baseball fan
Language	English speaker, Japanese speaker
Religion	Christian, Protestant, Mormon, Baptist, Southern Baptist
Politics	Republican, Democrat, liberal
Ethnicity	Black, white, Chicano, gypsy
Subculture	drug addict, Hell's angel, thief
Cohort	teenager, senior, baby boomer
Gender	man, woman, boy, girl, he, she

Although terms like *Stanford employee* and *English speaker* are compound, most are simple and common in everyday use. These terms have evolved, I suggest, because they denote people by their membership in cultural communities, which are especially informative about what they know, believe, take for granted.

According to many psychologists, we habitually classify people by personality traits – for example, "Julia is reliable, kind, and imaginative."

The study of traits over the last sixty years has led to the "big five" dimensions of traits (Goldberg, 1993; Krahé, 1992): extroverted vs. introverted; kind vs. selfish; reliable vs. unreliable; emotionally stable vs. neurotic; and creative vs. unimaginative. But classifying by traits is very different from classifying by community – and it is no substitute. In using language, we classify people so that we can identify the conventions and other information we share with them. Traits are no good for this purpose. They are dispositions that people have more or less of, which don't lead to categories. There is also no evidence that we seek to establish mutual beliefs about our personality traits. We would have to if we were to use them as a basis for common ground. Personality traits have little to do with background expertise in actions that require coordination. For establishing common ground, we must classify by communities.

Contents of communal common ground

What information do we infer from community membership? It is useful to think of it organized as a large mental encyclopedia (Clark and Marshall, 1981). The encyclopedia is divided into chapters by cultural communities, properly nested and correlated, and when we want inside information or outside information about a community, we consult the right entry. There has been little research on what this information consists of and how it is organized, yet there is a good deal we can say about it.

HUMAN NATURE

Whenever I meet other humans – adults from anywhere in the world – I assume as common ground that they and I think in the same way about many things. I may be wrong, but I would still draw the inferences, and these would inform my actions as we tried to coordinate with each other. I possess a folk psychology about people in general – about human nature – and, right or wrong, it allows me to get started.

All of us take as common ground, I assume, that people normally have the same senses, sense organs, and types of sensations. If a sound is audible to me, it would normally be audible to others in the same circumstances. People also perceive motion, perceptual depth, pitches, and rhythms, and assume these ways of perceiving to be common ground. Less obviously, people are limited in what they can attend to at once, and the raw perceptual experiences that grab my attention – loud noises or sudden movements – will grab yours too. Certain varieties of perceptual salience are common ground to us all.

We all take it as common ground, also, that everyone knows the basic facts and laws of nature. People universally assume that they live in a world populated by animate and inanimate objects that are subject to gravity, Newton-like laws of motion, and laws of cause and effect. They take certain facts of biology for granted – for example, that animate things are born, take in food and water to live, then cease to function. They suppose that everyone assumes certain social facts – that people generally possess and use language, live together in groups, exchange goods and services, have names, play roles in various institutions, and so on. It is hard to exaggerate the number and variety of basic concepts we take as common ground to everyone.

COMMUNAL LEXICONS

Many inferences are based more narrowly on the language communities we know someone belongs to. If Soonja is a Korean speaker, I assume she takes as common ground to Korean speakers all the conventional features of Korean – its phonology, morphology, syntax, semantics, and pragmatics. This follows from Lewis' characterization of conventions as common knowledge within a community of speakers (Chapter 3). Precisely how these conventions are represented is a fundamental question for students of language, and there are diverse proposals on the table. I also assume Soonja takes for granted certain facts about how Korean speakers speak and understand – that they need more time and effort to deal with some aspects of Korean than others. All this is outside information that I take as common ground about using any language.

In Lewis' account, conventional word meanings hold not for a word *simpliciter*, but for a word *in a particular community*. You can't talk about conventional word meaning without saying what community it is conventional in. Word knowledge, properly viewed, divides into what I will call communal lexicons, by which I mean sets of word conventions in individual communities. When I meet Ann, she and I must establish as common ground which communities we both belong to simply in order to know what English words we can use with what meaning. Can I use *fermata*? Not without establishing that we are both music enthusiasts. Can I use *rbi*? Not without establishing that we are both baseball fans.

