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GENDER AND COOPERATIVE CONFLICTS

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In the standard literature on economic development there is frequently a noticeable reluctance to consider the position of women as a separate problem of importance of its own. Gender-based analysis is often seen as being unnecessarily divisive. Poverty, undernourishment, escapable morbidity, or avoidable mortality strikes men as well as women, and the lives of all members—male and female—of households at the bottom of the pile are plagued by severe deprivations. It is therefore not surprising that many writers insist on seeing the deprivation of entire families as the right focus for studying misery and for seeking remedies, concentrating on the placing of families in the class structure and in the economic and social hierarchy (and also on the overall prosperity of the community).

That nongender view has much plausibility in some contexts. However, for some problems income and class categories are over-aggregative and even misleading, and there is a need for gender classification. In fact, the importance of gender as a crucial parameter in social and economic analysis is complementary to, rather than competitive with, the variables of class, ownership, occupations, incomes and family status.

The systematically inferior position of women inside and outside the household in many societies points to the necessity of treating gender as a force of its own in development analysis. The economic hardship of *woman-headed* households is a problem *both* of female deprivation and of family poverty. Furthermore, females and males in the same family may well have quite divergent predicaments, and this can make the position of women in the poorer families particularly

precarious. To concentrate on family poverty irrespective of gender can be misleading in terms of both causation and consequences.

The fact that the relative deprivation of women vis-à-vis men is by no means uniform across the world does not reduce the importance of gender as a parameter of analysis. In fact, this variability is an important reason for giving serious attention to the causal antecedents of the contrasting deprivations. To take an extremely simple and crude example, it is clear that despite the evident biological advantages that women seem to have over men in survival and longevity (when there is some symmetry in the attention they receive on basic matters of life and death, such as nutrition, healthcare, and medical attention), there is nevertheless a remarkable preponderance of surviving men over surviving women in the population of less developed countries (the LDCs) taken as a whole, in sharp contrast with the position of the more developed countries. Whereas there are about 106 women per 100 men in Europe and North America, there are only 97 women per 100 men in the LDCs as a whole. Since mortality and survival are not independent of care and neglect, and are influenced by social action and public policy, even this extremely crude perspective cannot fail to isolate gender as an important parameter in development studies.

There are also systematic differences among the LDCs in the survival rates of females vis-à-vis males. Asia has a sex ratio (females per male) of only 0.95, but Africa comes closer to Europe and North America with a sex ratio of 1.02—indeed considerably higher than that in sub-Saharan Africa. Even within Asia the sex ratio is higher than unity in some regions, such as Southeast Asia (1.01), but much lower in China, India, Bangladesh, and West Asia (0.94) and in Pakistan (0.90). There are substantial variations even *within* a given country; for example, in India the sex ratio varies from 0.87 and 0.88 in Haryana and Punjab to 1.03 in Kerala. It is clear that had the average African sex ratio obtained in India, then given the number of men, there would have been about 30 million more women in India today (see, Sen 1988). The corresponding number of 'missing women' in China is about 38 million. The cumulative contrasts of sex-specific mortality rates—not unrelated to social and economic inequalities between men and women—find expression in these simple statistics, which form something like the tip of an iceberg much of which is hard to observe.

Development analysis cannot really be divorced from gender categories and sex-specific observations. It is, however, difficult to translate this elementary recognition into practice and to find an adequate framework for the use of gender categories and sex-specific

information in social analysis. This essay is addressed to some of the issues in this difficult field. The problem is far too complex and basic to be 'resolved' by any kind of a simple model, but we can go some distance toward a better understanding of the problem by broadening the conceptual structure and the informational base of gender analysis in economic and social relations.

First, some of the basic notions in the proposed conceptual structure are briefly examined, including 'functionings', 'capabilities', 'well-being', and 'agency' (these concepts have been more extensively discussed in Sen 1985a, 1985b). The role of *perceptions* in the informational base of the conceptual structure is also discussed. The identification of well-being with the fulfillment of *perceived* interests is disputed, and the possible causal influence of perceptions on ideas of propriety and legitimacy of different institutional arrangements and through that on the respective well-beings of men and women is noted. Next, the notion of 'social technology' is presented, broadening the traditional view of technology. Explicit note is taken of the role of household arrangements in sustaining commodity production.

Different theories of household economics are examined, suggesting that 'bargaining models' have an advantage over others (such as standard models of 'household production', 'family allocation', or 'equivalence scales') in capturing the coexistence of extensive conflicts *and* pervasive cooperation in household arrangements. But it is argued that they too have an inadequate informational base and are particularly negligent of the influence of perceived interests and perceived contributions.

An alternative approach to 'cooperative conflicts' is then sketched, identifying certain qualitative relations in the form of directional responses of the outcome to certain determining variables in the informational base. These relations are translated into a format of 'extended entitlements', based on sharpening the concept of 'entitlements' (already used in studying famines and deprivation of households) by incorporating notions of perceived legitimacy in intrahousehold divisions.[1]

The directional responses are examined in the light of empirical information presented in microstudies as well as in aggregative interregional comparisons. Some concluding remarks are made in the final section.

I. Capabilities, Well-being, Agency, and Perception

Everyone has many identities. Being a man or a woman is one of them. Being a member of a family is another. Membership of a class, an occupation group, a nation or a community can be the basis of particular

links. One's individuality coexists with a variety of such identities. Our understanding of our interests, well-being, obligations, objectives, and legitimate behavior is influenced by the various—and sometimes conflicting—effects of these diverse identities.

In some contexts the family identity may exert such a strong influence on our perceptions that we may not find it easy to formulate any clear notion of our own individual welfare. Based on empirical observations of family-centered perceptions in some traditional societies (such as India), some authors have disputed the viability of the notion of personal welfare in those societies (for a particularly forceful and cogent statement, see Das and Nicholas 1981). It has often been observed that if a typical Indian rural woman was asked about her personal 'welfare', she would find the question unintelligible, and if she was able to reply, she might answer the question in terms of her reading of the welfare of her family. The idea of personal welfare may not be viable in such a context, it has been argued.

This empirical problem of perception and communication is indeed important. On the other hand, it is far from obvious that the right conclusion to draw from this is the nonviability of the notion of personal welfare. This is so for several distinct reasons. First, there are considerable variations in the perception of individuality even within such a traditional society, and the lack of a perception of personal welfare, where that holds, is neither immutable nor particularly resistant to social development. Indeed, the process of politicization—including a political recognition of the gender issue—can itself bring about sharp changes in these perceptions, as can processes of economic change, such as women's involvement in so-called gainful employment and outside work, which will be discussed later (see Bardhan 1974, 1982; Boserup 1970; Mazumdar 1985; Miller 1981; Sen 1982, 1985c, 1986).

Second, insofar as intrafamily divisions involve significant inequalities in the allotment of food, medical attention, health care, and the like (often unfavorable to the well-being—even survival—of women), the lack of perception of personal interest combined with a great concern for family welfare is, of course, just the kind of attitude that helps to sustain the traditional inequalities. There is much evidence in history that acute inequalities often survive precisely by making allies out of the deprived. The underdog comes to accept the legitimacy of the unequal order and becomes an implicit accomplice (see Sen 1985a, 1985b; also Papanek 1990). It can be a serious error to take the absence of protests and questioning of inequality as evidence of the absence of that inequality (or of the nonviability of that question).

Third, personal interest and welfare are not just matters of perception; there are objective aspects of these concepts that command attention even when the corresponding self-perception does not exist. For example, the 'illfare' associated with morbidity or undernourishment has an immediacy that does not await the person's inclination or willingness to answer detailed questions regarding his or her welfare. Indeed, the well-being of a person may plausibly be seen in terms of a person's functionings and capabilities: what he or she is able to do or be (e.g., the ability to be well nourished, to avoid escapable morbidity or mortality, to read and write and communicate, to take part in the life of the community, to appear in public without shame; see Sen 1985a, 1985b, 1987). While the functionings and the capability to function have to be evaluated (since they are diverse and not *directly* commensurable), the contingent absence of explicit discussion on this evaluative question does not make these functionings and capabilities valueless. There is a need to go *beyond* the primitive feelings that a person may have on these matters, based perhaps on unquestioning acceptance of certain traditional priorities. Social change and politicization may well take precisely the form of making people face those evaluative questions.

