

Can Economics Mediate the Relationship between Anthropology and Demography?¹

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Contemporary demographers have increasingly begun to use qualitative methods, traditionally the province of anthropology, and there is an active community of anthropologists who study demographic phenomena. Yet, demographic analysis rarely makes use of anthropological theory, while anthropologists who focus on population issues rarely use quantitative demographic data². Thus, in many fundamental ways, anthropology and demography are not yet connected. I will argue that this is because the natures of the disciplines make such a link difficult to forge³. I will further argue that economics may be able to play a mediating role between the two disciplines.

Roland Pressat defines Demography - as "The discipline that seeks a statistical description of human populations with respect to: 1) Their demographic structure at a given date, 2) The demographic events that take place in them." As in any statistical enterprise, human beings are then only analyzable in so far as they can be grouped and categorized into countable entities, which can be manipulated using life-table or statistical techniques to search for quantitative patterns and relationships. How on earth can such a macro-statistical enterprise be informed by anthropology with its focus on rich micro-detail and its current emphasis on human agency? Micro-demography is a possible route. But micro-demography, while certainly a valuable addition to traditional survey based demography, may borrow some qualitative tools from anthropology, but cannot adequately incorporate anthropological theory because of the nature of the demographic enterprise⁴. This explains demography's relative inability to deal with the incentives, motives, symbolism, and power relations that are the innards of culture and kinship systems. Such concepts are not easily categorized or quantified because they are inherently mutable, adaptable, and subject to all the complexities of intelligent human action.

How then do we mediate the relationship between anthropological theory and demographic fact? One way is to develop formal quantitative models of human action and

agency that emerge from ethnographic detail and attempt to express the intricacies of structure, practice, and symbolic interaction in quantitative terms. Such formal models would have the virtue of being a product of anthropological theory but yet be able to express human behavior in terms of mathematical functions. This would lead to the generation of anthropologically informed models that are quantitatively expressed and therefore can be quantitatively explored in a reasonable way.

Economics is in the business of developing such formal models, and has spent many millennia of person years constructing a quantitative discourse where models of human behavior are checked against survey data with statistical tools. These models assume some sort of intelligent action - which do not have to be merely economically rational; Human beings can seek a lot of things - prestige, family connections, the pursuit of friends, spouses, knowledge, power - besides pure consumption. Human behavior in economic models is driven by the maximal pursuit of these desires subject to constraints. The constraints can also go beyond narrow economic considerations – human action can just easily be bounded by kinship systems, social norms, taboos, and property rights as by prices and incomes⁵. The mathematical tools of “Rational” Choice offer a wide menu of modeling options. One could look at Beckerian models of individual rationality - a powerful view which has provided us with valuable models of demographic phenomena (Becker, 1990), although it has been criticized for being narrow. More recently, Becker has developed models of “rational” changes in tastes which he has used to look at questions as diverse as addiction, the influence of social norms, and “cultural capital” (Becker, 1996).

Game Theory offers us another set of tools with its focus on strategic interaction between individuals in cooperative and non-cooperative situations. Models based on game-theoretic concepts are now routinely used to model behavior in uncertain worlds with imperfect information⁶ - a central concern of much ethnography. For instance, Principal-Agent models study situations where one party to a transaction has more information than another does⁷, and Signaling Games deal with how human beings send and receive information using signals - communicating through strategic symbolic action⁸. Game theoretic models of Matching focus on phenomena where individuals of different types have to be paired, as in marriage or employment (Roth and Sotomayor, 1990). Models of “Learning by Doing,” which may or may not be game-theoretic, concern themselves with situations where human beings change their behavior as they learn about their environments, either on their own or from their neighbors (Foster and

Rosenzweig, 1995). Game-theoretic Bargaining models have been usefully employed to examine how power relations between spouses affect household decisions (Lundberg and Pollak, 1996).

Aspects of these models are seen over and over in anthropological theory, albeit under different labels. To select a few examples, theories of Symbolic Interaction can be thought as Signaling Games, some problems of Social Control can be modeled as Principal-Agent problems, and, of course, many Weberian analyses with their focus on individual motives easily lend themselves to choice-theoretic modeling⁹. In fact, the sociologist James Coleman, led a movement among social theorists to use Rational Choice models in the analysis of social phenomena (Coleman, 1990). I do not believe that is a coincidence that he and Pierre Bourdieu, a leader in the development of Practice Theory, worked on a few joint projects. The point is that anthropologists should not look disdainfully at choice-theoretic modeling merely because they disagree with many economic models. They are for the most part disagreeing with the particular assumptions of a model than with the tools of analysis that the economist employs. Mathematics is a language, and like any other language it can be used to communicate all manner of ideologies.

However, the virtues of mathematics do not make it perfect. Rational Choice models have a long way to go before they can say anything meaningful about many things that concern anthropologists such as belief systems, or the creation of ideologies. No mode of analysis can explain everything and there is much that economists can learn from anthropologists. If this is done effectively we might avoid some of the mistakes caused by the long-standing marriage of convenience between economics and demography¹⁰. A marriage that has resulted in powerful quantitative explanations of demographic relationships which has provided credible justifications for state policy. Unfortunately for all those affected by state policy, these explanations have often been incomplete, because human beings while usually rational are not entirely driven by economic motives.

