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Eighteen

Methods in Applied Anthropology

Introduction to Applied Anthropology

Applied anthropologists conduct research so that the implications of their research can be used for direct interventions or to lead to recommendations for policy change. Applied anthropology publications underscore the globalization of applied anthropology and the appearance of applied anthropology networks in Africa, Southeast and South Asia, Latin America, Europe, the new Asian republics, and Australia (Baba and Hill 1996).

Two major factors have contributed to the growing recognition of applied anthropology as a resource for global problem solving. First, most critical U.S. social problems (health, consequences of poverty, violence, drug abuse, etc.) have a strong international component and cannot be solved in the United States alone. Second, the growth of cultural and ethnic consciousness, accompanied by widespread recognition of culture as a critical element to be considered in local and national problem solving, extends beyond single nation boundaries.

Applied anthropologists study conditions ranging from health and disease prevention to educational innovation and instructional improvement, community economic development, and environmental protection. Most of their work is based in or concerned with culturally diverse communities and populations. Increasingly, the research and interventions are conducted by partnerships that include anthropologists and representatives of the communities or countries in which the problem is to be addressed. This combination of complex and diverse subjects with plural

cultural and political systems requires a very robust, and diverse tool kit, including methods that can be applied under less than ideal research conditions.

All research must be conducted with integrity, but two features of applied research place greater-than-usual responsibility on the shoulders of the researcher. First, the human, social, and ecological consequences of applied research are immediate, potentially significant, and sometimes critical to the life and survival of communities. Second, because the results are change oriented, they may be disruptive or threatening. Some researchers (for example, Campbell and Stanley 1963; S. Schensul 1985) have said applied social science research can and should be the most creative and rigorous of all social science research.

Types of Applied Situations

Applied anthropologists and other social scientists have delineated five types of applied research (see Schensul and Schensul 1978; Morgan 1983; Chambers 1987; Reason 1988; Van Willigen 1993):

1. **Policy Research**—research intended to assess the effects of a policy to adapt or change it or to generate new policies. Policy research in anthropology usually involves conducting ethnographic research and making suggestions for policy change through single events (press conferences or workshops). Less frequently, it involves describing the effects of implementing a set of policies on a target population and demonstrating the process of change as well as the need for policy change. In both approaches, the researcher speaks to the policymakers, but is generally not actively involved either in the process of policy-making or in penetrating the locations, networks, or policy clusters within which policy is made (J. Schensul 1985). The recognition that those who produce scientific knowledge for policymakers must be involved in significant ways in the policy-making process has been at the forefront of thinking in anthropology for the past decade. It is only recently, however, that anthropologists have provided written examples of their direct involvement with policy makers at governmental and other levels.
2. **Evaluation Research**—research intended to improve or evaluate the efficacy or outcome of a program (Trotter 1996). Generally, the evaluation identifies cultural patterns, networks, or other factors likely to help a program or be important in determining consistency of implementation and outcome. In many instances, the anthropologist isn't directly involved in developing or implementing the program and doesn't have the responsibility for translating research into program models or activities. At times, however, especially in participatory empowerment (Fetterman et al. 1993) or action research evaluation models, the evaluation researcher plays a role in implementation and thus should have some experience in managing the class of programs targeted by the evaluation.
3. **Cultural Intervention Research**—unlike evaluation research, this involves the applied anthropologist directly in the development, conduct, and evaluation of

a culturally based, theory-driven intervention. Here, the researcher conducts research that identifies cultural factors important in guiding interventions and uses the findings to generate or identify appropriate intervention theories (Trotter et al. 1995; Trotter et al. 1996). The creation and conduct of the intervention, based on cultural knowledge and theory development, also falls to the anthropologist, who, like the participatory evaluator, must know a great deal about methods of program implementation. Teamwork is advisable in cultural intervention research.

4. **Advocacy or Action Research**—specifically directed toward identifying, critiquing, and addressing imbalances in allocation of power, economic resources, social status, material goods, and other desired social or economic elements in a community, society, or globally. Advocacy research may include evaluation, policy research, and research and development. The end result is to increase, organize, and activate resistence in community groups, with unions, with groups representing underrepresented or excluded populations, and with those with limited (or perceived as limited) power to change their own conditions. Anthropologists engaged in advocacy research tend to do so from a "liberal" or "critical" perspective; thus, culturally based theories guiding advocacy research must recognize structural barriers to promote equity and consider such general factors contributing to social inequities as class and caste, power, gender, age, sexual preference, linguistic usage, and social race as well as those specific to local/national settings. Advocacy research in anthropology stems from the concept of action research first suggested by Sol Tax (1960), and reiterated in the work of Stephen and Jean Schensul (1978). It appears in the more recent work of such anthropologists as Alexander Ervin (1996) and Singer and Baer (1995). In this chapter, we use the term "advocacy research." "Action research" is a term now ubiquitous in social science literature; it refers to iterative research leading to any "action," rather than action guided by critical thinking (see Stringer 1996). Finally, advocacy research may or may not be participatory.
5. **Participatory Action Research**—research that involves several critical elements including: a long-term partnership with those who are going to take action (for example, to improve their program, to create and use a curriculum, to develop a new way of harvesting millet, etc.); continuous interaction of research with the action through joint researcher/actor data collection, analysis, reflection; and use. In the other forms of research outlined above, the means (research) leads to the end (an evaluation, a program, a policy change, etc). In participatory action research (PAR), the means is the end, and the conduct of research is embedded in the process of introducing or generating change. PAR is, first and foremost, locally specific and is intended to further local goals with local partners (see Stringer 1996). Since action depends on good information, the quality of the information obtained through PAR should ideally be outstanding. Early work, such as that of Holmberg and colleagues in their classic intervention in the Cornell-Vicos experiment, merged scientific research with ongoing contributions to improving agriculture, education, housing, and other social domains (Holmberg 1954, 1958, 1966).

More than any other form of research, PAR is subject to the constraints of time, local politics, and other contextual factors (Whyte 1991). Thus, participatory action researchers must be excellent group facilitators as well as researchers and should be familiar with techniques for conducting research with groups and individuals (for example, group pile sorts, group interviews, group elicitation techniques, etc.) in order to maximize the rigor of the research. Another consideration is that the research may or may not contribute to the development of scientific (that is, generalizable) knowledge on any given topic because the research, while meeting the rigors of application, may not meet the criteria for publication in scientific journals, or the researchers may not hold publication as a priority. Morgan (1983) and Reason (1988) discuss these issues with reference to qualitative techniques including group interviews and cooperative inquiry, narratives, and story-telling.

Applied anthropologists selecting one or another of these positions must consider with whom they wish to work, whether they have the skills or experience to conduct research *and* engage in practice, what their personal and professional values are, to what degree these values are rooted in particular theoretical frameworks, what position they occupy in the structure of the research setting, and where they wish to place themselves on the continuum from critical outsider to activist insider.

Applied researchers may conduct any or all of these forms of research, separately or even in the same field setting. In long-term relationships, it is easy to become confused about which role to play when. Confusion also arises when these approaches serve contradictory purposes (for example, are advocacy research and evaluation mutually exclusive?). It's important to identify which approach is being used (and why) so as to avoid or resolve possible challenges to researcher identity and to ensure proper presentation of self in the research site.

Building the Applied Setting

Applied research is embedded in a setting in which a problem has been identified and a group is present to address it. If these two conditions are not met, the research may be useful but it will rarely be used. An important component of "method" in applied anthropology involves close attention to the structures and relationships that affect the success or failure of the research mission.

The use of ethnography generally distinguishes anthropologists from other social scientists. In traditional ethnography, the anthropologist is a student of the culture and the indigenous expert is the teacher. Applied anthropology calls for reciprocal learning and sharing of expertise in identifying a problem, defining a researchable question, conducting research, and using results (what Stull and Schensul [1987] call collaborative research). The applied researcher is involved in shaping theory, design,

and data collection to fit the requirements of the field situation and those of the field partners.

Common approaches to collaborative field research include consultations with bureaucracies, contract research or evaluations with governments or nonprofit organizations, and researcher-initiated collaborations with clinics, schools, community groups, or networks of nonprofit organizations (Chambers 1985; J. Schensul et al. 1987; Schensul and Schensul 1992). These partnerships are necessary for evaluating the implications of policy decisions or for developing and testing programmatic interventions. In these relationships, the applied anthropologist can be called "consultant," "evaluator," "administrator," or "principal investigator," titles also used in other fields.

In addition to understanding traditional anthropological theory and methods, applications research demands skills that are taught in only a small number of anthropology training programs, due to lack of time or to faculty inexperience. For example, to initiate a change-oriented program, it's critical to identify key actors who are influential leaders and who can engage in institutional change, program development, or policy advocacy. These individuals may or may not be key informants. They are people linked to service or policy systems—systems that also must be understood in order to introduce change efforts appropriately. Understanding the concept of program or intervention; being able to cross disciplinary boundaries in conceptualizing and writing intervention grants; designing and managing budgets; administering research, cultural interventions and interdisciplinary teams—all these are important skills. Finally, team building and group facilitation skills are central to endeavors in complex community or institutional settings. If researchers can't quickly grasp the "politics" of the setting and negotiate relationships to promote and achieve common goals across sectors, partnerships can fall apart.