Finally, it is also possible to distinguish between a person's 'well-being' and 'agency'. A person may have various goals and objectives other than the pursuit of his or her well-being. Although there are obvious links between a person's well-being and the fulfillment of his or her other objectives, the overall success as an agent may not be closely connected—and certainly may not be identified—with that person's own well-being.[2] It is the agency aspect that is most influenced by a person's sense of obligation and perception of legitimate behavior. These perceptions—while influencible by politics and education—may have relevance of their own (even in their contingent existence), but they must not be confused with the person's well-being or, alternatively, taken as evidence of the nonviability of any personal notion of well-being.

It is, of course, possible to assert the importance of actual mental states as reflections of individual well-being, and in fact, in the utilitarian tradition, the metrics of happiness and desire do occupy a commanding position in the evaluation of individual welfare and through that on the goodness of states of affairs and the rightness of actions. But that approach to welfare and ethics can be—and has been—extensively challenged.[3] Deprived groups may be habituated to inequality, may be unaware of possibilities of social change, may be resigned to fate, and may well be willing to accept the legitimacy of the established order. The tendency to take pleasure in small mercies would make good

sense given these perceptions, and cutting desires to shape (in line with perceived feasibility) can help to save one from serious disappointment and frustration. The deprivations may thus be muted in the metric of happiness or desire fulfillment. But the real deprivations are not just washed away by the mere fact that in the particular utilitarian metrics of happiness and desire fulfillment such a deprived person may not seem particularly disadvantaged. The embarrassment, if there is one here, is for utilitarianism (and for welfarism in general),[4] and not for those who insist that the underfed, underclothed, undercared, or overworked person is in some real sense deeply deprived no matter what the utility metrics say.[5]

The point of arguing this way is not, in fact, to claim that a person's perceptions are not important. Indeed, they may be extremely important in understanding what social and familial arrangements emerge and survive. In fact, later in this chapter considerable use is made of the nature of actual perceptions in understanding the outcomes of cooperative conflicts. But the contingent perceptions are important not because they are definitive guides to individual interests and well-being (this they are not), but because the perceptions (including illusions) have an influence—often a major impact—on actual states and outcomes.

II. Social Technology, Cooperation, and Conflicts

Technology is often seen in highly limited terms, for example, as particular mechanical or chemical or biological processes used in making one good or another. The extremely narrow view of technology that emerges from such a limited outlook does little justice to the 'social' content of technology—what Marx called 'the combining together of various processes into a social whole' ([1867]1967:515).[6] The making of things involves not merely the relationship between, say, raw materials and final products, but also the social organization that permits the use of specific techniques of production in factories or workshops or on land.

The so-called 'productive' activities may be parasitic on other work being done, such as housework and food preparation, the care of children, or bringing food to the field where cultivators are working. Technology is not only about equipment and its operational characteristics but also about social arrangements that permit the equipment to be used and the so-called productive processes to be carried on.

Household activities have been viewed in many contradictory ways in assessing production and technology. On the one hand, it is not denied that the sustenance, survival, and reproduction of workers are

obviously essential for the workers being available for outside work. On the other hand, the activities that produce or support that sustenance, survival, or reproduction are typically not regarded as *contributing* to output and are often classified as 'unproductive' labor.

There has been a good deal of recent interest in the problem of valuation of these activities and also in reflecting them in the estimates of national income and national consumption.[7] However, for the present purpose, these accounting questions are not really central (even though they are, in general, important in seeking a better understanding of the social position of women). What is important here is to take an integrated view of the pattern of activities outside *and* inside the home that together make up the production processes in traditional as well as modern societies.[8] The relations between the sexes are obviously much conditioned by the way these different activities sustain and support each other, and the respective positions depend inter alia on the particular pattern of integration that is used.

The prosperity of the household depends on the totality of various activities—getting money incomes, purchasing or directly producing (in the case of, say, peasants) food materials and other goods, producing edible food out of food materials, and so on. But in addition to aggregate prosperity, even the divisions between sexes in general, and specifically those within the household, may also be deeply influenced by the pattern of the gender division of work. In particular, the members of the household face two different types of problems simultaneously, one involving *cooperation* (adding to total availabilities) and the other *conflict* (dividing the total availabilities among the members of the household). Social arrangements regarding who does what, who gets to consume what, and who takes what decisions can be seen as responses to this combined problem of cooperation and conflict. The sexual division of labor is one part of such a social arrangement, and it is important to see it in the context of the entire arrangement.

Seeing social arrangements in terms of a broader view of technology and production has some far-reaching effects. First, it points to the necessity of examining the productive aspects of what are often treated as purely 'cultural' phenomena. It also brings out the productive contributions that are in effect made by labor expended in activities that are not directly involved in 'production' narrowly defined. A deeper probing is especially important in trying to clear the fog of ambiguity in which the roles of different types of laboring activities are hidden by stereotyped social perceptions, and this is of obvious importance in assessing the nature and implications of particular patterns of gender divisions.

Second, it throws light on the stability and survival of unequal patterns of social arrangements in general, and deeply asymmetric sexual division in particular. An example is the resilient social division of labor in most societies by which women do the cooking and are able to take on outside work only insofar as that can be combined with persisting as the cook.[9]

Third, the division between paid and unpaid work in the context of general productive arrangements (and 'the combining together of various processes into a social whole') can be seen as bringing in systematic biases in the perception of who is 'producing' what and 'earning' what—biases that are central to understanding the inferior economic position of women in traditional (and even in modern) societies.

Fourth, specific patterns of sexual divisions (and female specialization in particular economic activities) even *outside* the household can be seen as being partly reflective of the traditional *within-household* divisions related to established arrangements, which differentially bias the cultivation of skill and tend to sustain asymmetry of opportunities offered for acquiring 'untraditional' skills. In understanding the inferior economic position of women inside and outside the household in most societies, the hold of these social arrangements has to be clearly identified and analyzed.[10]

The nature of 'social technology' has a profound effect on relating production and earnings to the distribution of that earning between men and women and to gender divisions of work and resources. The divisional arrangements that, on the one hand, may help in the economic survival and the overall opulence of families and societies may also impose, through the same process, a typically unequal division of job opportunities and work freedoms. They influence the division of fruits of joint activities—sometimes sustaining inequalities in the commodities consumed in relation to needs (e.g., of food in poorer economies). The nature of the cooperative arrangements implicitly influences the distributional parameters and the household's response to conflicts of interest.

III. Household Economics, Bargaining Models and Informational Bases

The simultaneity of cooperation and conflict in gender divisions has often been trivialized in the formal economic literature by making particular—often far-fetched—assumptions. One approach is to see household arrangements as resulting from implicit markets with

transactions at 'as-if' market prices (see Becker 1973–74, 1981), even though it may be hard to see how such implicit markets can operate without the institutional support that sustains actual market transactions.

Sometimes, the same basic model can be substantially varied by postulating that the transactions take the form of falling in line with the objectives of an altruistic family head. As Becker (1981) puts it: 'In my approach the "optimal reallocation" results from altruism and voluntary contributions, and the "group preference function" is identical to that of the altruistic head, even when he does not have sovereign power' (p. 192). (On the peculiar nature of this solution, see Manser and Brown 1980; McElroy and Horney 1981; Pollack 1983; see also Berk and Berk 1978, 1979). Others have assumed that somehow or other—in ways unspecified—an 'optimal' distribution of commodities and provisions takes place within the family, permitting us to see families as if they are individuals (see Samuelson 1956). The central issues of cooperative conflicts are avoided in all these models by one device or another.

Helpful insights can be obtained by seeing divisions as 'bargaining problems', which form a class of cooperative conflicts.[11] The technological interdependences make it fruitful for the different parties to cooperate, but the particular pattern of division of fruits that emerges from such cooperation reflects the 'bargaining powers' of the respective parties. This format certainly has many advantages over the models of 'as-if markets', or 'an altruistic leader's dominance', or 'harmonious optimal divisions'. A number of recent contributions have brought out these advantages clearly enough (Brown and Chuang 1980; Clemhout and Wan 1977; Folbre 1986; Manser and Brown 1980; McElroy and Horney 1981; Pollak 1983; Rochford 1981).

Nevertheless, the informational base of the bargaining problem is limited by focusing exclusively on individual interests (typically taken to be cardinally representable), and by the assumption of clear and unambiguous perceptions of these individual interests. The latter assumption misses crucial aspects of the nature of gender divisions inside and outside the family. The sense of appropriateness goes hand in hand with ambiguities of perception of interests and with certain perceived notions of legitimacy regarding what is 'deserved' and what is not. These perceptions are also closely related to the nature of the social technology establishing specificity of roles and sustaining a presumption of 'naturalness' of the established order. Also, they have a role in explaining particular *production* arrangements that are seen as forming the basis of economic survival and success. The informational base needs to be widened to include perceptions of legitimacy and desert, and the specification of felt individual interests must take note of perception problems.