Every community has a specialized lexicon. We recognize these lexicons in the terms we have for them in English:

Residence	regional or local dialects, patois, provincialisms, localisms, regionalisms, colloquialisms, idiom, Americanisms, etc.
Occupation	jargon, shoptalk, parlance, nomenclature, technical terminology, academese, legalese, medicalese, Wall Streetese, etc.
Subculture	slang, argot, lingo, cant, vernacular, code, etc.

Most regions have their own dialect, patois, idiom, or regionalisms, with distinctive terms for everything from food to geographical features. Most occupations and hobbies, from physics to philately, have a technical jargon or terminology. So do most subcultures, from drug addicts to high school cliques.

When we think of jargon, slang, and regionalisms, we tend to focus on the words unique to a communal lexicon. *Meson*, *pion*, and *quark* are terms only a physicist could love. But most common word forms belong to many communal lexicons – though with different conventional meanings. In Britain, *biscuits* can be sweet or savory, but in America, they are always savory. In common parlance, *fruit* denotes a class of edible, sweet, fleshy agricultural products; among botanists, it denotes the ripened ovary or ovaries of seed-bearing plants, whether or not they are edible, sweet, and fleshy. Two botanists in conversation would have to establish which lexicon they were drawing on. You and I would be forced to stay with common parlance. It is essential to identify the cultural communities our interlocutors do and don't belong to just to know what vocabulary we can use.

CULTURAL FACTS, NORMS, PROCEDURES

If Sam is an American, I can suppose he takes lots of things as common ground for Americans. Virtually all adult Americans assume a certain background of *facts*: the basics of history, geography, mathematics, science, and literature learned in school; certain current events – including names of prominent politicians, movie stars, television personalities; and certain cultural artifacts – professional football teams, the major television networks, newspapers, and magazines, and the major religious and political groups and their characteristics.

Americans also take for granted among Americans certain *conventions* and *norms* – driving on the right, eating three meals a day, not waiting in queues at bus stops, paying one's taxes, and wearing dark clothes to funerals. If Jack is a middle-class Californian, I suppose he takes it as common ground that most of his group will follow norms about when to arrive at a party, what to wear where, and what are acceptable topics of

conversation when, and will have certain social skills, such as how to argue, how to meet new people, and how to behave toward shopkeepers. They will take for granted certain social roles, such as those of husband, wife, child, neighbor, and how these roles fit into larger institutions, such as the family, the neighborhood, the tennis club.

Much of what people take as common ground may be represented in the form of *procedures* for joint activities. There are the routine actions, such as shaking hands and offering thanks – when, with whom, and how (Galambos and Rips, 1982). There are also the larger "scripts," specifying the expected course of the joint activities that take place in restaurants, doctors' offices, supermarkets (Minsky, 1975; Schank and Abelson, 1975). The script for patronizing a restaurant, for example, specifies certain props, roles, entry conditions, results, and actions, as here:[5]

Script name	Restaurant
Props	Tables, menu, food, bill, money, tip
Roles	Customer, waiter or waitress, cook, cashier, owner
Entry conditions	Customer is hungry
	Customer has money
Results	Customer has less money
	Owner has more money
	Customer is not hungry
Actions	Customer enters restaurant
	Customer looks for table
	Customer decides where to sit
	Etc.

The script proper represents the expected joint activities as a customer goes to a restaurant. Scripts such as this have been shown to influence people's understanding and memory of stories about going to restaurants, attending lectures, shopping for groceries, and visiting a doctor (Bower, Black, and Turner, 1979). To have this influence, they must be assumed to be common ground. When I meet Soonja, I take it as common ground that we have outside information about the scripts for restaurants in America and Korea, but not that we both have inside information. Restaurant scripts may be very different in the two countries. Other scripts vary by local region and social class as well.

[5] Adapted from Bower, Black, and Turner (1979), who adapted it from Schank and Abelson (1975).

INEFFABLE BACKGROUND

If Nancy is a San Franciscan, I assume she takes as common ground to San Franciscans not merely a large range of facts about San Francisco – about people, places, buildings, history, cultural life – but also certain information about *appearance* and *perspective*. She takes for granted what the Golden Gate Bridge, Coit Tower, and Chinatown look like, what happens when the fog comes in, how gaudy it is on Broadway near Columbus, and what you can see from Fisherman's Wharf. She assumes adult San Franciscans have some mental map of the city and know roughly what they would see traveling from one point to another.