Increasingly, anthropologists do research and act to improve conditions for their own ethnic/social/racial groups. These anthropologists speak as experienced social scientists as well as informed insiders and must contend with issues faced by any researcher conducting research in his or her own community. These issues are different from those encountered by researchers from the outside. Insiders are already "tracked" in their communities, by gender, class, family reputation, affiliation, education level, and so on. They must anticipate and confront expectations that they may or may not be able to meet. If they are faculty members in local colleges and universities, they are expected to recruit students from their communities of reference and nurture them through school. If they bring in outside grant resources, they must take special care to anticipate and avoid exacerbating divisions that may already exist in their communities.

For these "insider" anthropologists, the ability to remain in the community and to continue to conduct research with students and community members depends on the degree to which their research is successful in improving the quality of community life, meets the needs of residents, and minimizes negative effects or

perceptions. They must juggle the demands of the outside world of funders, researchers, and policymakers with the demands of family friends and community politics. On the other hand, they are privy to insiders' information, understand local language and references, are more likely to recognize the utility of local social structures and networks and cultural beliefs in the development of interventions. As a result, they can more readily develop, test, and disseminate culturally appropriate research tools.

Building Testable Ethnographic Theory

Building and using strong, testable theory is the most crucial element for creating or selecting research methods in applied anthropology. Theory and methods are always bound together. The way theories are constructed and presented should suggest ways to test them. Theories imply directions in intervention or policy to be acted on once the research is done or while it is being conducted. Testing theory in the field, through research and intervention, improves understanding of the field situation, the cultural conditions to be modified or influenced, and human responses to both.

"Midrange" theory is what is tested most in applied anthropology. This term has several meanings. Pelto and Pelto (1978) refer to it as predictive generalizations arising from the time and space immediacy of field data and linked to broader theoretical approaches or paradigms such as structuralism; postmodernism; ecological, or systems theories; and Marxist/materialist or evolutionary theories. We agree with this definition but refine it in the following section by referring to "the next step down" in the Pelto and Pelto sequence—that is, to those midrange theories or approaches that have evolved from research in anthropology that precede and guide research in local settings, where that research has direct applications.

Midrange cultural theories are attempts to identify the important patterns of thought or behavior in specific domains of a culture—patterns representative of an identified group of people in a designated context (Trotter 1997). In other words, midrange theories are locally situated. Examples include constructing a cultural model of drug use and abuse in a specific urban setting, identifying the decision-making processes farmers use to decide whether to plant subsistence or cash crops, or producing a predictive model of factors accounting for contraceptive choice. These theoretical models describe, explain, and/or predict what is going on in one or more cultural domains in a specific local environment. Such models are generated from prior knowledge and field experience, are tested in the field, and are continually refined (Glaser and Strauss 1967; S. Schensul 1985; Trotter 1995, 1997). The cultural "frame" (that is, the lens through which culture is viewed and defined) may be cognitive, behavioral, structural, or critical. The choice of cultural frame influences (or is influenced by) the selection of a problem and theory. It also influences

the selection of methods of sampling, data collection and data analysis. And it plays an important role in interpretation and utilization of the results of the research.

Some applied researchers use a combination of theoretical approaches. Midrange, descriptive cultural theories may predict cultural *choice* and point to general *intervention theories or actions* to be taken, but they don't always specify *how*, in detail, the intervention will be structured. For example, network theories (see below), suggest several directions for intervention: diffusion of information using opinion leaders, working with bounded networks to influence "peer norms," or mobilizing "social supports" for individuals through their ego-centered networks (Trotter et al. 1995b, 1995c, 1996). But those theories may not specify exactly how to work with opinion leaders. They may not specify all the approaches that are useful in diffusing information (regardless of the diffusion agent), or exactly what to do with social support networks to strengthen, modify, or eliminate selected behaviors. So, to bring about changes in individuals, systems, and policies, applied anthropologists often consider intervention theories in addition to those suggested by cultural research.

Midrange Theory Development in Applied Anthropology

Anthropological research typically uses a variety of data collection techniques, including observations, interviews, focused life stories, discussion groups, the analysis of social networks, decision modeling, projective techniques, and household surveys, to gain detailed knowledge about cultural contexts, patterns of social behaviors, sequences of events, and cultural norms or beliefs (Bernard 1994). When conducting research, anthropologists generally focus on cultural theories—that is, on theories that predict patterns of groups rather than theories that predict individual behavior. Efforts to bring about changes through the application of ethnographic research have mostly concentrated on group effects, and the changes promoted have generally been at the structural, policy, institutional, community, or group level. Here, we discuss cultural theories that have proven to have positive implications for change.

Sociocognitive Theories

Midrange theories on cultural beliefs and thought processes have been derived from the interface of cognitive psychology and psychological anthropology and investigate the mental aspects of cultural dynamics. A subset of these theories is concerned with links between cognition and behavior. The underlying assumption in these approaches is that culture is a mental phenomenon, consisting of identifiable conceptual domains that are shared and that can be identified and analyzed. In an

applied context, this approach assumes that group change in behavior occurs through changes in cultural beliefs, attitudes, perceived norms, and concepts. These theories lend themselves to social marketing, to communications approaches to change, and to approaching change through individual learning and changes in beliefs or knowledge.

The midrange cognitive behavioral theories used most commonly in anthropology include cultural models approaches and cultural beliefs systematics. There is also renewed interest in Bateson's (1979) theory of epistemological shifts, in the practical application of new theories on cultural decision modeling (Gladwin 1989), and in the social construction of cultural norms (Nastasi et al. 1998; Schensul 1998c).

Cultural Models and Culture Congruency Theories

These include descriptive models of health beliefs, behaviors, and emic models of contagion or trauma (Kleinman 1980; Quinn and Holland 1987). Cultural congruency models (Trotter 1991; Trotter and Potter 1993; Schensul et al. 1993) are based on establishing similarities and differences between lay and professional models of health and healing. The cultural models theory can be applied to both groups and individuals. It can be used by change agents who wish to remove general or patient-specific barriers to access to professional health care by reducing cognitive incongruity between both parties, improving opportunities for shared meaning, and, at the same time, putting into place structures that improve access to care and care continuity (such as translators or transportation systems). The theory also allows the change agent to construct a common vocabulary or pattern of behavior for both groups. One key assumption is that there is a close relationship between belief and behavior such that change occurs in both simultaneously and probably interactively, or such that change in one condition creates a change in the other in a short time.

Consensus Theories

Consensus theory provides a method that allows ethnographers to explore a consensual description of a cultural domain while simultaneously assessing individual informants' expertise in that domain (Romney et al. 1987; Weller and Romney 1988). This allows for consensus validation and the simultaneous identification of important intragroup variation. Consensus theory models of culture are developed through a formalized set of questions about similarities and differences in shared experience and knowledge by informants. The method for testing the theory melds ethnographic survey questions with a formal mathematical model based on approaches used by psychometricians in test construction, and is influenced

by signal detection theory and latent structural analysis procedures (Romney et al. 1986).

Some anthropologists involved in work on AIDS are attempting to use consensus theory to identify core versus peripheral values or norms (see Nastasi et al. 1998). Core values are those that most people agree on; peripheral values are those in which there is less agreement. Core elements of culture may be more difficult to change than peripheral areas or, alternatively, bringing about changes in core versus peripheral areas may have to be addressed in different ways, for example through social marketing versus targeted cognitive-behavioral interventions.

Social Construction Theories

These take the position that cultural knowledge, norms, skills, and behaviors are co-constructed through a negotiated group process in specific cultural contexts. According to this perspective, interpersonal exchange is essential to the development of individual cognitions and behavior and to the evolution and transmission of culture (see, for example, Berger and Luckman 1966; Vygotsky 1978; Bearison 1982; Damon 1983; Rogoff 1990; Wertsch, 1991). This approach suggests that new ways of thinking and behavior develop initially during social interactions in which more experienced or knowledgeable individuals mediate the person-environment interaction. With repeated exchanges in similar contexts, new ideas and behavior become internalized. Interpersonal relationships provide the context for reinforcing shared beliefs and behaviors, enhancing perceptions of competence and encouraging persistence of group norms. This theoretical framework lends itself to the use of group elicitation techniques for negotiating as well as documenting existing and changing group norms, and audiovisual recording methods for recording and understanding group processes. The approach can be used in group interventions and is linked to network theory and research since networks are natural groupings within which group interventions can be conducted.

Scripting Theories

These theories assume that patterns of conduct are locally situated and socially rooted. These behaviors are learned and change over time. Scripts are selectively used, modified, and adapted as people make choices in their lives. According to this theory, the scripts that people develop include a meshing of what both the cultural setting and the individual define as the cultural domain. The theory promotes the notion that both individuals and public institutions can be innovative while they are engaged in maintaining the way in which a cultural domain is represented. For example, middle-class suburban children's birthday parties are scripted in a

particular way—including features such as balloons, paid entertainment, acceptable gift categories, appropriate clothes, acceptable foods, etc. Sufficient innovation—such as a decision to avoid giving gifts or to favor family parties—can change the cultural scripts in a society (see Brady and Levitt 1965; Castillo and Geer 1993; Gagnon and Simon 1987).