These issues would have to be faced, but we may begin with the neat format of the bargaining problem as a starting point.[12] In the simplest case, there are two people with well-defined and clearly perceived interests in the form of two cardinal utility functions respectively. They can cooperate altogether. The outcome when they fail to cooperate has been variously denoted, and may be called 'the status quo position' or 'the breakdown position'. What happens if the cooperative proposals should break down is of obvious relevance to the choice of the collusive, outcome, since the breakdown position affects the two people's respective bargaining powers. Since each person's interests are reflected by an exact (and cardinal) utility function, the breakdown position in a two-person bargaining problem is a pair of utility numbers, and the various cooperative outcomes form also a set of pairs of utility numbers (all with cardinal properties).

If there were only one collusive possibility that is better for both than the breakdown position, then there would, of course, be no real bargaining problem, since the unique collusive solution would be the only one to choose. The bargaining problem arises from the existence of many choosable collusive arrangements—each such arrangement being better for both persons than the breakdown position. If there is a collusive arrangement which—while better for both than the breakdown position—is worse for both (or worse for one and no better for the other) than some other feasible collusive arrangement, then the first collusive arrangement—'dominated' as it is—is taken to be rejected straightaway.

Once the dominated arrangements have been weeded out, there remain possible collusive solutions that are ranked by the two in exactly opposite ways. If for person 1, arrangement x is better than y, then for person 2, arrangement y must be better than x. (If not, then x would have dominated y as an arrangement.) At this stage of the exercise the aspect of cooperation is all gone and there is only conflict. The choice *between* any two undominated collusive arrangements is therefore one of pure adversity. But at the same time each person knows that the choice between any *such collusive arrangement and the breakdown position* is a matter of cooperation since the former is better for *both*. It is this mixture of cooperation and conflicting aspects in the bargaining problem that makes the analysis of that problem potentially valuable in understanding household arrangements, which also involve a mixture of this kind.[13]

What solution would emerge in the 'bargaining problem'? That depends on a variety of possible influences, including the bargaining power of the two sides. The problem can be resolved in many different ways. Nash confines the informational base of the solution to (1) the pairs of alternative feasible individual welfare levels, and (2) the welfare levels at the breakdown point. Specifically, he suggests a particular solution that would maximize the *product* of the two people's welfare gains compared with the breakdown position.[14] Others have suggested other solutions.[15]

The main drawback of the 'bargaining problem' format applied to gender divisions arises not so much from the nature of any particular 'solution', but from the formulation of the 'problem' itself. As was discussed earlier, the perception of interest is likely to be neither precise nor unambiguous. There are two distinct issues here.

The first is the need to distinguish between the *perception* of interest (of the different parties) and some more *objective* notion of their respective well-being. Focusing on the 'capabilities' of a person—what he or she can *do* or can *be*—provides a direct approach to a person's well-being. Although that format also has many problems (especially dealing with indexing of capabilities: see Sen 1985a), it has important theoretical advantages as well as much practical convenience (for some applications of this format in the specific context of women's relative disadvantage, see Kynch and Sen 1983; Sen 1984; Sen and Sengupta 1983). Especially in dealing with poor economies, there are great advantages in concentrating on such parameters as longevity, nutrition, health and avoidance of morbidity, and educational achievements, rather than focusing purely on subjective utility in the form of pleasure, satisfaction, and desire fulfillment, which can be molded by social conditioning and a resigned acceptance of misfortune.[16] The analyses of cooperative conflicts, in this view, must go beyond perceived interests, and we have to distinguish between perceptions and well-being.

The second limitation arises from the informational base of bargaining models being confined to individual *interests* (or *welfare*) only, without letting the solution respond explicitly to other variables such as conceptions of desert and legitimacy (e.g., those related to perceived 'productive contributions' of each party to family opulence).[17] The nature of 'social technology' makes these ideas particularly influential in the determination of gender divisions. We need, on both these grounds, a wider informational base for studying cooperative conflicts.

IV. Cooperative Conflicts: Interests, Contributions, and Perceptions

The informational base of cooperative conflicts must distinguish between interest perceptions and measures of the well-being of the persons involved. Further, the base must include information regarding perceptions of who is 'contributing' how much to the overall family prosperity.[18] This greater plurality of the informational structure makes the modeling of cooperative outcomes that much more complex than in the simple special case of the bargaining problem in the tradition of Nash. But the simplicity of the Nash model and the related structures is achieved at considerable sacrifice of informational sensitivity.[19] In this presentation, I shall not try to develop a fully worked out solution function for the cooperative conflict problems. Indeed, a variety of solutions can be suggested; and all that will be done here is to specify a set of *directional* features, related respectively to (1) well-being levels at the breakdown points, (2) perceived interests, and (3) perceived contributions. For our present purpose this is adequate, though—obviously—any attempt at specifying an exact outcome would be impossible without presenting a more complete solution structure.

One particular feature of the Nash bargaining problem has justifiably attracted a good deal of attention. This makes the outcome respond firmly to the nature of the breakdown position. (This is, in fact, obvious from the method—already described—of identifying the solution.) Indeed, a more favorable placing in the breakdown position would tend to help in securing a more favorable bargaining outcome. Nash had seen his solution as a normative one, and it has been argued in criticism of Nash that in that context this responsiveness to the breakdown position may not perhaps be so easy to defend.[20] But predictively it is, of course, entirely plausible that the fear of the breakdown position would tend to govern the bargaining process and strongly influence its outcome.

With a little more structure in the characterization of the bargaining problem than we have introduced so far, it is easy to get a directional relation of the following form:

1. *Breakdown well-being response:* Given other things, if the breakdown position of one person were worse in terms of well-being, then the collusive solution, if different, would be less favorable to his or her well-being.

The breakdown position indicates the person's vulnerability or strength in the 'bargaining'. If, in the case of breakdown, one person is going to end up in more of a mess than it appeared previously, that is going to weaken that person's ability to secure a favorable outcome.

The 'breakdown response' is a general qualitative property of cooperative conflicts entirely in line with the rationale of Nash's approach to bargaining. Others have extended the idea of bargaining power by bringing in the idea of 'threat', that is, a person threatening the other with some harmful action if the bargaining were to fail. This can make the actual result of breakdown *worse* for the threatened person than the previously identified breakdown position, if the threat is carried out (see Binmore and Dasgupta 1987; Braithwaite 1955; Harsanyi 1977; Luce and Raiffa 1957; Roth 1979; Schelling 1960).

This is a plausible direction of extension, though there are some very basic difficulties with any theory of threats, since it has to deal with situations *after* the bargaining has failed.[21] But in the context of a bargaining arrangement that continues over time, there are possibilities of going on making 'side threats' (and through them, trying to make the outcome more favorable in the process of living through it). The nature of 'repeated games' gives credibility to threats (on these and related issues, see Sen 1985c).

The influence of perceived interest on the bargaining outcome may take the form of choosing a solution in the space not of individual well-being levels but in that of perceived interests. In fact, a simple translation of the Nash model would be to redefine the solution in terms of these interest perceptions rather than well-being measures. If the breakdown point too is defined in terms of perceived interests rather than actual well-being levels (not as in the 'breakdown well-being response'), then this will amount to a simple interpretational shift of the Nash model without necessarily changing the mathematical properties of the solution (but making a substantive difference to the actual solution since the perceived-interest relations may well be much less favorable to one party than the well-being relations, for reasons discussed earlier). In the plural informational format proposed here, both perceived interests and well-being measures may have influence, the latter especially through the breakdown response.

The motivation underlying the directional response to be specified here relates to the fact that a person may get a worse deal in the collusive solution if his or her perceived interests takes little note of his or her own well-being. As was discussed earlier, such perception bias in the direction of the interests of the others in the family may apply particularly to women in traditional societies.

2. *Perceived interest response:* Given other things, if the self-interest perception of one of the persons were to attach less value to his or her own well-being, then the collusive solution, if different, would be less favorable to that person, in terms of well-being.

A different type of issue is raised by the influence of a perceived sense of greater 'contribution' (and of the 'legitimacy' of enjoying a correspondingly bigger share of the fruits of cooperation). This question has already been discussed earlier. 'Perceived contributions' have to be distinguished from *actual* contributions. Indeed, the idea of who is *actually* producing precisely what in an *integrated* system may not be at all clear. Nevertheless, the *perceived* contribution of people can be important in tilting the cooperative outcomes in favor of the perceived contributor.