As an accomplished pianist, Michael can take for granted among accomplished pianists not just knowledge of musical conventions, but also a repertoire of performance skills. They have not only knowledge-that but *know-how*. He might assume, for example, that they can all play certain scales and arpeggios, produce certain varieties of staccato and legato, play certain rhythms at many speeds, and play at a range of volumes. They know what actions are and aren't possible. They know how it feels to play well and assume other accomplished pianists take this for granted too.

As a skillful skier, Julia can take for granted among skiers what it is to have experiences that all skiers must have – the feel of cold wind on your face, the pressure of deep versus hard pack snow on your skis, the smell of pine forests in winter, the sensation of warming up cold hands and feet. Many of these experiences are ineffable. Others cannot understand them unless they have had them themselves. For other cultural communities, we might include such experiences as how a woman feels in a male society (and vice versa), how a member of a minority group feels, and how it feels to be a born-again Christian. These experiences are the ultimate inside information.

GRADING OF INFORMATION

The information we infer from membership in a community isn't all or none but *graded*, and what is remarkable is how accurate we are in this grading. Consider a series of studies by Susan Fussell and Robert Krauss (1991, 1992; Krauss and Fussell, 1991). In one of them, Columbia University students were shown pictures of fifteen public figures and asked to rate how identifiable they were to other Columbia students. Their judgments were graded. The actors Woody Allen and Clint

Eastwood were judged to be highly identifiable; the financiers Carl Icahn and T. Boone Pickens – who are they anyway? – were not. These judgments were also accurate. Columbia students could name Allen and Eastwood 93 and 80 percent of the time, but Icahn and Pickens only 7 and 0 percent of the time. The correlation between judgments and actual identifiability was .95. There was a similar pattern for New Yorkers' ability to name New York landmarks, and for men's and women's ability to name kitchen implements, tools, and musical instruments.

As individuals, we have an intuitive feeling for what we do and don't know, even when we cannot recall a piece of information at the moment. This has been called one's *feeling of knowing*, and its accuracy is well documented (e.g., Hart, 1965, 1967; Nelson, Leonesio, Landwehr, and Narens, 1986). As Fussell and Krauss' findings show, we also have an intuitive feeling about what others know, which we might call *feeling of others' knowing*, and it too is often very accurate (Brennan and Williams, 1995; Jameson, Nelson, Leonesio, and Narens, 1993; Nickerson, Baddeley, Freeman, 1987). Where does this feeling come from? Partly from our own feeling of knowing. It makes good sense to judge what others are likely to know based on what we know (Dawes, 1990). Do you know the number of US senators? As an American, I know the number, and if I generalize from my sample of one, if you are an American, you might well know too.

Our feeling of others' knowing does, in fact, have a strong egocentric bias: If I know something, I am more likely to expect others to know it too. This has come to be known as the *false consensus effect* (Ross, Greene, and House, 1977), and it is ubiquitous in judgments of factual information, political opinions, personal problems, and other types of information (Hoch, 1987; Marks and Miller, 1987; Mullen et al., 1985). In Fussell and Krauss' study, about half of the Columbia students tested were able to name a picture of General Alexander Haig. These same students thought that Haig would be much more identifiable than did the other students who were not able to name Haig's picture.

In judging what others know, we take into account the communities we and others belong to. It is because I am an American that I know the number of US senators. For Ann, a New Zealander, this is not inside information, and she may not know it. After all, I don't know the size of New Zealand's parliament. I would judge Ann less likely than another American to know the size of the Senate. In Fussell and Krauss' study, male and female students were quite accurate in judging which kitchen

implements, tools, and musical instruments males would know better than females and vice versa. Here again, people identify inside and outside information based on community membership.

Common ground based on membership in cultural communities includes facts, beliefs, and assumptions about objects, norms of behavior, conventions, procedures, skills, and even ineffable experiences. These may be represented in many ways – as verbalized statements, as mental images and maps, as ways of perceiving and behaving we cannot or ordinarily do not describe. All this information is graded. There is little question that we exploit some such notion of common ground in language use and other joint actions.