Different "master statuses" (that is, the important characteristics in a social setting that situate individuals structurally and determine who they can influence) are usually associated with different scripts and influence both the direction and probability of acceptance of innovation. Script theory is closely related to network theory since scripts as event sequences are socially negotiated through networks or groups (Parker and Gagnon 1995). Thus, a combination of social marketing (societal level), diffusion theory and influence or power (network level), and cognitive behavioral interventions (individual or dyad level) are necessary to bring about desired changes in cultural scripting.

Cultural Contexts Research

Anthropological midrange theories have helped establish the importance of cultural contexts and the organization and structure of human systems. We term this area cultural contexts research. This research addresses the cultural environment or conditions that have an impact on daily living (for example, environmental, political, economic, and social contexts of group beliefs, norms, and behaviors). Research derives from theories of kinship and social network analysis and the impact of cultural structures on human behavior. Theoretical models include diffusion theory approaches to cultural change and innovation; theories of organizational control and behavior; and theories on dynamics of social networks and the small-world phenomenon. Other context-specific theoretical models come from community participation research; gender, race, and power analysis; research on cultural diffusion, cultural resistance, and cross-cultural conflict. In this section we address only social network theories and the implications of ecological and critical theory for guiding midrange theory.

Social Network Theories

Network theories have evolved over the past 40 years within a number of research contexts germane to applied research (Galaskiewicz and Wasserman 1993; Wasserman and Faust 1993; Johnson 1994). Some of the broader midrange theories associated with these approaches are personal networks theory, social network structural theory, social support theory, and viewpoint theory. Network theory has been used in studies of family systems and adaptation (Bott 1957; Cross 1990); in

diffusion studies concerned with the flow of innovation, information, or infection in populations (Trotter et al. 1995c); and in studies testing the efficacy of group interventions in contrived groups or networks (Trotter et al. 1996; Schensul and Berg 1997; Schensul et al. 1997; Nastasi et al. In press). Several primary methods (or methodological sets) have been used in conducting these studies, including ethnographic network mapping (Trotter et al. 1995b; Trotter et al. 1996), ego-centered network surveys (Trotter et al. 1995a), and full relational network analysis (Trotter et al. 1994; McGrady et al. 1995; Needle et al. 1995).

Cultural Ecological Theories

These relate cultural conditions to the context of humans within an ecological or political framework and are a third area of development and exploration for applied anthropology. The models derived from ecological theory are multifactoral and may include interaction with physical or bioenvironmental characteristics. In addition to consideration of multiple "independent variable domains" (that is, selected elements of larger systems) influencing individual or group behavior, two additional factors are important in ecologically driven investigation: the local nature of the investigation and the notion of "adaptation," which assumes that individuals and groups engage in continuous "adjustment" to environmental circumstances. Most prevention research now uses an ecological framework, identifying and attempting to address or rectify barriers to change at any level (for example, the family) in interaction with other levels (for example, health care system, individual constraints, school problems, etc.; see Bronfenbrenner 1977; Dryfoos 1990).

The midrange theories currently being tested include barriers to change research (referring to environmental factors impeding change or access to needed resources), cultural congruency models (which attribute results to differences in beliefs and practices between those seeking and those delivering services), human-biological interactions research, and comparative cultural models research. One example of midrange theory combined with observational methods in a cultural ecological context is a series of studies, supported by the National Institute on Drug Abuse, of needle sharing and needle hygiene practices. Part of HIV risk-reduction efforts, these studies focus on context-specific uses of injection equipment among drug users in the United States. Early descriptions (for example, Singer et al. 1991; Clatts 1994; Koester 1994) explore the meaning and the processes of injection drug use and needle sharing and the public health consequences of drug paraphernalia laws that restrict the possession of syringes that might be used for drug abuse. Later studies (Bourgois 1995a, 1995b; Needle et al. 1995) explore the consequences of needle hygiene and needle sharing at the microenvironmental level.

Critical Theory

Like ecological theory, in anthropology this theory uses a systems approach but its "value frame" substitutes resistence for adaptation (Giroux 1981a:113–126, 1981b; Freire 1995). It calls for examining cultural behaviors at the local level, in the context of the political economy of national systems in a global system dominated by nationalistic, capitalist, or other forms of hegemonic control over information and economic and human resources. Singer and Baer (1995), Hill (1991), Scheper-Hughes (1989), and others summarize and integrate cognitive/cultural and behavioral domains into their critical theoretical framework. They have identified the importance of gender, race, ethnicity, and identity in the context of anthropological theory. Other anthropologists and cultural theorists, however, address these areas in greater detail (for example, Morgen 1993, Heath and McLaughlin 1993; Jordan and Weedon 1995; DeVos and Romanucci-Ross 1995), using a combination of postmodern and critical or Marxist theory. These authors generally view race and ethnicity as socially constructed, with localized meanings influenced by definitions of power and authority that are local manifestations of national or international systems. They argue against static definitions of racial, ethnic, or gender identity, suggesting that these are contested territories and, as such, don't lend themselves to acculturation, gender, or ethnic affiliation scaling techniques unless the tools of measurement are locally situated, constructed, and validated. While some of these theories have been transformed into applied midrange theory, others await testing both as models for applied interventions and for analysis as applicable theoretical models.

The next section describes successful models for selecting cultural experts in applied research settings; this is followed by descriptions of the methods that provide the research data in such settings.

Advances in Sampling Design Compatible with Ethnographic Theory and Methods

Applied research can only be conducted when there is an appropriate group of cultural experts who are willing to share their knowledge with the researcher. Midrange theories can only be tested where they are linked to systematic techniques that identify an appropriate representative selection of cultural experts (sampling techniques and key informant selection processes). This is a methodological condition that has been too long ignored in applied anthropological work.

Applied projects must be designed to create the highest level of confidence in the research results. To provide this confidence, quantitative social sciences have most commonly favored probabilistic (random) sampling techniques that allow for statistical analysis of the data collected. These techniques work well when the

universe from which the sample is to be drawn can be identified and where everyone in a population (a school, a town, a country) has an equal chance of being chosen to express their viewpoint. It does not work for qualitative approaches, where other conditions apply.

For ethnographic purposes, it is generally inappropriate to draw simple random samples or to use random sampling procedures without using other techniques that are guaranteed to produce a qualitatively representative sample of information about the culture, not just a sample of people representing the group. For example, random sampling in multiethnic neighborhoods, when the target of study is a specific ethnic group, may fail produce a representative sample of members of that group. Instead, cultural representatives must be identified through ethnographic informant selection procedures (Johnson 1990) or cluster or stratified random sampling techniques.

Quantitative sampling techniques should be used as appropriate. Often, however, conditions for randomized or systematic sampling and quantitative surveying cannot be met or do not need to be met in an ethnographic context. Time and resource constraints may preclude survey research. Or research questions may call for the discovery of cultural patterns or range of variation at the cultural (group) but not at the individual level. Alternative approaches to sampling must often be used because the target population is hidden, rare, or difficult to find. The following sections provide options to probabilistic sampling in applied ethnographic research contexts.

Systematic Sampling Procedures

Ethnographic sampling processes focus on identifying individuals in the community who have extensive expertise in an important cultural domain. It is important to talk to individuals who are carefully selected for their expertise, in order to explore cultural domains and variations in cultural patterning, rather than randomly selecting someone from the general population who may not have the information needed to complete the study. Saturation sampling is often the preferable approach for exploring cultural domains or cultural consensus studies. This is the process of interviewing a succession of individuals to the point where no new information is obtained from a subsequent set of interviews. Saturation sampling depends on having sufficient information about the social setting to be able to identify key informants who represent the widest possible or anticipated range of views on the topic under investigation. For example, if the topic is microeconomic enterprises for women, key informants should include women involved in such enterprises—trainers, policymakers, representatives of lending agencies, design experts, educators, and community opinion leaders.

One form of saturation sampling is called universal interviewing—interviewing everyone, not just a sample. This approach has been the norm in small community research projects involving prolonged stays and repeated exposures to most

individuals in that context. It is also used when the setting in which the research is being conducted can be bounded (for example, a classroom or alternative school) and the number of people involved is small enough so that each individual can be interviewed/observed at least once. Interviewing the whole population on a particular topic is an alternative for ensuring a representative sample and eliminates the need for complicated random or selective sampling designs.

A second form of saturation sampling is interviewing to "sufficient redundancy." This involves reviewing the accumulated knowledge from a set of interviews, as the interviews are conducted, and deciding that all the key information has begun to repeat. If research topics have very little intracultural variation, very few interviews may be needed; very complex issues with wide divergence of viewpoints need far more (up to and including the need to do appropriate probabilistic sampling for information that needs to be generalized to the entire population in question). Identification of respondents occurs in a known context in which sociodemographic and other forms of complexity are known. We would not assume that the full scope of responses has been covered in a multiethnic or multigenerational community, for example, unless we were sure that our sampling procedure covered all known or suspected sources of significant variation on the topic.