3. *Perceived contribution response:* Given other things, if in the accounting of the respective outcomes, a person was perceived as making a larger contribution to the overall opulence of the group, then the collusive solution, if different, would be more favorable to that person.

The three 'responses', related respectively to breakdown, perceived interest, and perceived contribution, may throw some light on the way the deal tends to be biased between the sexes. This can be seen both in terms of a stylized reference point of a 'primitive' situation as well as a more realistically portrayed 'current' one, and the relation between the two situations is itself of some interest. Some disadvantages of women would apply in both types of situations. For example, frequent pregnancy and persistent child rearing (as happens in many present communities and has happened in most of the past ones) must make the outcome of cooperative conflicts less favorable to women through a worse breakdown position and a lower ability to make a perceived contribution to the economic fortunes of the family.[22] Other disadvantages are much more specific to the nature of the community, for example, greater illiteracy and less higher education of women in most developing—and some developed—countries today, and these too would tend to make the breakdown positions worse for women.

The perception biases unfavorable to women, both in terms of distancing perceived interest from well-being and recording productive

contributions inadequately, will also vary from one society to another. The 'perceived interest response' and the 'perceived contribution response' can be tremendously more regressive for women in some societies (Sen 1984: essays 15 and 16).

The relation between the cooperative conflicts in one period and those in the next is of the greatest importance even though it may be hard to formalize this properly. The 'winners' in one round get a satisfactory outcome that would typically include not only more immediate benefit but also a better placing (and greater bargaining power) in the future. This need not be the result of a conscious exercise of taking note of future placing or bargaining power (though it can also be that), but the effect may be brought about by the fact that 'more satisfactory work' from the point of view of immediate benefit tends incidentally to enhance the power bases of the deal a person can expect to get in the future. For example, getting better education, being free to work outside the home, finding more 'productive' employment, and so on, may all contribute not only to immediate well-being but also to acquired skill and a better breakdown position for the future.[23] Also, job training improves the quality of labor and improves one's breakdown position, threat advantages, and perceived contributions within the family, even when these may not have been conscious objectives.

The transmission can also work from one generation to the next, indeed from one historical epoch to the next, as the 'typical' patterns of employment and education for men get solidified vis-à-vis those for women. The asymmetries of immediate benefits sustain future asymmetries of future bases of sexual divisions, which in turn sustain asymmetries of immediate benefits. The process can feed on itself, and I shall refer to this process as 'feedback transmission'.

In the stylized 'primitive' situation, the disadvantages of women in terms of 'breakdown response' would relate greatly to purely physical factors, even though the role of physical factors is governed by social conditions. For example, at an advanced stage of pregnancy, securing food on one's own in a *hunting* community must be no mean task. The breakdown positions can be asymmetrically worse for women in various types of 'primitive' societies, and this can make the gender visions go relatively against women in line with 'breakdown response'.[24]

In a less primitive situation—a stylized 'current' one—the primitive asymmetries, if any, are supplemented by socially generated further asymmetries, for example, of ownership, education, and training,[25] and also a nurtured view of the 'fragility' of women (seen as unsuitable

for some types of jobs). These all contribute to a worse breakdown position and worse ability to make a 'perceived contribution' to the family's economic status. The bargaining disadvantages will feed on themselves through 'feedback transmission'. It may not be terribly important to know how all this got started, that is, whether *because* of the physical asymmetries relevant in the 'primitive' situation or through some other process (e.g., as Engels, 1884, had argued, through the emergence of private property). In the present context, the important point is that such asymmetries—however developed—are stable and sustained, and the relative weakness of women in cooperative conflict in one period tends to sustain relative weakness in the next.[26]

The impact of *'perceived* contribution response' may have been primitively associated with acquiring food from *outside*. The fact that the division of labor within the household *permits* some members to play this role while others take care of other activities (including preparation of food and care of children) may not weaken the perception of the special importance of 'bringing the food home.' Ester Boserup (1970) has rightly taken Margaret Mead (1949) to task for the following overgeneralization: 'The home shared by a man or men and female partners, into which men bring the food and women prepare it, is the basic common picture the world over' (Mead 1949: 190; Boserup 1970:16; see also Dasgupta 1977; and Slocum 1975, who go further into 'the male bias in anthropology'). But it is nevertheless a common enough picture in many primitive (and modern) societies, and it may well have contributed a further force in the direction of gender asymmetry of consumption and sustenance.

Ester Boserup (1970) has noted that women appear to fare relatively better in those societies in which women play the major role in acquiring food from outside, for example, some African regions with shifting cultivation. The role of outside earning does seem to be a strong one in creating a difference within the family. It has been noted that in India in the regions in which women have little outside earning (e.g., Punjab and Haryana) sex disparities are sharper—visible even in the discriminated treatment of female children—than in regions where they have a bigger role in earning from outside (e.g., in Southern India).[27] As was noted earlier, even the crude indicator of sex ratio (female/male) is as low as 0.87 and 0.88 in Haryana and Punjab respectively in contrast with the Southern Indian states (0.96 in Karnataka, 0.98 in Andhra Pradesh and Tamil Nadu, and 1.03 in Kerala).

The nature of 'perceived contribution' to family opulence has to be distinguished from the amount of *time* expended in working inside

and outside the home. Indeed, in terms of 'time allocation studies,' women often seem to do astonishingly large amounts of work even when the so-called 'economic' contribution is *perceived* to be relatively modest (see, e.g., Batliwala 1985; Jain and Banerjee 1985; Jain and Chand 1982; Mukhopadhyay 1982). The perception bias tends to relate to the size of the direct money earning rather than to the amount of time and effort expended (or to the role of nonmarket activities by other members of the family, who *indirectly* support such earnings).

V. Extended Entitlements and Perceived Legitimacy

In a series of earlier studies dealing specifically with starvation and famines, I have tried to analyze the problem of command over goods and services (including food) in terms of 'entitlement systems' (Sen 1976, 1977, 1981). The analysis concentrated on the command that the household can exercise over goods and services, and it did not take on the issue of distribution *within* the household. Entitlement is essentially a legal concept, dealing with rules that govern who can have the use of what. Since the distribution within the household is not typically controlled by law (as property ownership and market transactions are), there are obvious difficulties in extending the entitlement analysis to the problem of *intrahousehold* distribution.

But the distributions of food, health care, education, and the like, are of obvious importance in determining each person's actual command over necessities, and this is often a source of inequality. In some empirical studies relating to India and Bangladesh (e.g., Chen, Haq and D'Souza 1981; Chen 1982; Kynch and Sen 1983; Sen 1982, 1984; Sen and Sengupta, 1983), patterns of sex bias in nutritional achievements, health care, and medical attention (and in morbidity and mortality rates) have come through strikingly.[28] Some systematic differences have also been observed in other parts of the developing world (e.g., den Hartog 1973; Schofield 1975; see also Vaughan 1985, 1987; Whitehead 1984).

There is also some evidence that deep-seated notions of 'legitimacy' operate in the distribution *within* the family (Sen 1982, 1983), supplementing the operations of entitlement relations at the levels of households, occupation groups, and classes. There is thus a good case for extending the entitlement analysis to intrahousehold distribution as well, taking a broad view of accepted legitimacy (rather than only 'laws', in the strict sense). Such an extension will closely relate to the

structure of gender divisions with which the earlier parts of this essay have been concerned.

In a private ownership economy, the two basic parameters of entitlement analysis are 'endowment' (roughly, what is initially owned) and 'exchange entitlement mapping' (reflecting the exchange possibilities that exist through production and trade).[29] The person (or the household) can establish command over any bundle of commodities that can be obtained by using the endowment and the exchange entitlement mapping, reflecting both *possibilities* and the *terms* of trade and production. The set of all commodity bundles over any one of which the person (or the household) can establish command is his or her (or its) 'entitlement set'. If the entitlement set does not include any bundle with enough food, then the person (or the household) must starve. With this very general structure much of the analysis was devoted to studying patterns of endowment and exchange entitlement mappings, paying particular attention to modes of production, class structure, role of occupation groups, and market forces.