Personal common ground

Much of our common ground is based on joint personal experiences. When my son and I look at a conch shell together or talk about the Isle of Lewis, we can later use these personal experiences, events, or episodes as shared bases for inferring that what we saw or talked about is common ground. Most of these experiences fall into two categories – *joint perceptual experiences* and *joint actions*. Perceptual experiences rely on the perception of natural signs of things, whereas joint actions depend on the interpretation of intentional signals.[6]

PERCEPTUAL BASES

One prototypical basis for personal common ground is an event in which two people share a perceptual experience. When my son and I look at the conch shell together, I take it that we are perceiving an event *e* with three properties:

1. he and I are aware of *e*
2. *e* indicates to him and me that we are both aware of *e*
3. *e* indicates to him and me that there is a conch shell between us

The event as perceived doesn't indicate to either of us, for example, that there is a snail shell between us, or that I or my son are merely feigning attention to the shell. He, I, and the object *qua* conch shell can be said to be "openly present together," a case of *perceptual copresence* (Clark and Marshall, 1981). This is precisely the sort of event that serves as the shared basis for our mutual belief that there is a conch shell between us.

[6] The contrast here is between Grice's notions of natural meaning and nonnatural meaning (see Chapter 5).

Each of us lives in a world of perceptible things, entities we can look at, feel, hear, smell, taste. At any moment, we have perceptual access, with more or less effort, to only part of that world, our *perceptual shell.* You and I have distinct perceptual shells, but when we are together, they overlap. But having overlapping perceptual shells isn't sufficient for perceptual copresence. You and I must manage to attend to the same things and to become confident that we have done so in the right way.

How do two people manage to attend to the same things and establish cases of perceptual copresence? Generally, it takes some salient event that leads each of them to assume they are jointly experiencing the same thing. Jointly salient events get established in three main ways (see Chapter 6).

1. *Gestural indications.* As speaker, I can gesture toward a chair, saying "that chair," and get you, as addressee, to turn and look at the chair. Executed properly, this becomes an instance of perceptual copresence, and I can infer that the chair's presence is common ground. With gestures, I can locate objects, places, events, and even states.

2. *Partner's activities.* You can look at people, pick up objects, and attend to things without the intention of letting me know you are doing so. But if I am also part of such an event, it can become an instance of perceptual copresence. If I notice you looking at a painting in a gallery, I could say "That is by Picasso," by which you could assume I noticed you looking at the painting and, now that you knew this, its presence was common ground.

3. *Salient perceptual events.* If I hear a loud scream from the next room, and you are with me, I can assume that it caught your attention as much as it did mine and so it is perceptually copresent. I can then ask "Who was that?" Our attention may be captured by a horse in a parade that fell, the distinctive smell of a sugar factory we are passing, or the oaky flavor of a bad wine we are drinking – any perceptually distinctive event.

Perceptual events are never dealt with in the raw. They are always perceived *qua d*, where *d* is a description that depends on communal common ground. In the gallery, it must be common ground that I am using *Picasso* to refer to the painter, not to a color, the name of the person portrayed, or the style of painting. Otherwise, the object "*qua* painting by Picasso" won't be common ground. With perceptual events, discrepancies of interpretation will lead to discrepancies in two people's beliefs about their common ground.

ACTIONAL BASES

Another basis for personal common ground is joint action, and the prototype is talk. If I say to you "She's going outside" in the right circumstances, from then on I can take it as common ground to the two of us that I had asserted that Elizabeth was just then leaving her house. How? As with joint perceptual experiences, I need an event *e* with three properties:

1. you and I are aware of *e*
2. *e* indicates to you and me that we are both aware of *e*
3. *e* indicates to each of us that I asserted to you that Elizabeth was just then leaving her house

At first, these conditions seem easy to satisfy. As long as I assume you know English, all I have to do is say to you "She's going outside." But the more closely we look at it, the more complicated it is for you and me to engineer an event that satisfies these three conditions – a proper basis for my assertion. This is a fundamental issue for theories of language use, and one I will take up in detail in the next several chapters.

Using joint actions as a basis for common ground rests on communal common ground – just as using joint perceptual experiences does. For you to understand "She's going outside," we must each take as common ground the linguistic conventions on which this utterance is based – the meanings of *she*, *go*, and *outside*, the syntax of intransitive verbs, the semantics of progressive aspect. We must also go into our common ground about Elizabeth, her house, our purposes in the discourse at the moment, who else is in the conversation, and even who might be overhearing us. These are issues I will return to as well.