One consistent rule for qualitative or ethnographic interviewing is to identify the people who are experts in a particular cultural domain and to interview all of them, if they are all accessible. This approach is based on the assumption that they will provide the most accurate information about the details of the topic and that there are relatively few experts on any given subject in a small society (and often even in very large ones). By capturing the range of possible variation on the topic and interviewing all known experts, we can ensure the acquisition of information on how that specific cultural domain works. What we cannot know is the range of variation among individuals in the population with respect to that cultural domain. Answering that question falls within the scope of probability sampling.

It is important to determine the number of interviews that should be conducted with each informant as well as the number and composition of the informant pool. Some advocates of qualitative research believe that a single interview is sufficient to capture comprehensive information from individual informants about a cultural domain. We don't agree with this for two reasons: (1) Cultural patterning is portrayed in events and event sequences, activities, settings, and social interactions as well as through the lens of the key informant; and (2) Repeated interviews with the same individuals builds trust and reflective capacity. The rule of thumb some methodologists use is to conduct five interviews with a single respondent/informant over a designated period of time (P. J. Pelto, personal communication), coupled with other forms of ethnographic data collection.

Finally, sampling doesn't only apply to individual respondents. Sampling units can be specific events, event sequences, classroom activities, or observations at

scheduled time points. The most important consideration is not whether the sampling unit is an individual, or some other unit in time and space, but on what basis the sampling unit is determined in relation to overall research design and methods.

Until recently, selective sampling was considered a weakness of qualitative research. However, as researchers have learned more about representativeness in populations, and to appreciate the importance of the discovery process (or ongoing inquiry) and local expertise in shedding light on new or evolving cultural domains, they have developed protocols that enable them to carefully select a sample on the basis of cultural expertise that permits generalizing to the whole group (culture, community, ethnic group, social system, etc.). Identifying key informants for gaining understanding of cultural domains and selectively sampling a population to obtain information about a range of views and experiences about that domain are distinctly different enterprises, calling for different sampling approaches.

The new and emerging approaches to ethnographic sampling are well explained by Johnson (1990), who thoroughly explores the similarities and differences between probabilistic sampling used in surveys and experimental designs, compared with the purposive sampling strategies necessary for successful qualitative research. This work is also valuable for models of mixed sampling designs that link qualitatively sampled data with probabilistic samples for surveys.

Snowball Sampling

In snowball sampling, each person interviewed leads the researcher to the next person or persons, based on a designated set of criteria. The result is the continuous accrual of related research respondents. It is an important instance of chain analysis (Diaz et al. 1992). This technique allows the researcher to build a sample of individuals with one or more common characteristics within a large known or unknown universe of individuals, not all of whom may, as a group, share the behavior or cultural element in question. Snowball sampling has been used to study drug subcultures such as cocaine users (Bieleman et al. 1993) in the Netherlands and polydrug users (Medina-Mora et al. 1980) in Mexico. In the latter case, drug users served as case-finding agents, introducing to the researchers a growing sample of other users

Bieleman et al. (1993) define snowball sampling as a chain starting from the first (index) individual. These individuals are asked to name their acquaintances who have a particular characteristic (drug use, sex partner, etc.) and who will constitute the second wave of interviewees. The same questions asked of the index individuals are asked of the second wave in order to construct the third wave and so on. A critical issue is the degree to which the captured sample is representative of the universe. This is difficult if the universe is unknown, but Frank and Snidjers (1994)

have shown the method is excellent for identifying hidden populations and comparing them to larger ones. The method has been successfully applied to individuals engaged in drug use and other illegal activities, homeless people, and school leavers.

Intensive Case Finding—Geographical Sampling

Intensive case finding takes advantage of the common condition that different physical settings offer the opportunity to collect observational or interview data on cultural domains that are important for specific groups. People with similar behaviors tend to be geographically concentrated and are therefore easier to recruit from high concentration locations. Hughes et al. (1982) describe several methods for identifying locations for sampling drug abusers, depending on the type of substances used and characteristics of the drug subculture. In Mexico, Medina-Mora et al. (1980) and Medina-Mora et al. (1982) used this approach to study marijuana and solvent users. They monitored and collected data when these individuals gathered in groups on the street, even though these places were not used as a source of drug supply. Leal et al. (1977) found much more secretive (hidden) forms of inhalant use in a high-risk area in the same city. Children kept an open bottle in their pants pocket and repeatedly soaked their sweater sleeves through discrete jumps. They could then put their sleeves up to their nose and inhale the solvent on their sleeves to get high without most people recognizing that they were doing something unusual or harmful.

In an educational ethnography, Marshall and Rossman (1989:58–63) describe a field entry process in which they first identified settings where activities relevant to their study of educational instruction occurred. Through observation and interviewing they identified events, actors, and artifacts and text coded these domains for five major dimensions of teaching they considered important. The patterned presence or absence of these instructional dimensions with regard to the four observational units (setting, event, actor, and artifact) provided the matrix within which sampling could be carried out to ensure cultural representation.

In each of these cases, the researchers used ethnography to identify the types of drug-use locations. Then they mapped locations and sampled them as intensive case-finding sites. The researchers used their knowledge of the collection points to acquire significant samples of participants. This approach can be applied to any topic where persons can be observed as being engaged in specific activities in a variety of geographically defined areas (such as street corners, playgrounds, malls, sports events, empty lots, lunchrooms, McDonald's restaurants) from which samples can be drawn for interviewing purposes. It can be used to explore any cultural domain in which behaviors and geographic location overlap. Irene Glasser (1996), for example, identified homeless individuals through observations in selected

homeless shelters in a northeastern city. The sites themselves may also be considered units of observation and analysis if behavior conducted in them is the topic of study.

Targeted Sampling

Often, you can't identify the universe of units from which to draw a sample. Such populations may be composed of commercial sex workers, homeless youth, undocumented household servants, or school dropouts. In these examples, key parameters—including the need to remain hidden—prevent the use of traditional random sampling procedures. In such cases, targeted sampling (Watters and Biernacki 1989) is an appropriate substitute. Targeted sampling is a systematic technique for creating a proxy sampling framework that ensures that the major divisions or categories of the population being studied are systematically sampled in theoretically correct portions. It uses all of the available secondary data relating to the population to create geographically focused targeted sampling areas. This data may include health information, social service data, ethnographic knowledge of the population, observations, or any secondary data sources that describe some important segment of the target population.

Bieleman et al. (1993) successfully used a new application of this technique to assess the extent and nature of cocaine use in three cities in Holland, Spain, and Italy. Their approach was to deliberately identify respondents whom they had good reason to believe formed a reasonable cross-section of the cocaine subculture (in terms of subgroups and settings where use took place), using all of the secondary data (arrest data, treatment data, baseline ethnographies) available to them. For example, in Barcelona targets were defined by setting, type of use, and economic status: (1) elite: fashion, business, and art world; (2) new urban middle class: professions, jobs linked to night life, middle ranks in the fashion, business and art world; (3) young people; (4) illegal circuits and opiate addicts; and (5) middle and middle-low status. As additional ethnographic data were collected, new groups were identified and added.

Nominative Technique

The nominative approach is a sampling and estimation technique based on information provided by individuals (in a sample) about others whom the respondent knows has a specific attribute or behavior. This approach is often necessary when there is a need to study rare events in a culture. Shelley et al. (1995) used a nominative approach to identify the personal social networks of a known sample of seropositive individuals and proposed ways of using network size to determine amount of HIV in the general population. Johnsen et al. (1995) used similar

methods to corroborate the total number of AIDS/HIV-infected persons in the United States. In Hartford, Connecticut, this technique was used to estimate the number of homeless youth in the city (City of Hartford 1994). Key informants working in homeless shelters and social service programs were asked to estimate the number of homeless youth they knew and from that to estimate approximately how many homeless youth were living in the city. All of their estimates fell between 400 and 450 against a census-based estimate of approximately 450. The nominative technique can provide important additional demographic and other information about hidden groups as well as a more accurate estimate of the size of a hidden population.

Methods in Applied Anthropology

There are many resources on methods of ethnographic data collection and analysis. These include Pelto and Pelto's (1978) pioneering work, *Anthropological Research: The Structure of Inquiry*; Bernard's (1994) *Research Methods in Anthropology*; the two-volume series by Werner and Schoepfle (1987) *Systematic Fieldwork*; Agar's *(1986) Speaking of Ethnography*; Weller and Romney's (1988) *Systematic Data Collection*; Strauss's (1985) *Qualitative Analysis for Social Scientists*; and Strauss and Corbin's (1990) *Basics of Qualitative Research*. These works contain descriptions of research design and methods for participant observation and advanced ethnographic data collection. They are complemented by Miles and Huberman's (1994) *Qualitative Data Analysis*. A new synthesis of applied ethnographic methods is the seven-volume *Ethnographer's Toolkit*, authored and edited by J. Schensul and LeCompte (In press).