The analysis was also used to study a number of modern famines, in some of which (e.g., the Bengal famine of 1943, the Ethiopian famines of 1973, the Bangladesh famine of 1974) the total availability of food per head turned out to have been no less (sometimes more) than in previous years. The famines were shown to be the results of entitlement failures related to endowment decline (e.g., alienation of land or loss of grazing rights), or to exchange entitlement decline (e.g., loss of employment, failure of money wages to keep up with food prices, failure of prices of animal products or craft products or services to keep up with the prices of basic food), or to both. The famines decimated specific occupation groups while leaving other occupation groups and classes unaffected, sometimes enriched (see Sen 1976, 1977, 1981; see also Alamgir 1980; Ghosh 1979; Griffin 1978; Khan 1985; Oughton 1982; Ravallion 1985, 1987; Snowdon 1985; Vaughan 1985).

For the most of humanity, virtually the only significant endowment is labor power. Much of the analysis thus turned on the conditions governing the exchange of labor power (e.g., employment, wages and prices, and social security, if any). It was also found that the right to the *use* of land, even without ownership—by secured sharecropping rights, for instance—makes a big difference in vulnerability to famine. In fact, in the South Asian context, although landless rural laborers constitute the occupation group most vulnerable to famine, sharecroppers (who are, in normal circumstances, not much richer than laborers)

turn out to be often much less vulnerable to famines than are laborers (Sen 1981). The difference relates largely to the fact that the sharecropper gets a share of the food crop directly (without having to depend on the market), whereas the rural laborer faces the dual threat of unemployment *and* possible inadequacy of wages to buy enough food at the relative prices that would happen to emerge. The fact that daily wage laborers often form a much higher proportion of female agricultural workers than of males (see Agarwal 1986; Dixon 1983; G. Sen 1985, among others) is thus of some importance.

Turning now to the intrahousehold distribution of food in famine situations, the empirical evidence seems to suggest conflicting stories. The famine experts of the British Raj in India were on the whole persuaded that men died in much larger numbers than women in Indian famines, but the evidence might possibly have been based on biases in data collection.[30] There has been no serious famine in India since independence, but there have been many situations of hardship in acquiring food, not altogether relieved (though typically much reduced) by government intervention. There is considerable evidence of bias against the female, especially the female child vis-à-vis the male child, in such situations of hardship (Sen 1984). And in normal mortality, too, there is clear evidence of female disadvantage in age groups below 35. This is especially striking for children.[31]

One remarkable feature of Indian demography is a significant decline in the sex ratio (female/male) in the Indian population, from 0.972 in 1901 (quite low even then) to 0.935 in 1981. This feature relates to many other ways in which the continued—and in some ways increasing—relative deprivation of Indian women comes through (Kynch and Sen 1983). The problem is present in many other countries as well, and as was mentioned earlier, the female/male ratio is very substantially lower than unity in Asia as a whole.

In extending the entitlement analysis to include intrahoushold distribution, attention must be paid to the fact that the relationships *within* the household in the distribution of food and other goods cannot sensibly be seen in the same way as the relationships of persons and households to others *outside* the household, such as an employer, a trader, a landowner, a retailer, a speculator. That is why a straightforward translation of the entitlement analysis presented earlier would be a mistake, tempting though it might be. To indulge in technicalities for a moment, in this context it is best to see entitlements not as a set of *vectors* (bundles of commodities going to the household as a whole) but as a set of *matrices* (bundles of commodities for each member of the household), with each person's share being given by a

column of the matrix. Similarly, endowments are best seen as *matrices* (bundles of ownership for each member), even though the children may typically enter with *zeroes* everywhere, and, more important, most of the adults too would have nothing other than their labor power to adorn the household endowment matrix. Women in particular tend frequently to fall in that category (outside a small class). The exchange entitlement mapping will then specify for each endowment matrix the set of possible commodity matrices. Starvation will occur if—given the endowment matrix—none of the possible commodity matrices includes adequate food for each person. It can also occur even if there is a feasible matrix with adequate food for all, if that feasible matrix does not emerge in the choice process.

This is not the occasion to launch into the technical analysis that will clearly be needed for some purposes to go into detail in the way ownership patterns, production possibilities, and market arrangements (including that for labor power) interact to *constrain* the exchange entitlement mappings. Some of that analysis can draw heavily on the entitlement relations explored earlier at the interhousehold level (Sen 1981), but the supplementation needed must capture the essentials of the sexual division, including intrahousehold distributions. If the intrahousehold distribution patterns are taken as completely flexible, then the possible matrices would reflect that freedom through listing all possible intrahoushold distributions of the same household bundle. At the other extreme, if the head of the household has very fixed ideas of how the bundle must be distributed and has the power to carry out his (patriarchal) decisions, then each household commodity bundle would translate into exactly one household matrix of who would have which good.[32] The actual situation would vary between these limits.

The general issues underlying the formulation of the household arrangement problem as a 'bargaining problem' can now be used to characterize some features of the extended exchange entitlement mapping. For example, 'breakdown response' will be reflected in the individual consumption of the person (his or her 'column') being more favorable in the possible entitlement matrices, given other things, as the person's breakdown position improves. Similarly, the column of each person would be influenced by perceived interests and perceived contributions in the ways specified by the respective 'responses'.[33]

VI. Production, Earnings, and Perceived Contributions

A woman's opportunity to get 'gainful' work outside is one of the crucial variables affecting the extended exchange entitlement mapping.

This can happen in two distinct ways, corresponding respectively to the 'cooperative' and 'conflicting' features discussed earlier in the 'cooperative conflict' formulation of sexual divisions. First, such employment would enhance the *overall* command of the household, that is, the family entitlement. Second, for a given family entitlement, the woman's *relative* share may also respond positively to her outside earnings. This latter influence corresponds, of course, to the element of pure conflict in 'cooperative conflicts', and the directional link described here would reflect some combination of the three responses discussed earlier. Outside earnings can give the woman in question (1) a better breakdown position, (2) possibly a clearer perception of her individuality and well-being, and (3) a higher 'perceived contribution' to the family's economic position.

The empirical basis of the directional link has been supported in a number of studies dealing with women's work, following the pioneering contributions of Easter Boserup (1970). To quote just one example, in her definitive study of the women workers in the *beedi* (crude cigarette) industry in Allahabad, India, Zarina Bhatty (1980: 41) found the following:

> A greater economic role for women definitely improves their status within the family. A majority of them have more money to spend, and even more importantly, have a greater say in the decisions to spend money. Most women claim to be better treated as a result of their contribution to household income.... A substantial proportion of women feel that they should have a recognized economic role and an independent source of income.... Their attitudes evidence a clear perception of the significance of their work to family welfare and their own status within the family.[34]

The impact of outside earnings of women depends also on the *form* of that earning. In her well-known study of the lacemakers of Narsapur in India, Maria Mies (1982) notes that these women workers do not get much benefit from their work, because despite the fact that the products are sold in the world market, the women 'are recruited as *housewives* to produce lace as a so-called spare-time activity, in their own homes' (p. 172). 'As she herself is not able to see her work as a value-producing work, she subscribes to the devaluation of this work as non-work, as purely supplementary to her husband's work, and she is not able to bargain for a just wage. This mystification is the basis of her over-exploitation as housewife and as worker' (pp. 173–74). The lower bargaining power of the women workers vis-à-vis *the employers* depresses the exchange entitlement of the household *as a whole*. Further, the weakness of the three 'responses' for women workers

vis-à-vis the rest of the family further affects the *extended* exchange entitlement by depressing their status and the share of benefits that go to them *within* the household.

The extension of entitlement analysis to divisions within the family brings in notions of legitimacy that go well beyond the system of state-enforced laws on which property relations, market transactions, wage employment, and the like, operate and on which the standard entitlement analysis depends. But these notions of legitimacy have a firm social basis and may be hard to displace. What would have looked, in the format of the 'bargaining problem', like a might-is-right bargaining outcome (e.g., giving a worse deal to the person with a weaker breakdown position) may actually take the form of appearing to be the 'natural' and 'legitimate' outcome in the perception of all the parties involved. The idea of entitlement in the *extended* form can be influenced by a shared sense of legitimacy (however inequitous it might be) and adapted perceptions that relate to it.

The care that female children receive vis-à-vis male children (in terms of nutrition, medical attention, etc.) may also be positively influenced by the size of outside employment and earnings of women vis-à-vis men. The neglect of female children and the preference for having male children in India, especially in the North and especially of second and later daughters (Das Gupta 1987; Miller 1981), may well be related to lower earning powers of women. This can be seen in terms of lower 'returns' in rearing girls vis-à-vis boys (on this, see Behrman 1988; Rosenzweig and Schultz 1982), but the low level of outside work and earning may also generally harm women's social status and perceived entitlements (see Sen 1984, 1989).