PERSONAL DIARIES

What sort of memory representations do we need for inferring personal common ground? We need more than an encyclopedia, with its facts, beliefs, and assumptions about entire communities, since it won't represent your or my personal experiences. We need a personal diary, a log of those events we have personally experienced or taken part in with others (Clark and Marshall, 1978).

Why? All of the shared bases for personal common ground are autobiographical events of a special type – joint perceptual experiences or joint actions. If I keep a mental diary of the events I experience, it will contain, along with other entries, records of just these events. Suppose I

search through the entries in my diary and find a record of the actional copresence of you, me, and my assertion that Elizabeth was leaving her house an hour ago. That entry is all I need for thinking that you and I mutually believe I asserted that. We can think of the shared bases for personal common ground as derived from entries in our personal diaries.

How are personal diaries organized? For an entry to be used as the shared basis for common ground, it must represent the diarist, another person, and the entity that they jointly experienced. These should also be organized so they can be searched quickly and without effort. Entries organized chronologically wouldn't seem very useful, so we might anticipate other modes of organization.

FRIENDS AND STRANGERS

If communal common ground defines cultural communities, then personal common ground defines friends versus strangers. Ann and Ben may jointly belong to many cultural communities and still be strangers. They won't be friends or acquaintances until they have a history of joint personal experiences – things done, talked about, or experienced together. A third party, Connie, may be a clever spy and learn as much about Ann as Ben knows, but that doesn't make her Ann's friend or acquaintance. The information she gathers must be in their common ground – part of their personal common ground. Whereas ophthalmologists are experts in ophthalmology, friends are experts about each other (Planalp, 1993; Planalp and Benson, 1992: Planalp and Garvin-Doxas, 1994).

Acquaintedness comes in degrees defined largely by the type and amount of personal common ground two people have. Here, for illustration, are four degrees:

1. *Strangers*: no personal common ground
2. *Acquaintances*: limited personal common ground
3. *Friends*: extensive personal common ground
4. *Intimates*: extensive personal common ground, including private information

If Ann and Ben have had no contact with each other, they have no personal common ground. They are strangers. If they have had limited contact, they have limited personal common ground, and they are acquaintances. As they expand their joint experiences, they are more likely to consider themselves friends. Friendship normally implies liking and trust. That is what it takes to experience and do things together over a long time. If Ann and Ben are intimates, they will also share private

information about each other – about their most personal feelings, attitudes, and behavior – and that normally takes even deeper liking and trust.

PERSONAL LEXICONS

Just as cultural communities develop communal lexicons, acquaintances, friends, and intimates develop *personal lexicons*. Families often develop special words for private matters and personal problems, and so do small circles of friends. The best-studied personal lexicons are among intimates.

Married partners and other couples often develop what have been called *personal idioms*, which are not conventional in the community at large (Hopper, Knapp, and Scott, 1981). Here are the major categories of these idioms (from Hopper et al.):

Category	Examples
Nicknames for partner	"Boo," "Toots," "Honski"
Names for others	"motz" for a slow disorganized person
Expressions of affection	"Hunch nickle" for "I love you"
Expressions of confrontation	"Jelly beans" for "You're talking over my head"
Requests and routines	"Let's go for a bike ride" as invitation to smoke marijuana
References to sexual parts	"Bozo" for the male partner's genitals
Invitations to sex	"Too-hoot"
Teasing insults	"Futtbutt" for a wife with large buttocks

Some of these terms – like pet names – may be used in public, but others are used strictly in private. In general, the larger the lexicon, the greater the solidity of the couple (Bell and Healey, 1992).

Personal lexicons are as much a part of language use as communal lexicons. It is just that they originate and get maintained in joint personal experiences, and are used for local, often private, purposes.

Building up common ground

Common ground isn't just there, ready to be exploited. We have to establish it with each person we interact with. Communal common ground, as we have seen, is based on two people's mutual belief that one or both are members of a particular community – women, English speakers, New Zealanders, ophthalmologists – and personal common ground, on joint perceptual experiences and joint actions. The first step in establishing either type of common ground is finding the right shared bases – the right evidence.