Many specific ethnographic methods—decision tree modeling, cognitive methods (pile sorts, triad tests, etc.), the long interview, the life history—are described in a continually expanding series of monographs published by Sage Publications. The following sections identify the methods commonly used in applied anthropology, especially educational, medical, and urban anthropology (efforts concerned with improving the status of communities in relation to service systems).

Analysis of Culturally Defined Cognitive Systems

Cognitive anthropologists have developed methods that allow us to explore how people think about and locate meaning in the world around them. As we noted earlier, it is important to consider cognition and behavior since the relationship between them is not always predictable. Change agents often recognize the need to influence both simultaneously or to influence behavior by changing attitudes, beliefs,

norms, values, and intentions. In this section, we discuss cognitive research methods that (1) assist in determining the content and limits of cultural domains; (2) help us analyze the structural elements of cultural domains; and (3) portray a domain from a consensual framework.

There is a well-developed set of basic cognitive anthropology techniques that have been used in cross-cultural research. The cultural models methods of Quinn and Holland (1987) are a solid starting point for cultural cognitive research. These provide systematic questions to investigate broad cultural domains, such as models of health conditions. Other ethnographic cognitive methods include systematically administered, semistructured, open-ended (qualitative or ethnographic) interviews analyzed through hierarchical coding and pattern recognition of themes and conceptual linkages (Werner and Schoepfle 1987; Weller and Romney 1988) and systematic data collection techniques (sometimes referred to as elicitation techniques) such as pile sorts and triad tests, borrowed from cognitive psychology and linguistics (see Weller, this volume).

Determining the Content and Limits of Cultural Domains

Free listing is the technique most commonly used to begin the exploration of cognitive domains. The basic format is to ask a set of respondents to list and describe all the things that are part of a particular domain. The ethnographer records and probes unexpected or unfamiliar responses in detail (including new words and phrases or words used in new ways) since these labels provide a window into unknown concepts, beliefs, or behaviors. Free lists provide information and local vernacular that can be used in culturally specific questionnaire construction, written educational materials, or behavioral exercises that are being constructed to meet intervention or health education goals. They also allow us to differentiate between key subdivisions in the populations since the domains can differ significantly by gender, ethnicity, age, and cultural expertise. This gives researchers the ability to assess intra- and intercultural variation within the same geographic region, across the nation, or around the world. Some of the more sophisticated uses of free-listing data treat these nominal or categorical data as variables that can be used in statistical procedures, to provide more extensive explorations of the relationships among informants or among the elements in a cultural domain (see Weller and Romney 1988:9–16).

Techniques similar to free listings, such as exploratory open-ended questions, Spradley's domain analysis techniques (1979), or sentence-completion processes. can also be analyzed using the approaches described for free listings. These rapid-scanning techniques can be used as an individual exercise in a face-to-face interview or in group settings (as a form of focus group). Empiricists tend to use the individual interviewing technique so as to avoid contamination by other informants,

while constructivists often use the group interview (including the focus group) to enable observation of negotiated meaning.

Techniques to Define and Analyze Structural Relationships among Elements in a Cultural Domain

Research methods in cognitive anthropology that allow a researcher to explore the relationships among the elements of a cultural domain include pile sorts (Bernard et al. 1986; Weller and Romney 1988:20–31), triads tests (Lieberman and Dressler 1977; Weller and Romney 1988:31–37), and sentence frame techniques (Weller and Romney 1988:55–61). Each of these techniques begins where free listings leave off. They start with the elements of a well-defined cultural domain (explored through free listings). The researcher explores the relationships among the key elements of that domain by asking informants to make judgments about the similarities and differences of the items in the domain to one another.

One such technique is a pile sort. A pile sort is a rapid assessment technique that uses visual aides to let informants create either free or constrained (predefined) classifications of elements within a cultural domain. The most common method is to place pictures, real objects, written labels, or combinations of the three on cards. Each card represents one element in the domain being studied. The researcher asks the informant to classify all the elements by stacking the cards into piles defined by one or more common elements. The final groupings represent each individual's classification system for items in the domain. Weller (this volume) describes the pile sort method in detail. Handwerker and Borgatti (this volume) describe multidimensional scaling and cluster analysis, two of the methods most commonly used in analyzing pile sort data. Weller and Romney (1988) and Bernard (1994) show how these techniques can be integrated into ethnographic research. The most commonly used computer program for the analysis of pile sort data is ANTHROPAC (Borgatti et al. 1992).

Consensus Modeling

In consensus modeling, an ethnographer can identify a consensus-based description of a cultural domain, while simultaneously assessing an individual informant's expertise in that domain. The following quote from the creators of the technique describes its theoretical base.

> The central idea in our theory is the use of the pattern of agreement or consensus among informants to make inferences about their differential competence in knowledge of the shared information pool constituting culture. We assume that the correspondence between the answers of any two informants is a function of the extent to which each is correlated with the truth. . . . Suppose, for example, that we had a "perfect set" of interview questions (cultural information test) concerning the game of tennis. Suppose

> further that we had two sets of informants: tennis players and non-tennis players. We would expect that the tennis players would agree more among themselves as to the answers to questions than would the non-tennis players. Players with complete knowledge about the game would answer questions correctly with identical answers or maximal consensus, while players with little knowledge of the game would not. (Romney et al. 1986:316)

These assumptions about the nature of "cultural truth" and informant accuracy are derived from a probabilistic model of culture. Investigators need to know the accuracy of the information they receive in self-reports from informants, and consensus theory provides one type of answer to these questions.

Consensus theory models of culture are developed through a formalized set of questions about a cultural domain that appropriately explore similarities and differences in shared experience and knowledge on the part of informants. Consensus theory melds ethnographic survey questions with a formal mathematical model based on approaches used by psychometricians in test construction and influenced by signal detection theory and latent structural analysis for deriving cultural truths from informants' statements about their beliefs and knowledge (Romney et al. 1986:316). Culturally correct answers are the ones that most people believe to be true—a normative or consensual framework for their world view.

Consensus theory is designed to work with a set of questions, all in the same format, all on the same topic, and all at the same level of difficulty. The goal, then, is to estimate the best set of culturally appropriate answers to the questions. The formal model (Romney et al. 1986) can accommodate categorical-type responses: single words or short-phrase responses to open-ended questions, or close-ended multiple choice responses (including true/false or yes/no). An informal version of the model can accommodate interval or fully ranked data. For an example of the use of the formal model with yes/no responses, see Weller et al. (1993); for the informal model with ranked responses, see Chavez et al. (1995).

Analysis of Social Structures

Anthropologists and other social scientists have long been interested in the effects of social structure on human survival and social interaction. The anthropological literature is filled with information about the kinship organization, voluntary associations, and formal organizations found in cultures around the world. Modern network analysis is a set of techniques for expanding our knowledge of the effects and dynamics of human social organization. These techniques are used in the study of kin- and nonkin-based networks. (See Scott [1991] and Marsden [1990] for reviews of methods and analytical issues in network analysis.) Increasingly, applied anthropological research has involved the examination of informal and formal human networks.

Research in this area focuses on three kinds of networks: ego-centered networks, specialized interactive partial networks (for example, sex or drug use/risk networks), and full relational networks. Each involves different methods of data collection. Research questions drive the choice of which type of network to investigate and which type of data to collect.

Ethnographic Network Data

Since social networks are the basis for social activity in a community or institutional setting, one effective method for identifying local social networks is through ethnographic interviewing. Interviewers ask respondents to identify clusters, networks, cliques, or other kinds of groups in which individuals are related to one another (see Bott 1957; Mitchell 1969). Questions may also probe membership in groups by virtue of some activity—presence at various types of events or meetings, interactions with others through eating or shopping or other daily tasks, and so on. The characteristics of the networks defined through ethnography can be used to create a typology or classification of the types of social relationships that exist in a culture and the groupings by size, class, gender, ethnicity, income, family, or other demographic characteristics that they represent.

Giordano's (1993) informal ethnographic study of social groupings in an urban high school setting is a good example of ethnographic identification of social networks. By "hanging out" with key teen informants while waiting for permission to do a formal survey in an urban high school, Giordano was able to identify six student networks, defined by location, activities, cultural preferences, and degree of school attachment. She later used the information about these networks as background for a study of female gangs in that school environment. Curtis et al. (1995) used ethnography to define initial networks. They followed up with a formal survey to confirm social ties among network members. Ethnography was used to describe the activities of network members and to contextualize networks in the street drug economy.

Ego-Centered Network Data

Ego-centered network analysis is based on an individual's definition of the individuals connected to him or her by specified social relationships. Attributes of the content of ego-centered networks (size, gender and ethnic composition, etc.), and characteristics of those networks themselves (density, intensity, etc.) can be incorporated into "typical" network profiles, which can then be associated with other psychosocial variables (Trotter et al. 1995a). Ego-centered networks can provide the basis for determining specific influences on ego, which can then be used in interventions. The social support literature examines that subset of ego's networks that provides social supports for a variety of issues from accessing health services or information (S. Schensul and J. Schensul 1982) to managing chronic health

problems. Ego network analysis has also been used to understand risk-taking behavior and to provide direction for drug and HIV intervention programs (Trotter et al. 1996).