The influence of outside earnings and the so-called productive activities of women for their extended entitlements can also be studied in terms of interregional contrasts. In her pioneering study of women's issues in economic development, Ester Boserup drew attention to the contrast between Africa and Asia in terms of women's outside employment and its effects (1970: 24–25). The greater female participation of rural women in Africa than in Asia is brought out also by some intercountry statistics presented by Ruth Dixon (1983). In fact, as Boserup noted, there are considerable contrasts *within Africa* itself in terms of female participation.

The big regional contrast *within* Africa relates in fact to the participation rates in *Northern* Africa vis-à-vis those in the rest of the continent. An aggregative picture of interregional contrasts within Africa and Asia is presented in Table 1, with comparative data for five major

Table 1

Region	*Activity rate ratios 1980 (female/male)*		*Life expectancy ratios 1980 (female/male)*	
	Value	*Rank*	*Value*	*Rank*
Non-North Africa	0.645	1	1.071	1
East and Southeast Asia	0.610	2	1.066	2
West Asia	0.373	3	1.052	3
South Asia	0.336	4	0.989	5
North Africa	0.158	5	1.050	4

Source: Sen (1986) calculated from country data given in ILO (1986) and United Nations' tapes. I am grateful to Jocelyn Kynch for her research assistance in preparing this aggregative table. The activity rate ratios represent the proportions of total population of each sex engaged in so-called 'economic' (or 'gainful') activities.

regions: North Africa, Non-North Africa, West Asia, South Asia, and East and Southeast Asia. 'Activity rate ratios' (females of males) for each of these regions have been calculated by aggregating data for all countries covered by the ILO (1986) in the respective regions. The female/male life expectancy ratios for the same regions are also given in the same table, calculated from the country statistics presented in the United Nations' tapes on 'Estimates and Projections of Population'.[35] As was discussed earlier, the regional contrasts within India, such as that between South and North India, also seem to suggest a similar influence of female 'activity' rate ratios on the deal that rural women receive vis-à-vis men (see particularly Bardhan 1974, 1984, 1987; Miller 1981, 1982). The possible *routes* of influence (through breakdown response, perceived interest response, and perceived contribution response) have already been discussed in the analysis presented earlier.

It is interesting that the ranking of life expectancy ratios (female/male) is very similar to that of activity rate ratios (female/male). Although no definitive conclusion can be drawn from these data alone, insofar as anything does emerge from them, it would seem to support and corroborate the conclusions drawn from microstudies and general economic reasoning, which also point in the direction of positively relating female 'productive' activity to a better deal (and enhanced extended entitlement for women). The contrasts between South Asia and Non-North Africa, and those between South Asia and East and Southeast Asia, and between North and Non-North Africa, are particularly striking in view of the variety of evidence on greater female involvement in outside work in North Africa and East and Southeast Asia vis-à-vis North Africa and South Asia.

VII. Well-being, Agency, and Cooperative Conflicts

In this chapter I have tried to present some elementary relations that might be of relevance in discussing women's issues in economic development. Conflicts of interest between men and women are unlike other conflicts, such as class conflicts. A worker and a capitalist do not typically live together under the same roof—sharing concerns and experiences and acting jointly. This aspect of 'togetherness' gives the gender conflict some very special characteristics.

One of these characteristics is that many aspects of the conflict of interest between men and women have to be viewed against the background of pervasive cooperative behaviour. Not only do the different parties have much to gain from cooperation; their individual activities have to take the form of being overtly cooperative, even when substantial conflicts exist. This is seen most clearly in the parts of the gender divisions that relate to household arrangements, in particular who does what type of work in the household and enjoys what benefits. Although serious conflicts of interests may be involved in the choice of 'social technology', the nature of the family organization requires that these conflicts be molded in a general format of cooperation, with conflicts treated as aberrations or deviant behavior.

The cooperative format makes it particularly important to pay attention to perception problems about respective interests, contributions, and claims. In analyzing cooperative conflicts, we had difficulty in following the leads provided by seeing household economics in terms of harmonious 'optimal' divisions (Samuelson 1956), or in terms of 'as-if' competitive markets (Becker 1973–74), or in terms of 'altruism and voluntary contributions' in line with 'a group preference function', which is 'identical to that of the altruistic head' (Becker 1981). Even though formulations of household economics in terms of 'bargaining problems' (Manser and Brown 1980; McElroy and Horney 1981) succeed in catching one aspect of cooperative conflicts well, they miss many other aspects because of the limited informational base of that game structure, neglecting issues of perception in assessing interests and well-being and in evaluating contributions and claims.

The alternative line of analysis pursued in this chapter takes the form of specifying important parts of the relevant informational base

rather than that of pinpointing one exact 'solution' of the divisional problem. The analysis presented has focused on a few 'responses' of outcomes to the identified informational base, dealing specifically with the influences of (1) the respective well-being levels in the case of breakdown of cooperation (a feature taken over from the Nash, 1950, formulation of 'bargaining problem'), (2) the perception (including illusions) about personal interests in a family setting, and (3) the perception of 'contributions' made respectively by different members and the 'claims' arising from these contributions. These qualitative, rather than quantitative, relations help to establish some directional structure in relating social and personal parameters to divisional outcomes and to notions of 'extended entitlements' including *intrahousehold* divisions. The correspondence of these directional structures to empirical observations of variations in gender divisions was discussed in terms of microstudies as well as aggregative regional contrasts.

One of the parameters that seemed particularly important to pursue is the involvement of women in so-called 'productive' activities and in earning from outside. These activities are of obvious importance for female-headed households without adult men (Buvinic and Youssef 1978; Visaria and Visaria 1985), but they are of importance also when there are both adult men and women in the family. In addition to contributing to the *overall* affluence of the family, these activities also influence the *relative* shares by affecting the 'breakdown positions' of women and also the perceptions of women's 'contributions' and 'claims'. The relative 'returns' from rearing boys vis-à-vis girls, which have been found to be of some importance in the neglect of female children in some developing countries (see particularly Behrman 1988; Rosenzweig and Schultz 1982), are also correspondingly influenced by variations in female 'activity rates' and 'outside earnings'. The explanation of the observed relations may involve not merely hardheaded individual calculations of relative returns from rearing boys vis-à-vis girls, but also the social influence of the general prevalence of female activity and earnings on the common perception of 'contributions' made by women and of women's entitlements to a better share of the household's joint benefits.

Even the perception of individual interests of women, which—it has been observed—tends to be merged with the notion of family well-being in some traditional cultures, may be sharpened by greater involvement of women with the outside world, and this may have important implications for household divisions. An examination of interregional variations of relative activity rates (female/male) and

life expectancy ratios (female/male) provided some corroboration of what was expected on general theoretical grounds in terms of the directional responses of cooperative conflicts, but the empirical picture is far too complex to be summarized in the form of a simple model of quantified cause-and-effect relationships.

One of the central issues that need more examination is the question of women's 'agency' as opposed to their 'well-being'. Neither the well-being nor the agency of women coincides with the utilitarian (or welfarist) mental metrics of happiness or desire fulfillment (though there are obvious connections). Well-being may be best analyzed in terms of a person's 'functionings' and the 'capability' to achieve these functionings (i.e., what the person can do or can be), involving evaluation of the different capabilities in terms of the person's ability to live well and to achieve well-being. But a person is not necessarily concerned only with his or her own well-being and there are other objectives a person may pursue (or value pursuing if he or she had the opportunity to think freely and act freely). Our actual agency role is often overshadowed by social rules and by conventional perceptions of legitimacy. In the case of gender divisions, these conventions often act as barriers to seeking a more equitable deal, and sometimes militate even against recognizing the spectacular lack of equity in the ruling arrangements.

In the analysis presented in this essay, the importance of perception and agency emerges as being central to achieving a better basis for female well-being in many parts of the world. In the recent development literature there is a growing awareness of inequities in gender divisions and of the neglect of women's well-being. But there is also a danger in seeing a woman, in this context, as a 'patient' rather than as an 'agent'. The political agency of women may be particularly important in encountering the pervasive perception biases that contribute to the neglect of women's needs and claims (see Jayawardena 1986). In addition, even the economic agency of women has an important role in enhancing the visibility of women's contributions to social living—a view that is obscured by the conventional form of 'social technology'. Even the particular influence of women's activity rates and outside earnings, which was discussed in terms of interregional correspondences in Africa and Asia, is an example of the instrumental role of agency in influencing gender division, and through that the well-being—and survival—of women.