Therefore, I am not at all arguing for the use of anthropology in a manner subservient to the grand quantitative tradition, but for quantitative thinking that is deeply dependent on ethnographic insight and theory. "Hard" social scientists can no longer view anthropologists as Indian Scouts who have to be followed by the Cavalry of economists and demographers to do the "real" scientific analysis. I am arguing for an approach, perhaps conducted by a team, where ethnographic analysis informs the development of Rational Choice models which generate hypotheses that are then analyzed with survey data using statistical and demographic methods.

This is one way of effectively achieving the integration of two fields, anthropology and demography, that come from inherently conflicting historical traditions¹¹.

This integration is not always easy to achieve. Choice theoretic models of cultural phenomena can involve the use of rather technical concepts that are at the cutting edge of economics. Furthermore, the procedures of translating some of the more complex models into testable hypotheses are still not fully developed. However, even the simplest models taught in the first semester of an economics graduate core curriculum can be useful in the integration of anthropology and demography. The key is to develop models that are ethnographically informed and context-sensitive. Such theoretical models would go beyond a narrowly defined focus on Utilitarian rationality, and would employ ethnographic information to integrate socio-cultural constraints and motives with economic action to encapsulate aspects of behavior in the populations that they are attempting to understand¹².

As an example of this method, let me, briefly, examine a model of how family decision making processes may be modeled in patrilineal joint family systems¹³. Suppose we conduct extensive fieldwork in such community for a few months. We sort through our field notes and deduce that this is an exogamous patrilocal system where brides move from the village of their parents to their husband's village. We also find that wives who come with inadequate dowries are prone to abuse from their husbands, and because of the exogamous nature of the marriage system the brides' parents cannot really prevent the abuse. Furthermore, we find that wives who come with low dowries and are abused are in a severe disadvantage in any household negotiations. Such women seem to be fearful of expressing their desires adequately and are much more subservient to their husbands and mothers-in-law. However, brides from rich families with high dowries benefit from a more equitable distribution of household resources, and are treated much better by their in-laws.

We then construct a survey instrument where our ethnographic experience has taught us to ask questions whose responses are reasonably accurate, and where the limitations of the responses are well understood. We also construct a game-theoretic model of bargaining within the family, assuming that because this is an exogamous system with low divorce rates where women do not have much independent property, they cannot provide credible threats of divorce. While husbands and in-laws cannot get rid of brides easily they can subject them to abuse, but there is a cost to this abuse - in the way the village treats the abusive husband and his parents, and in the extent of contact between the parents of the wife and the husband. Thus, the model would predict that husbands have much less to lose from abusing wives who come from poor

families. However, if the bride comes from a rich family the husband and in-laws have more to gain by treating her well and in such situations there would be less abuse and consequently a better allocation in favor of the bride.

The statistical analysis of the survey data then tells us that there is, in fact, a large and significant relationship between low dowries and the probability of abuse, and that abused mothers, controlling for other factors, tend to be less well nourished and are more likely to have malnourished children. A typical demographic exercise would not have uncovered much of this because, in the first place, it may have missed observing the abuse since it would have relied on a secondary data source unlikely to ask questions about abuse. But let us assume that such questions were asked, and adequately answered, and the statistical analysis did uncover some of the relationships. It would still not adequately explain the links between the variables because it would have been unable to provide a model of human behavior that might inform the statistical analysis. Without a theoretical model to guide it, chances are that the statistical analysis would have been a fishing expedition, first discovering a significant statistical correlation between the variables and then trying to explain their relationship. By engaging in an anthropological case-study, letting that inform a quantitative model of human behavior, and then conducting a statistical analysis where the hypotheses have been generated by the quantitative behavioral model, we have a clearer and more holistic view of household decision making in this community.

I must emphasize that I am not arguing that this is the *only* way of integrating anthropology and demography. Statistical hypotheses can, obviously, be usefully developed independently of Rational Choice models. In fact, there will be times when the economist's tool box is inadequately equipped to capture all the complexities of a situation and in such circumstances Rational Choice modeling may prove a waste of time. However, in many other contexts, formal models could clarify the logic of incentives and constraints uncovered by ethnographic analysis. This would facilitate the translation of ethnographic insights into statistical tests, and greatly aid in the interpretation of statistical relationships observed in quantitative demographic data. Thus economics, if judiciously employed, could serve as a marriage counselor in the uneasy alliance between anthropology and demography.

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Endnotes

¹ I am indebted to Sita Reddy for helping me clarify many ideas in this essay.

² There are, of course, notable exceptions. See Kertzer and Fricke(1997) for an overview.

³ See Hammel and Friou (1997) for another perspective on the difficulties and possibilities inherent in “marrying” anthropology and demography.

⁴ Moreover, as Knodel points out, engaging with an anthropological discourse may not even be a micro-demographer’s goal.

⁵ See Lindbeck (1997) for an example.

⁶ Geertz (1978) was an early advocate of the use of Game Theory and the Economics of Information to integrate anthropological and economic perspectives on human interactions.

⁷ For an introduction to a number of these models broadly categorized under the Economics of Contracts, see Salanie (1997).

⁸ Such models have been used, among many other things, to explain the symbolic value of Gifts (Camerer, 1988).

⁹ Lest we forget, Weber was a professor of Political Economy.

¹⁰ A marriage, if you will, of two families belonging to the same high-caste quantitative endogamous group.

¹¹ However, Greenhalgh’s point about “disciplinary difference” is well taken. I may be making the case for a sub-discipline within economics (Qualitative Economic Demography - QED?).

¹² For contrasts between cultural and economic models of fertility see Pollak and Watkins (1993).

¹³ See Bloch and Rao (1997) and Rao(1997) for more detailed expositions of this example, and of the methods outlined above.