Partial (Specialized) Networks

In partial networks, individual linkages are traced under specialized exchange-related circumstances (for example, disease or infection, specific risk behaviors, shared group membership). Researchers ask individuals to identify their networks and, within these, to specify which members share the designated characteristics. A random sample of one or more of these network members with designated characteristics is interviewed to determine the validity of ego's responses and the level of reciprocity between ego and various members of the network. These interviews may also produce additional network members for interviewing. Partial networks can be used in interventions when individuals are asked to bring their friends of the same gender, age, and interest group to programs and when friendship networks are the basis for the group intervention. This information has been used successfully in federally funded AIDS intervention studies as the basis for recruitment and intervention grouping (Needle et al. 1995; Trotter et al. 1995a, 1995b, 1995c, 1996).

Full Network (Relational) Data

Ethnographic and ego-centered network approaches provide valuable baseline data for intervention strategies (Trotter et al. 1996), but they don't always provide detailed information about the type, strength, or direction of relationships within networks. This type of data emerges from the analysis of reciprocal relationships among all members of a network. Scott (1991) describes macronetwork data collection, analysis, and use. The collection of data on full or macronetworks is costly and time consuming, so there is continuing interest in the development of techniques to approximate full networks from data on partial networks. Klovdahl (1989) and McGrady et al. (1995) discuss procedures, advantages, and disadvantages of sampling in constructing large macronetworks.

Thicker Description

Applied anthropologists use many other approaches for collecting data. Here, we review several newer approaches, including spatial mapping, group interviews, and rapid assessment procedures.

Sociogeographic (Spatial) Mapping

Anthropologists have always used maps in field research in part, at least, because early fieldwork was often conducted in places where there were no maps. It was

important to bound communities and demarcate residential and other structural units in relation to one another. Mapping "the community"—whether a classroom, organization, neighborhood, or village—is still highly recommended. The process of making a community map, for example, helps researchers select a household sample, generate hypotheses about social relationships among households and between households and other social units, and observe changes over time, especially with respect to household/land and other environmental use patterns.

Now, computerized mapping programs and national and state GIS (Geographic Information Systems), allow for relatively quick mapping of virtually any data across space and over time. Geographic mapping of social networks by residence of network members in relation to primary points of interaction in the community (defined through ethnographic observation) can be used to frame the location of interventions based on natural patterns of spatial use.

In a study conducted in the mid-1980s, Schensul and colleagues first mapped the location of new communities (shanty towns) in the northern quarter of Lima. When communities were identified by age, these chloropleth MAPS (three-dimensional maps showing degrees of altitude) demonstrated graphically that communities were arranged by age, with newer invasions located on steepest hillsides, and older, more established ones lower down or in flat valley beds. Using data collected from municipalities, community officials, and health workers, Schensul and his team mapped the presence of elements of infrastructure, social organization, and major pediatric health problems. These relationships were derived from community-level surveys and also displayed in tables and graphs. However, the mapping strategy showed visual evidence of the disintegration of social organization as communities moved from unofficial to official status and accrued public resources and of the associated shift in priority health problems as the social organizational and resource bases of the communities changed. The information presented through map illustrations had an important influence on decisions about allocating health services resources to communities (Schensul et al. 1985).

Similarly, by mapping residential locations over time, the Institute for Community Research was able to show patterns of intraneighborhood, interneighborhood, and intercommunity mobility for each of Hartford's neighborhoods. The demographic data, portrayed visually, were immediately usable by educational policymakers for school-based planning (ICR 1991). These applications are useful for describing the arrangement of social variables in geographic space, for hypothesis testing, and for eliciting cognitive responses to research-driven questions reflected in such data.

Focused Group Interviews

All group interviews yield text data for coding and analysis, which can be treated quantitatively and qualitatively. Most group interviews have a short practical time

limit—from one–two hours—and can address a relatively small number of related topics. Focused group interviews may be formal or informal, preorganized or occurring in natural settings, guided to a greater or lesser degree by the anthropologist/facilitator, and more or less open ended. Group interviews can be used for many purposes—for example, to collect information on a cultural domain, to develop listings for pile sorts, to identify the range of variation in opinions or attitudes on a set of topics, to collect simple numerical data on reported experiences, or to react to the results of previously collected data.

The focus group technique appeared in the 1930s as an alternative to direct interviews and became popular as method for qualitative research in marketing (Kozel 1993). More recently, focus groups have been used to study knowledge, attitudes, and beliefs in many social situations (Schensul 1998b). One disadvantage of group interviews is that they are limited to topics that people are willing to discuss in public. Topics considered personal or intimate should be avoided in group interviews or depersonalized.

Even with this limitation, group interviews offer a number of advantages. They can produce a good deal of data in a short time from a larger number of people than would be possible by interviewing key informants. Group interviews tend to produce good "natural language discourse," which allows the researcher to learn the communication patterns in the community rapidly. Morgan (1988) notes that the hallmark of group interviews is the "explicit use of the group interaction to produce data and insights that would be less accessible without the interaction found in a group" (p. 12).

Group interviews allow the researcher to record and analyze group members' reactions to ideas and to each other. The interviews are normally lively and create back-and-forth discussions between the participants, based on topics and broad questions that are supplied by the researcher, who typically takes the role of facilitator or moderator. The interactions may be recorded on audio or videotape. The verbatim transcripts of the discussions are subsequently analyzed either through qualitative summary or through systematic coding and content analysis. The questions should extract a maximum range of relevant topics. The idea is to foster interaction that explores the participants' feelings in some depth to elicit responses that illuminate participants' personal experiences and their understanding of the cultural context and community conditions that have an impact on the subject under discussion.

Focused group interviews are useful for orienting yourself to a new field of study; for generating hypotheses based on informant's insights; for evaluating different research sites or study populations; for developing individual questions for interview schedules and questionnaires; and for getting participants' interpretations of results from earlier studies (Morgan 1988). An interesting example of the use of this technique was reported by the Community Epidemiology Work Group established by the National Institute on Drug Abuse in a 12-city study conducted to understand an apparent inconsistency coming from statistical information on

indicators of price, purity, and seizures of heroin. The available information suggested an increase in heroin use, although there was no evidence of a concomitant increase in new users. Group interviews among known heroin users were directed at exploring changing patterns of use and hidden populations of new users. Although these discussions identified some new user groups, researchers also discovered that previously identified addicts were concerned about contracting HIV and changed their form of heroin use from injecting to snorting. Snorting requires maintaining a higher level of drug consumption, or a higher level of purity of the drug, than other forms of consumption (Kozel 1993).

In 1994, youth participants in ICR's (the Institute for Community Research in Hartford, Connecticut) summer Teen Action Research Institute conducted a study of adolescent sex norms. Young people (13–18 years old) in this group-guided interview process were first asked to list all the sex behaviors they thought were important. Then they were asked to define and discuss the importance of each of the 22 resulting behaviors. This produced text data on sex behaviors and their meaning to these youth and led to consensus on the most salient terms and their meanings. The group interview produced a list of sex behaviors for a pile sort exercise designed to identify sex behavioral norms with a sample of 169 urban adolescents of the target age group (Schensul 1998a).

To ensure that most aspects related to the subject of inquiry have been captured, Khan et al. (1990) suggest that for research on a single issue at least two focus groups should be conducted with respondents from each representational category. Thus, if only four representational variables are considered—such as age (older/younger), sex (male/female), use of an illicit substance (heroin/cocaine), and caste (three exemplary caste groupings)—24 focus groups are required (2 x 2 x 2 x 3 = 24) for each research issue or area. The authors state that if more than one issue is included, the number of focus groups required multiplies accordingly.

Ethnographic Surveys

Ethnographic surveys differ from most surveys in one or both of the following ways. First, ethnographic surveys are based on prior experience in a specific field situation. They may incorporate instruments or questions from other studies, including nationally validated instruments, but their strength is their validity in relation to local culture and the construction and testing of midrange theory. Thus, ethnographic surveys measure constructs known to be relevant to, or understood by, the study population. Second, they are most commonly administered in a face-to-face interview (preferred because it is more intimate). Self-administration is not possible with nonliterate respondents or to those unfamiliar with answering written questions.

Ethnographic surveys make two critical assumptions: (1) that the ethnographer is a neutral party with no obvious change agenda; and (2) that the ethnographer is

a person of confidence who will reveal no secrets to others in the community. In traditional ethnography, these assumptions are usually tested extensively by community residents as ethnographers move from participant observation and mapping through in-depth interviewing, elicitation techniques, and finally to the survey. Recently, however, these steps have been shortcut because of constraints in time and funding and/or because the research is being conducted by a team of surveyors or ethnographers who may be interviewing people with whom they have not established relationships of confidentiality. Under these circumstances, the face-to-face ethnographic survey may be more threatening or liable to elicit less valid information than in the past. Thus, validity of self-report is increasingly an issue in ethnographic surveying.