The importance of the links between perceptions, well-being, and agency is among the central themes of this essay. The analysis of

cooperative conflicts in gender divisions calls for a better understanding of these links. The narrow informational bases of traditional household economics can do with some substantial broadening. The study of women's issues in development can also benefit from informational diversification. The broad coverage of the needed informational base is not really surprising. After all, the subject matter includes some of the central issues of contemporary human existence.

Acknowledgments

This essay draws heavily on two previous attempts to address this set of issues: 'Cooperative Conflicts: Technology and the Position of Women', All Souls College, Oxford, 1983 (mimeographed), and 'Women, Technology and Sexual Divisions,' *Trade and Development* (UNCTAD) 6 (1985). For helpful comments I am most grateful to Jocelyn Kynch and Irene Tinker. My thinking on this question has been deeply influenced by discussions with my late wife, Eva Colorni, over a number of years, until her tragic death on July 3, 1985, and it is to her memory that I dedicate this essay.

Notes

1. The notion of 'entitlements' was used primarily for famine analysis, in Sen (1976, 1981); that of 'extended entitlements' is discussed in Sen (1985c). See also Tilly (1985, 1986); Vaughan (1985); and Wilson (1987).
2. The distinction between well-being and agency, their interconnections, and their different realms of relevance are discussed in my Dewey Lectures (Sen 1985b).
3. For critiques of the utilitarian measures, see Dworkin (1981); Nozick (1974); Parfit (1984); Rawls (1971); Scanlon (1975); Sen (1970); and Williams (1973), among others. See Gosling (1969) for an exposition of the two perspectives of desire and pleasure in the utilitarian tradition. For sophisticated—and illuminating—defenses of the utilitarian calculus, see particularly Griffin (1987); Hare (1981); and Harsanyi (1976).
4. On the distinction between the particular approach of utilitarianism (involving the *summation* of utilities) and 'welfarism' in general (judging of a state of affairs as a function of individual utility information—not necessarily in the form of the *sum total*), see Sen (1970), and Sen and Williams (1982).
5. I have discussed these issues more extensively (Sen 1985b). Welfarism is the approach that takes the value of state of affairs to be a function exclusively of utility information regarding that state. Utilitarianism involving the *summing* of utilities is a special case of welfarism.

6. Marx is discussing here the nature of 'capitalist production' and how it developed technology into a social whole, 'sapping the original sources of all wealth—the soil and the labourer'.
7. See particularly Goldschmidt-Clermont (1982) and the rather large literature surveyed there. There is also the related issue of properly valuing the nonhousehold work of women, on which see Banerjee (1985); Beneria (1982a); Bryceson (1985); Jain (1985); Jain and Chand (1982); and Mukherjee (1985).
8. A particular pattern—that of capitalist production arrangements with family wages being used for household production—is appropriately characterized by Jane Humphries thus: 'The working-class family constitutes an arena of production, the inputs being the commodities purchased with family wages, and one of the outputs being the renewed labour-power sold for wages in the market' (1977:142). On the interrelations between problems of class divisions and gender division, see—among other contributions—Benston (1969); Dalla Costa (1972); Gardiner (1975); Harrison (1974); Himmelweit and Mohun (1977); Humphries (1977); Mackintosh (1979); McIntosh (1978); Meillassoux (1972); Mies (1982); Milkman (1976); Molyneux (1979); Rowbotham (1973); Secombe (1974); Young (1978); Young, Wolkowitz, and McCullagh (1981). See also the studies of experiences in socialist countries, e.g., Croll (1979, 1986); Molyneux (1981, 1982, 1985); and Wolf (1985).
9. This pattern also influences the type of outside work for which women are typically thought to be 'suited'. One of the consequences of being offered relatively mechanical jobs involving repetitive activities is greater vulnerability, in many cases, to job loss as a result of mechanization (on this see Sen 1985c). On the nature of women's job opportunities, see Ahooja-Patel (1980); Amsden (1980); Banerjee (1979, 1983, 1985); Boserup (1970); Burman (1979); Deere and de Leon (1982); Jain (1980); Palmer (1980); Standing and Sheehan (1978). On the nature of threatened job losses through mechanization and technical change, see Agarwal (1981); Ahmed (1978,1983); Ahmed and Loutfi (1982); Beneria (1982); Carr (1978); Date-Bah and Stevens (1981); Harriss (1977); ILO (1982a, 1982b); Loutfi (1980); Palmer (1978); Ventura-Dias (1982); Whitehead (1981).
10. Even in the United States the average woman worker seems to earn only a fraction of the average male worker's earning (62 percent, to be exact, as reported in 'Female Sacrifice', *New York Times*, 14 April 1984). These differences arise not so much from different payments to men and women in the same job categories, but from women being more confined to particular types of jobs that are typically less remunerative. On this see Larwood, Stromberg, and Gutek (1986), particularly the paper by June O'Neill. See also Hacker (1986).
11. 'Bargaining problems' were first formulated by Nash (1950, 1953), and have been extensively discussed by Luce and Raiffa (1957); Harsanyi

(1977); Roth (1979); and Binmore and Dasgupta (1987), among many others. On the *normative* features of bargaining problems, see Braithwaite (1955); Kaneko (1980); Kaneko and Nakamura (1979); Rawls (1971); Sen (1970), among others.

12. While the classic contributions to formulating the bargaining problem were those of Nash (1950, 1953), some interesting and important variations can be found in Binmore (1980); Binmore and Dasgupta (1987); Braithwaite (1955); Dasgupta (1986); Harsanyi (1977); Kalai and Smordinsky (1975); Kaneko (1980); Luce and Raiffa (1957); Roth (1979); Schelling (1960); Shubik (1983), among others.
13. The advantages and limitations of the 'bargaining problem' format in analyzing household arrangements are discussed in Sen (1985c).
14. Nash did not see his solution of the bargaining problem as a predictive exercise and seems to have characterized it as a normative solution of this conflict. His method of choosing a solution took the form of postulating some axioms of reasonableness of a cooperative outcome, and these axioms together uniquely identified the product-maximization formula. But interestingly enough, exactly the same solution as Nash's would be arrived at if the bargaining procedure followed a method analyzed earlier by Zeuthen (1930), whereby the two parties would move from one proposed arrangement to another if and only if the *percentage gain* of the gainer from the move would be greater than the *percentage loss* of the loser.
15. See footnotes 11 and 12 above. Manser and Brown (1980) used the outcome specified by Kalai and Smordinsky (1975).
16. The capability to be happy can, of course, be sensibly *included* among the relevant capabilities, but this is quite different from using utility (or happiness) as the *measure* of all types of benefits, or (even more ambitiously) as the ultimate *source* of all value (as in different versions of the utilitarian approach).
17. The Nash bargaining models, are, in his sense, 'welfarist', without being utilitarian.
18. The 'bargaining solution function' presented in Sen (1970:126–27) can be readily extended for this purpose. In that characterization of the Nash bargaining model, the solution $\tilde{x}$ depended on the breakdown position $\bar{x}$ and on the welfare combination W, with specified 'invariance conditions' corresponding to cardinal noncomparability of individual well-being. To these informational inputs (possibly with changed invariance conditions), we can add the perceived-interest combination I and perceived-contribution combination P, the latter unique (since the units will be so many units of, say, incomes generated by each) in the respective points of collusive solutions. The informational base for the solution will then be ($\bar{x}$, W, I, P). In this elementary exposition, we are concerned only with some *directional* responses of $\tilde{x}$, the solution, to the determining variables.