EVIDENCE OF COMMUNITY MEMBERSHIP

If Susan is trying to infer what cultural communities Bill is a member of, she might use *circumstantial evidence* – that is, enduring features of the circumstances she finds Bill in. Or she might use *episodic evidence* – actions that Bill performs or events he is part of.

Circumstantial evidence is surprisingly useful. Susan can infer a great deal from *natural evidence* about Bill. His physical appearance types him as human, adult, male, middle-aged. On the telephone, his voice types him as human, adult, and male. His language and accent may identify where he is from, how educated he is, and what language communities he belongs to. And Susan realizes that Bill can draw the corresponding inferences about her. For any of these types to become common ground, Susan must assume that the evidence itself is manifestly part of their common ground. Sherlock Holmes may identify a man as a shoemaker from the calluses on his thumb, but unless the shoemaker realized this, neither of them would take his occupation to be common ground.

People *deliberately display* certain community affiliations in their dress, manner, and possessions. If Bill wears a Macy's badge in Macy's Department Store, a Texaco uniform at a Texaco gasoline station, or a white coat and stethoscope in a hospital, he makes it public – he provides mutually recognizable evidence for him and those he meets – that he claims to be a member of these organizations and available to serve. By wearing a conservative suit and tie, he claims to be a middle-class businessman or professional. Dress is reflected in the very terms *blue-collar* and *white-collar worker*. Bill would type himself as a Giants' baseball fan by wearing a Giants' cap, as a Jew by wearing a yarmulke, as a rural Western American by wearing a bolo tie, and as a man by wearing male clothing. By driving a new Mercedes-Benz or living in a mansion, he is manifestly displaying a claim to high socio-economic status. Susan can assume he intended such evidence to be mutually obvious and to justify the mutual belief that he is a member of these communities.

People also display community membership by their location in the *current situation*. In drugstores, supermarkets, restaurants, hospitals, and offices, people stand behind desks, service counters, and checkout stands in order to display themselves as employees and servers. The people who take part in church, synagogue, or mosque rites are displaying their membership in that religion. Baseball aficionados sit in the rooting section of a Giants' game to show themselves to be Giants' fans. Taken

together, these types of circumstantial evidence are highly effective bases for community membership:

Community	Type of circumstantial evidence
Nationality	dress, language, dialect, current situation
Residence	dress, language, dialect, current situation
Education	dress, dialect, current situation
Occupation	dress, current situation, jargon
Employment	dress, current situation
Hobby	dress, current situation, jargon
Language	language, dialect, vocabulary
Religion	dress, current situation, vocabulary
Ethnicity	bodily appearance, dress, dialect, accent
Subculture	dress, jargon
Cohort	bodily appearance, dress, voice quality
Gender	bodily appearance, dress, voice quality

Episodic evidence may be just as useful as circumstantial evidence. Susan and Bill can establish community membership, for example, by what they *assert*. In introducing himself, Bill may tell Susan, "I am a computer scientist. I was raised in Manhattan, but I have lived in San Francisco now for ten years." Once these assertions become part of a conversational record, Susan can take it as common ground that he is a computer scientist, native of Manhattan, and resident of San Francisco.

People also disclose communal affiliations in what they *presuppose*. In a study by Ellen Isaacs and myself (1987), a person we called the director was asked to tell another person we called the matcher how to arrange sixteen post cards of New York landmarks in a particular order. One or both or neither of the two people – there were thirty-two pairs in all – were New Yorkers. Although the two of them didn't know ahead of time who were New Yorkers and who weren't, they found out immediately, as in this exchange about a postcard of the Citicorp Center:

Director: Number ten is just one huge building pointed at the top, Citicorp Center.
Matcher: And you're looking, are you looking at it from the base?
Director: Yes, there's there's just two buildings that are visible.
Matcher: Okay.

Here the director revealed her expertise on New York (1) by naming the building and (2) by describing the building itself, not the picture of the building. The matcher revealed his *lack* of expertise (1) by not recognizing

the building from its name and (2) by focusing on the picture of the building, not seeing through the picture to the building itself. Using this information (and not accent), people in this study were able to distinguish New Yorkers from non-New Yorkers 85 percent of the time after just two postcards.