Rapid Ethnographic Assessment

Rapid ethnographic assessment techniques have been developed for situations where there is a strong need for ethnographic data but little time to conduct a full ethnography. These"rapid scanning" techniques are also called rapid ethnographic procedures, rapid rural appraisals, focused ethnographic studies, and brief ethnographies (S.C.M. Scrimshaw 1992; Scrimshaw and Gleason 1992). Most of these techniques share the following characteristics:

1. They are narrowly confined—for example, to one disease category, or one cultural domain.
2. They are problem oriented; they are called for to help decision makers develop programs or make policy.
3. They are participatory; local partners include potential users who, at the same time can provide ethnographic insights otherwise obtained through more time-intensive participant observation and in-depth interviewing.
4. They provide techniques for rapid sampling of representative sectors.
5. They use small sample sizes.
6. They do not pursue intracultural complexity or range of variation; instead they focus on cultural patterning, and on gross differences across sectors of populations and service providers.
7. They use a systems perspective, making sure to collect information from all relevant sectors of the community.
8. They use cognitive techniques to identify and assess cultural domains.
9. They generally do not make use of quantitative sampling or survey techniques

Typical rapid ethnographic assessments are modest in cost and duration. They last from three days to six weeks, depending on time, resources, and previous ethnographic work. The assessments include mapping, brief participant observation in targeted cultural domains and spaces, free listing and pile sorting or other systematic elicitation methods, key informant interviewing, and group interviewing. Critical to focused ethnography is prior determination of all of the important sectors

contributing to the problem, from which researchers can draw representative samples of key informants and focus group respondents. This determination can be made either by ethnographers familiar with the setting or by the interdisciplinary/intersectoral team responsible for the study and its uses.

Although brief ethnography appears simple, it is more difficult and demanding than other forms of ethnographic research or assessment. Challenges include the need to develop an accurate understanding of the problem and its context in a relatively short and cost-effective period of time, the need for systems for transforming the data into satisfactory solutions, and the need to produce socio-culturally acceptable solutions. These three requirements characterize much of applied research, but the protocols for the conduct and utilization of brief ethnographies are still not widely known and accepted. Thus, both researchers and contractors/clients take risks when using brief ethnographies for programs, and especially for policy-related purposes.

Informant Accuracy

Informant accuracy is a critical issue in ethnographic research. In survey research, data reliability and validity depend on the consistency of self-report data and studies in which survey responses are checked against information known to be correct (laboratory tests, health records, or mechanically measured data). The validity of the responses of ethnographic informants (that is, cultural experts) is assessed by other criteria (Kirk and Miller 1986). Ethnographic field research depends on developing close personal relationships with community members over time. It emphasizes the rapport between the researcher and the respondent. The increasing intimacy of the ethnographer-informant relationship is expected to produce increasingly accurate information, although in some cases cultural values interfere with this process (Blimes 1975; Nachman 1984). Field research offers the potential for repeat interviews with the same respondent during the study period. These interviews, both formal and informal, are opportunities to look for narrative inconsistencies, recheck and verify data, and obtain clarification of previous statements.

Ethnography is heavily based on individual perception, memory, and self-report through life histories, cultural process interviews (Pelto and Pelto 1978), narratives, or stories (Florio 1997) as well as elicitations. Each approach raises questions about the accuracy of recall and the veracity of individual informants. Individuals vary in their level of expertise and in their ability to accurately recall information about the things that have happened to them. Some are highly accurate in describing unique events; others are more accurate in describing repeated events. Some informants have narrowly defined or specialized expertise; others are knowledgeable about a range of cultural domains but their depth of knowledge on any single topic is

limited. Sometimes it is important to interview "special" people in a culture; at other times it is best to talk to "typical" or representative samples of people.

The issue of informant accuracy was studied systematically in the 1970s and 1980s (Killworth and Bernard 1976, 1979; Bernard and Killworth 1977; Bernard et al. 1980, 1982; Weller 1984; Romney et al. 1986; Freeman and Romney 1987). These studies show that informant reports of behavior are incorrect about half the time, but that the distortions are highly patterned. That is, self-reports of behavior have high validity at the aggregate level when the sources of distortion are known and taken into account.

The assumption in anthropology is that ethnographic data—reports by informants about putative cultural facts—are reported only when they are confirmed and reconfirmed from multiple sources, thus increasing the potential for validity. Still, the problem of the validity of ethnographic data is a constant theoretical and pragmatic problem, just as it is in quantitative research. People can outright lie, they can be innocently wrong, they can provide partial truths, and they can avoid talking about sensitive subjects. The researcher has to be constantly vigilant to protect against sources of error, and research on the sources of distortion in informant reports remains important.

It is worth remembering, however, that ethnography focuses on broad cultural patterning. While individuals are central in giving information about cultural phenomena, the validity and reliability of individual accounts are less important in ethnography than in survey research. This is because in ethnographic research individual responses can be checked against group responses and against repeated interviews with the same respondent and observations.

We believe that the most effective way to ensure reliability and validity of ethnographic data is to obtain comparable, confirmatory data from multiple sources at different points in time, and through the use of multiple methods. This is the process of "triangulation." Many investigators, however, now consider ethnographic self-reporting as a form of narrative or storytelling in which the individual interviewed is attempting to convey a particular impression or image to the researcher (Marcus and Fischer, 1986). The story itself must be situated historically, contextually, and in the life of the storyteller in order to understand it as data.

Ethnographic Field Teams and Cross-Site/Cross-National Applied Research

Anthropology has a long but spotty history in the creation of ethnographic field teams and coordinated cross-site research. These efforts have been sporadic because ethnographic work is considered valuable only at times—usually when there's great interest in understanding social phenomena or diseases and environments that are little known and perceived as difficult to gain access to. Ethnographers must

comprehend study needs (theory and method), collect relevant data in complex social settings, and use good judgment and social skills. Ethnographic teamwork requires proper and constant management of team members and the data they are collecting. Proper management calls for attention to comparability of interview and observation skills across interviewers, careful group construction of coding systems related to the theoretical framework of the study and the field situation, regular monitoring and feedback with respect to field notes, and careful attention to entering and coding of data. Furthermore, since good field research involves interaction with the data and both deepening and expanding of text codes, continuous analysis of incoming data with the field team is important.

Ethnographic field teams encounter situations comparable to cross-national ethnographic research when team members work in settings marked by differences in ethnic culture. In both instances, meaning systems, contexts, and social interactions may vary, reducing the comparability of coding systems. Investigators who engage in cross-site or cross-national studies need to pay very close attention to the construction of comparable coding categories across settings as well as to the possibility that some phenomena may be unique to each setting.

One solution to the problem of cross-site comparability is to assume that *common* research *methods* will produce *unique cultural responses* in each setting that point to differences as well as possible similarities in approach. One example of this approach is the WHO Acute Respiratory Infection cross-national effort addressing barriers to identification of symptoms of pneumonia in six countries. The overall project is designed to produce earlier identification, reporting and treatment of pneumonia, and to reduce infant mortality (WHO 1993). The project, under the guidance of Gretel Pelto, has generated focused ethnographic methods for problem identification and analysis, and for the creation and use of information in country-specific social marketing and counseling interventions.

The project first developed and refined an approach to focused ethnographic assessment based on individual studies conducted by ethnographers in six countries (Pelto and Pelto 1997). The result is a manual with complete instructions for collecting, tabulating by hand, and analyzing ethnographic data. Those data can be used for country-specific analyses of mothers' perceptions of pneumonia symptoms and their perceptions of barriers to rapid treatment. The second component of the manual is a translation protocol enabling researchers or trainers to use these results to generate key messages, products, and communications strategies that will increase mothers' ability to recognize the symptoms of acute respiratory illness. The translation protocol and intervention strategy (a communications approach) is generic; the inputs and products are specific to each country.

Computer software now gives teams of researchers the ability to systematize text data collection and coding by standardizing categories of information

collection. (See Weitzman and Miles [1995] for an assessment of some of the available programs.) These systems facilitate the establishment and ongoing monitoring of interrater reliability scores. They permit ethnographers to use coding systems to refine field observations and interviews. Finally, proper monitoring of data quality can ensure the inclusion of adequate contextual data to permit coders—even those who know little or nothing about the field site—to make accurate coding judgments.

Ethnographic Research and Policy-Making

A standard complaint of policy-oriented researchers and community advocates or lobbyists is that policymakers believe only in the results of large quantitative surveys or demonstration/evaluation studies. It would be naive to believe that this is not the case some of the time. Indeed, some large studies sway public opinion, which then influences what policymakers, funders, and legislators decide. And surveys using representative samples can identify the scope of a problem.

However, policy-making is also influenced by personal interventions with powerful individuals. Anthropologists directly involved in policy-making (such as those in high-ranking positions in national and international bureaucracies) know that having continuous personal communication, well-strategized workshops and technical working groups, consensus groups, and the like can do as much to influence policymakers as large-scale social surveys do. Legislators and policymakers are, in fact, influenced by many factors—constituency size, hearings, testimony, financial contributions, and personal commitments. Policymakers and legislators are also driven by their own, often only partly formulated, social theories and assumptions about social welfare and behavioral change. Most have little time to read. Thus, large, complex presentations, written or oral, qualitative or quantitative, are not likely to be effective.