19. Schelling (1960) pointed to the fact that the Nash solution pays no attention to the 'salience' of some outcomes vis-à-vis others. Schelling's alternative approach also enriches the informational base of the Nash model but takes us in a different direction, which I shall not pursue here.
20. Punishing the more vulnerable is not implausible from a predictive point of view, but it is odd to think of this as being 'just,' or otherwise normatively attractive, though that interpretation has been taken (see particularly Braithwaite 1955). To say 'I see you are going to be even worse off (than we first thought) if you do not join up with me, so you better agree to these worsened terms of joining' may not ring untrue (if a little explicit and crude), but it is hardly overflowing with anything that can plausibly be called justice. On the relation between the predictive and normative issues in the context of Nash's bargaining problem, see Rawls (1971) and Sen (1970).
21. See Sen (1970: 120–21). The person who 'threatens' to harm the other if the bargaining should fail does it at no direct advantage to himself (otherwise it won't be a 'threat' but something he may do anyway, and will be thus reflected in the breakdown position). While it is plausible to try to get bargaining advantage out of a threat *during* the process of bargaining, once the bargaining has failed the threatener has no obvious interest in carrying out the threat. But that recognition on the part of the threatened person would call into question the credibility of the threat itself.
22. On the importance of the 'reproductive' role of women in influencing gender bias, see Bryceson (1985). Leela Gulati (1981) presents an interesting case study of astonishingly rapid impact of an extension of family planning in some fishing villages in Kerala on the health and survival of women and on their earning power.
23. Consider Becker, Landes, and Michael's (1977) characterization of 'working exclusively in the non-market sector' as a form of marriage-specific investment. As Pollak (1983) remarks, 'a decision to work exclusively in the non-market sector, however, is also a decision not to acquire additional human capital by working in the market sector' (p. 35).
24. Strictly speaking, 'breakdown response' is not concerned with the relative positions of two parties but with the different positions of the same person in two situations with different breakdown features. Indeed, in Nash's own formulation, the position of one person being worse than that of another is not a meaningful statement, since Nash had no provision for interpersonal comparison (Sen 1970: 118–25). However, when such comparisons are admitted and a condition of symmetry is used regarding the relation between circumstances and outcomes for the two parties, the property of breakdown response can be easily translated from *intrapersonal* to *interpersonal* relations. The same translation has to be done for the other two 'responses' as well, to move from *intrapersonal*

formulation to *interpersonal* application. I desist from pursuing the formalities here.

25. There is, in fact, some substantial common ground here with those neoclassical analyses of women's employment which have emphasized the differences in 'human capital' investment in women's working background to explain their lower wages, inferior jobs, and worse unemployment risks (see, e.g., Becker 1981; Mincer and Polachek 1974; see also Apps 1981). That neoclassical literature has done a substantial service in emphasizing these differences related to sex. However, the nature of the analysis suffers from certain fundamental limitations, in particular (1) taking the existence and realization of competitive market equilibrium for granted (with or without market institutions and competitive conditions), (2) ignoring the role of social prejudices and preconceptions operating in the labor market (going *beyond* the 'stochastically rational' employer behavior pointed out by Phelps 1972), (3) dealing trivially with 'cooperative conflicts' implicit in household arrangements by concentrating either on an as-if market solution or on the assumed dominance of an altruistic head, and ignoring in particular the role of perception biases and bargaining powers in explaining family decisions regarding human capital investment and the gender division of labor, and (4) related to the last point, ignoring the role of 'feedback transmission' in sustaining gender asymmetry.
26. Regarding the role of 'threats', the physical asymmetry would be more important in the primitive situation, though it remains important enough even today, judging by the frequency of wife battering, even in the richer countries. But physical asymmetries in the ability to threaten are also supplemented by nurtured asymmetries of social power. It is easy to underestimate the importance of threat in the social arrangements (including those within the household) since much of it may be implicit rather than explicit and liberally mixed with other features of household relations, including love, affection, and concern. But threat can in some cases be explicit enough, both as a phenomenon in itself and in the transparent role it can play in maintaining a particularly inequitous household arrangement (see, for example, Kurian, 1982, dealing with the role of violence and social power asymmetries in the plantation sector of Sri Lanka, helping to sustain a particularly inequitous situation for women workers.) It becomes, of course, the subject of much discussion when the violence or threat is associated with *other* features that arouse social interest, such as the peculiar relationship between pimps and prostitutes in which threat often plays an important part in securing a regular payoff for the former from the earnings of the latter (see, for example, Phongpaichit 1982).
27. See K. Bardhan (1985); P. Bardhan (1974, 1984, 1987); Dyson and Moore (1983); Kynch and Sen (1983); Miller (1981); Sen and Sengupta (1983); G. Sen (1985). The contrast between East and Southeast Asia *and* South Asia may also relate to greater female participation in outside work in the former region (Dixon 1983; Sen 1984). On some more general but related issues, see also Chakravarty (1986); and Tilly (1986).
28. See also Bhuiya et al. (1986); Chen (1982); Chen, Haq, and D'Souza (1981); Das Gupta (1987); Hassan and Ahmad (1984); Mitra (1980); Natarajan (n.d.); Wyon and Gordon (1971). However, for some contrary considerations, see also Basu (1988); Behrman (1987); Dyson (1987); Kakwani (1986); Wheeler (1984). Harriss (1987) has presented an extensive and illuminating survey of the available evidence on different sides. See also Sen (1989).
29. For a fuller presentation of the entitlement approach and its application, see Sen (1981). See also Alamgir (1980); Appadurai (1984); Arrow (1982); Desai (1984); Devereux and Hay (1986); Kamsler (1986); Khan (1985); Oughton (1982); Ravallion (1985, 1987); Snowdon (1985); Solow (1984); Tilly (1985, 1986); Vaughan (1985, 1987); Wilson (1987).
30. See *Census of India 1911*, Vol. 1, Part 1, Appendix to Chapter 6, surveying the nineteenth-century famine inquiry reports, well reflected by Sir Charles Elliot's summary: 'All the authorities seem agreed that women succumb to famine less easily then men'. An excess of male deaths was reported also in the Bengal famine of 1943 by Das (1949), based on a survey asking people receiving cooked food relief which of their relations had died. However, more complete data do not entirely support Das's survey finding and indicate that the sex ratio of *famine mortality* in 1943 was similar to the sex ratio of *normal mortality* in Bengal (see Sen, 1981: 211–13). Among the relief receivers (the population that was questioned), there seems to have been a higher proportion of women (famine relief policy was more suspicious of supporting able-bodied men), and this bias in favor of *women* in the questioned population would have acted as a bias in favor of *men* being reported as dead in the survey. A women has typically more male relatives in the nuclear family (including her husband) than female relatives, and thus she has a higher probability of having a *dead* male relative. Similar biases in sampling could have affected the nineteenth-century belief in greater famine deaths among men. But the evidence requires a more thorough examination than it has received so far. See also Drèze and Sen (1989) and Greenough (1982).
31. See K. Bardhan (1985); P. Bardhan (1974, 1984, 1987); Dyson (1982, 1987); Kynch and Sen (1983); Miller (1981); Mitra (1980); Natarajan (n.d.); Padmanabha (1982); Sopher (1980). On related observations regarding Bangladesh, see Chen (1982); Chen, Haq, and D'Souza (1981); Mahmud and Mahmud (1985).
32. The approach of 'equivalence scales' based on the asumption of maximization of a unique utility function for the family as a whole, which is technically perhaps the most impressive part of the literature on intrafamily allocation (see Deaton and Muellbauer 1980), is implicitly based on some assumption of this kind, e.g., the 'head' of the family imposing a benevolent preference ordering in making decisions about everyone's consumption

in the family. When the 'head' has a strictly convex preference map, each household entitlement vector would be translated into a unique household entitlement matrix. There are, however, other ways of interpreting the outcome of intrafamily divisions (see Deaton 1987; Muellbauer 1987).

33. It is not difficult to extend the mathematical formulation of the vector-vector 'exchange entitlement mapping' (Sen 1981: Appendix A) into this expanded format of matrix-matrix '*extended* exchange entitlement mapping', and to specify the 'responses' in question as a set of 'monotonicity conditions'. To be exact, the 'extended' exchange entitlement mapping relates a matrix of family endowment to a *set* of matrices of family entitlements, just as the standard exchange entitlement mapping relates a vector of family endowment to a *set* of vectors of family entitlements. The monotonicity conditions would be defined in that format.
34. See also Beneria (1982); Croll (1979); Deere and de Leon (1982); ILO (1982a); Jain and Banerjee (1985); Loutfi (1980); Mahmud and Mahmud (1985); Mies (1982); Phongpaichit (1982); Standing and Sheehan (1978). Lloyd and Niemi (1979) deal with a related problem in the context of rich and economically advanced countries.
35. Note that China has not been included in this comparative picture. The role of rural Chinese women in work outside the household expanded quite rapidly after the revolution (along with a rise in the female/male life expectancy ratio), but there is some evidence of a shrinkage of that role since the reforms of 1979, with a return to family-based cultivation (the 'responsibility system'). In recent years, the female life expectancy has fallen vis-à-vis the male (Banister 1987; see also Aslanbeigui and Summerfield 1989; Drèze and Sen 1989: Chapter 11; Sen 1989; Wolf 1985). However, China's recent experiences are made more complicated by the presence of special features, in particular the 'one-child family' policy and the general financial crisis of communal health services in the rural areas (see Drèze and Sen 1989).

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