Disclosure of expertise can be subtler. In a gambling casino, when Bill sprinkles his speech with gambling jargon, he gives Susan evidence for the mutual belief that he is an experienced gambler. Such a disclosure is to be seen as adventitious. Bill doesn't use the jargon just to get Susan to think he is an expert gambler. Their mutual belief is merely a consequence of his doing that. At least, it is ostensibly so. Bill may use the jargon to deceive Susan into thinking he was an expert gambler. It would defeat his purpose if she suspected the deception.

It is easy to demonstrate that people use both circumstantial and episodic evidence. When a Harvard student named Kingsbury approached pedestrians in Boston and asked in a local accent "Can you tell me how to get to Jordan Marsh?" (a nearby department store), the directions he got were brief and practical for someone from the Boston area (Krauss and Glucksberg, 1977; Krauss and Fussell, 1991). When he added "I'm from out of town," the directions became more elaborate, mentioning more landmarks and describing how to identify the destination. They were just as elaborate when he adopted a rural Missouri accent.[7] Presumably, they would have been equally elaborate if he had revealed his lack of local expertise, say, by misnaming the store "Jordan March" (Schegloff, 1972). Bostonians designed their directions to suit the relevant communities they and Kingsbury could mutually believe he was a member of – locals, out-of-towners, or southerners.

STRATA IN COMMON GROUND

Every new piece of common ground is built on an old piece. Ann and I, for example, took it as common ground that she had inside information about New Zealand. That was based on our mutual belief that she was a New Zealander. But that mutual belief was based on another old piece of common ground, her assertion that she was from New Zealand. That in turn was based on the mutual beliefs that she uttered "I'm from New

[7] This is the source of a complaint I have heard from many people with non-local accents or dialects. No matter how long they have lived in an area, the locals treat them as out-of-towners or foreigners when giving them directions.

Zealand" and that I construed it as intended. These mutual beliefs in turn were based on the mutual belief that I was attending to what she was saying and that she accepted my acknowledgment that I understood what she meant. These were based in turn on, among other things, our mutual belief that I understood English and knew what New Zealand referred to. And on it went.

Common ground gets built up in strata. For Ann and me, not all the strata were laid down the instant she told me she was from New Zealand. We had already established as common ground that we were attending to each other, that we were both English speakers, that she was addressing me, that she and I were adhering to the same practices of reaching a joint construal of her utterances, that she was speaking seriously and not just practicing a line from a play, and more. Our common ground got built up stratum by stratum.

We are left with an apparent paradox: If every new piece of common ground is built on an old one, where does it start? Is there a first piece of common ground, and if so, what is it based on? The paradox is more apparent than real. Each of us has built up information about others from infancy. Originally, we may have taken much of this information as common ground – as children often do – without a proper basis. Children first appear to think that their interlocutors are omniscient, and it is only with age that they set higher standards. By that time, the lower strata are in place, and the rest can follow. And we have systematic methods for correcting incorrect pieces of common ground. It isn't necessary – or even usual – to get things right the first time around.

Conclusions

People cannot take joint actions without assuming certain pieces of common ground. But what is common ground, and how does it get established?

Common ground is a form of self-awareness. Two people, Susan and Bill, are aware of certain information they each have. To be common ground, their awareness must be reflexive – it must include that very awareness itself. Ordinarily, people can justify a piece of their common ground by pointing to a shared basis for it – a joint perceptual experience or a joint action. These shared bases range in quality, which leads to a grading of judgments. Some shared bases are excellent evidence that a piece of information is part of common ground, and others are poor evidence. If I identify Susan as an American adult, I can be certain she

knows the name of the current US President, but not that she knows the Thirteenth Amendment to the Constitution.

The common ground between two people divides into two broad types. Communal common ground is information based on the cultural communities a person is believed to belong to – from nationality and occupation to ethnic group and gender. Personal common ground is information based on personal acquaintance: It is lacking in strangers and greatest for intimates. The information people take to be common ground ranges from broad inferences about human nature through languages and dialects and jargons, cultural standards and procedures, to ineffable sights and sounds and feelings.

What is important for us is how common ground gets staked out and exploited. So far we have looked at some circumstantial and episodic bases for common ground. But the topic is vast – and really the topic of the rest of the book.