Anthropologists need to find ways to interact directly or indirectly with policymakers, and to do so on a consistent basis (J. Schensul 1985; Pelto and Schensul 1987). They need to let decision makers know that their ethnographic data identify issues and point to solutions, while their survey data identify the scope of a problem once it has been detected (Weeks and J. Schensul 1993).

Emerging Areas of Applied Theory and Method in Anthropology

A number of new theory and methods combinations have emerged recently in the anthropological literature that show promise for being useful in applied settings. The following section is a brief introduction to some of them.

Symbolism, Language, and Communications

Symbolic anthropology (Geertz 1973) is an important area of theory development, as are current anthropological linguistics research, some postmodernist approaches to health research (for example, Bourgois 1995a, 1995b), critical medical anthropology (Singer and Baer 1995), and cross-cultural health communication research (Trotter 1991).

A number of the midrange theories in psychological anthropology depend on refinements of communication and symbolic interaction for expression and for associated research methods. Some of the current midrange theories from linguistic anthropology include: (1) the theory that grammatical categories are the primary mechanism influencing culturally specific thought patterns (Lucy 1985); (2) the position that the creation of meaning is only emergent and negotiated in interaction and cannot be reduced to individual intent or to grammatical categories (Verschueren 1995); (3) the condition that meaning is constructed through a metalanguage structure ("mentalese") that is an evolutionary byproduct overshadowing the meanings constructed by any particular oral or written language that we might use (Pinker 1994); (4) the proposition that methods for "unpacking" the constituent "footings" or "voices" present in speakers' roles are critical to understanding communication in context, in opposition to the reduction of communication patterns to speaker/sender and receiver/hearer constructions (Trawick 1988); and (5) the theory that speech creates social context and cannot be separated from the notions of "context," "class," and "identity" sufficiently to justify reifying those notions as separate from speech (Goodwin and Duranti 1992).

These midrange propositions are now being applied to communication in cross-cultural contexts and offer a focus for research in medical anthropology and linguistics. To do basic or formative research in these areas, you need to use audio-visual recording techniques that permit complex text coding of speech flow, interpretation of meaning and context variables, and systems of interaction with key informants (see Graham and Farnell, this volume). Basic understanding of communications dynamics is especially critical in organizing, staffing, and conducting small group interventions, which depend on speech to create community and the negotiation of meaning; mass media and social marketing campaigns, which depend on appropriate terminology, context portrayal, and the strategic selection of core messages; network interventions, which depend on approaches to communication that use the most effective and rapid diffusion of information through individuals; and behavioral interventions, which involve the use of counseling techniques to engage and reinforce behavior change in key individuals. Research has been conducted in these areas for many years, but theories and methods still have to be tested properly in applied situations.

Group Research Methods

Anthropologists have always been interested in the behavior of groups. Through participant observation and attendance at public or family events, traditional service or social support organizations, ceremonies, and rituals, most anthropologists have had numerous opportunities to observe different types of groups. This work is not conceptualized as the "capture" of data from groups because it occurs in naturalistic settings, where questions are asked informally. In the search for patterns, through cultural elicitation methods, anthropologists have returned to the sample of single respondents, even when the context is envisioned as much broader. But with increasing emphasis on smaller or larger group interventions or programs and the desire to "shortcut" the identification of cultural patterning, anthropologists and other social scientists have increasingly turned to the focus group to collect data from groups.

The focus group has a long tradition in marketing, but it has a different character in applied ethnography. First, group interviews can be arranged on a continuum from formal to informal, allowing for open, semistructured, and structured interviewing. Second, most elicitation techniques can be used in a group setting by either gathering data from individuals (for example, pile sorts or behavioral items for a Guttman scale) and then discussing the items in a group setting, or by eliciting information, such as free listing for pile sorting, in other settings. Using a group allows you to collect the needed data from group members about the items. Furthermore, you can incorporate both the data collection and the discussion into a theory-driven group intervention so long as the theoretical framework permits open discussion of the issue. Group-based research holds much promise for future use in research, intervention, and advocacy.

Participatory Action Research and Iterative Research Processes

A final area of attention is participatory action research, which calls for adapting research methods for popular use in furthering instrumental goals in the field. Some of the best descriptions of participatory action research are in Scrimshaw and Gleason's (1992:Section III) publication on rapid assessment procedures, especially in the chapters on rapid rural appraisal. Here, social scientists working with rural farmers and agricultural developers have developed innovative methods for using materials, maps, pictures, and products in the field (that is, local elicitation materials) to engage farmers in problem solving through dialogue and information collection and analysis. This produces indigenously identified improvements in farming practices. This technique has also been used as a core intervention strategy in programs of the Institute for Community Research[1] with women (on policy

change), youth (on AIDS prevention), preadolescents (on homelessness and alcohol use), men (in economic development), and older adults (on the early identification and reporting of Alzheimer's disease).

Another example of iterative participatory research, in which research methods used in the formative phase were replicated for both education and data-collection purposes during the demonstration intervention stage, comes from sex-risk prevention work in Sri Lanka. There, a team of researchers (Nastasi et al. 1998) conducted ethnographic research with young adults in an urban community. Methods included narratives of sexual experience, free listing of sex behaviors, pile sorts, analysis using multidimensional scaling and cluster analysis, and an ethnographic survey. Narrative data were used to create dilemmas for group problem solving in the intervention phase, and sex terms were used in a group intervention exercise in which individual participants were asked to identify which terms were "sex" and of those, which were "risky sex." The ensuing discussions provided ethnographic data on gender differences in definitions of sex and risk. This assisted in the interpretation of the intervention results and of the data from the ethnographic survey. Publications of the Center for the Study of Organizational Change and Development (Reason and Rowan 1981; Reason 1988) are also at the forefront in delineation of these approaches. We expect to see more careful documentation of these methods, and efforts to evaluate their efficacy—in the collection of valuable ethnographic data and in the promotion of improved health, economic development, and educational practices in field settings.

Summary and Conclusions

We have presented an overview of the theories, informant selection processes, and research methods used in applied anthropology. Many of the methods are common to all cultural anthropology, but some, like rapid assessment, are more commonly used in applied anthropology. All methods must have a strong theoretical foundation that relates to the purpose of an applied project, to the theory of cultural meaning that is intended to guide the project, and to the plan for change being attempted. Applied research methods start with this theory and evolve through the interaction between expressed needs in the field, the literature on the issue, and the deepening research experience of the anthropologists and their partners in the field. The evolution of the theory, by definition, involves the collaboration of "partners in change," for without partners for whom the designated direction of change is centrally meaningful, the research will remain on the shelf. We have argued for consideration of the appropriate selection of individuals who will be able to access data critical to the success of the project. Sometimes such individuals come from the community wishing to initiate cultural change; sometimes they are from the same designated group but from another geographic location; more often than not, they are other

anthropologists of different backgrounds who are committed to sharing their research and social skills to improve the quality of life in a community. Each of these individuals can serve an applied research project well.

Once the initial stages of development have occurred, a multifaceted set of research and development methods driven by clearly articulated theory can be put into place. These methods are intended to do two things simultaneously: (1) produce sound data using rigorous research methods that are convincing and can guide change efforts; and (2) maintain close working relationships with the community committed to the change process. Both are necessary. The means should always be consistent with the desired ends to avoid the contradictions that can so easily destroy a project even before it begins. Whenever possible, there should be a full partnership of researchers and interventionists or policymakers (or all three) in all aspects of the research. This is important to ensure full use of the results and to ensure that people who know best how to make and act on decisions to bring about the desired change are also intimately familiar with the research that is intended to guide it.

Remember, though we may try, we cannot control conditions in field situations as we can in clinic or laboratory settings. Ethnographic methods suit field research because they offer researchers and their partners a greater degree of methodological flexibility to respond to new circumstances as they arise. Furthermore, ethnography, while guided by general theoretical principles, gives high value to inductive or localized theory building. Local theory (in interplay with more general theories of change) that is controlled (that is, developed, shared, and understood) by partners in change, is far more likely to result in positive outcomes than theory imposed from above. This is not in opposition to experimental design since we both believe in and have successfully used experimental designs in field situations. Instead, we suggest that anthropologists have much to offer the field of applied social science and interdisciplinary research because we are wedded not to specific designs and instruments, but to inquiry, exploration, and discovery that guides the most effective selection of theory, methods, and data-collection techniques for a given situation.

Finally, as applied anthropologists, we should never forget that in addition to methodological flexibility, the greatest strength of our field is that it provides ethnographers with the methods and tools to understand culturally based needs, values, perceptions, beliefs, knowledge, models, and reasons for behavior—and to use these for designing programs of change. Even with the best intentions of all partners to change, it is only with the use of these tools that a change effort is likely to result in long-term success.

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1. Projects referred to in order include: Urban Women's Development Project (USOE), Community Action Against Substance Abuse (Connecticut State Department of Mental Health), National Teen Action Research Center and Urban Mothers and Daughters Against Substance Abuse (Center for Substance Abuse Prevention), Men's Economic Development Project (AETNA Foundation), and the Puerto Rican Alzheimer's Education Project (Federal Administration on Aging).

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