used in structures. The huge jacks from the bridge were featured at the Great Exhibition of 1851 and were later used by Brunel as he struggled to launch the *Great Eastern*. Other influences are difficult to measure, as the authors indicate. The Britannia Bridge is indeed a most noteworthy subject for a case study of the generation and diffusion of engineering knowledge. Despite certain shortcomings this book could well serve as the basis of wider discussion of the evolution of technology in the 19th century.

Ruddock's book on arch bridges in the period 1735 to 1835 is markedly different in concept, content, and presentation from either of those reviewed above. Although intended for general readers its greatest appeal will be for the specialist. As the author writes in his preface, "I have endeavoured to make the book a thorough reference work by providing extensive notes and bibliography, four appendices, and a tabulated index of bridges as well as the general index." He has succeeded in producing an impressive reference work. It would, however, be more accurate to indicate that the book relates almost exclusively to British bridges. It is a richly detailed and beautifully illustrated record of the most significant arch bridges constructed in Britain from the mid-18th century, when masonry bridges were first built by architects and subject to the demands of classical style, to the first third of the 19th century, when the use of iron, in the hands of engineers, reached new levels of sophistication. Many famous architects and engineers march across the pages of this book, from Labelye and his work on the Westminster Bridge in 1735 to Thomas Telford and his last work, the Broomielaw Bridge of 1835. The book is not, however, a biographical treatment of British bridge builders in the tradition of Samuel Smiles, but rather a carefully documented account of the involvement of many people in large-scale engineering works.

The book is divided chronologically into three periods, namely 1735 to 1759, 1759 to 1796, and 1790 to 1835. Timber and iron arch bridges as well as masonry structures are covered, and details are given of the techniques employed in founding piers and abutments as well as on superstructures. One of the most interesting sections deals with the history of the first iron bridges from Coalbrookdale (1777) to the beginning of the 19th century. It is here that the ideas of Rennie, Paine, Fulton, Jessop, Burdon, and Telford find expression in the application of iron to bridges and aqueducts. This is perhaps the most informative material yet published on the exchange of ideas and techniques between these men during the formative period when iron was first used for structures.

Timber arch bridges are not neglected, and for American readers it is very striking to see how different in concept and execution the British timber arch bridges are from the covered truss bridges that were developed during the same time and are so familiar a part of the American countryside.

Ruddock does not engage the questions of design, analysis, or the relationship between esthetics and engineering, nor is he directly concerned with the generation and diffusion of engineering knowledge except as a part of the unfolding of the history of the subject. These issues are left to the reader or perhaps to subsequent scholars. *Arch Bridges and Their Builders* is a scholarly work that may well become the standard reference on the subject.

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Female Roles: Ethnography Reread

Sisters and Wives. The Past and Future of Sexual Equality. KAREN SACKS. Greenwood, Westport, Conn., 1979. x, 276 pp. $22.50. Contributions in Women's Studies, No. 10.

A book that attacks androcentric viewpoints using a Marxist perspective to analyze anthropological data could be labeled controversial. But a work that also pitches into every sociobiologist, social Darwinist, and structuralist is perhaps better described as a grenade. In the event, the book has its value and the shrapnel generally hits appropriate targets.

The core of the book is a reanalysis of the published ethnography on six African societies. We are not told the basis of selection for this half-dozen, but the variations do extend from nonlineal to lineage societies and from stateless groups to states. The focus is upon the dual female role of sister and wife. Ordinarily, the anthropologist uses these terms solely in the context of kinship, but for Karen Sacks they represent different female statuses with respect to control of the means of production. "Sister" stands for a position of equality in relation to males, whereas "wife" indicates subordination, or domination. Once one accepts the author's definitions, the argument is not hard to follow. The case-by-case analysis reveals not only that the balance between these two central female roles varies widely, but that the female-male relation itself assumes the most diverse forms. Among a group of gatherers and hunters in Zaire, for example, women are "sisters" in relation to each other and the balance of authority between the sexes is extraordinarily equal. This is the zero point; at the other extreme, in some state or class societies, women are primarily "wives" and the balance of authority between the sexes is decidedly asymmetric. One lesson to be drawn is that females have occupied central positions of political and economic authority in societies other than our own. Thus, there exists no enduring set of feminine characteristics. In fact, the argument is here turned upon other researchers. What many claimed to see in the ethnography was more a reflection or reproduction of their everyday experience of industrial capitalism than of the exotic facts themselves. Not everywhere do people have the image that women are passive, subordinate keepers of the domestic domain.

This rereading of the data, performed by Sacks and others, ought to cause some disquiet among sociobiologists and other "essentialists," since it punctures the image of a universal and therefore genetic male dominance. But consider some of the theoretical implications within the parochial context of anthropology. For years, most of us have been teaching the received wisdom—and it used to seem very wise indeed—that patrilineal and matrilineal kinship systems are not mirror images of one another. This paradox is known as the "matrilineal puzzle." In patrilineal systems men hold authority, and descent or group affiliation is traced through them. Everything is tidy. By contrast, in matrilineal systems descent is traced through females but power is in the hands of males, the lineage brothers. Affiliation and authority are not congruent. Given this difference it can be shown that "logically" matrilineal systems are more fragile than patrilineal ones and that to remain viable they

must undergo contortions to which patrilineal systems are not subject. (Incidentally, there is a metaparadox here: the contrast itself was proposed by a female anthropologist.)

With the fresh analyses emerging, we now see that the situation was never this simple, owing to the fact that women, as "sisters," often held important positions of authority. In fact, one might suggest that there is also a "patrilineal puzzle." Consider, for example, the case of a woman returning alone or with children to her natal patrilineage. We used to interpret this as society's way of coping with the isolated, perhaps aberrant, female. But turn it about. Suppose that a woman has certain rights and duties as a wife in one lineage and authority as a sister within another. Where she lives and what rights she exercises appear then as positive choices, made under pressures and torn loyalties not unlike those experienced by males in matrilineal systems. From this perspective, certain "odd" patrilineal customs, such as woman-to-woman marriage or females as founders of patrilines, suddenly become explicable. They are responses of females to the divided authority and responsibilities they have. Still, this is an example for the anthropological theoretician. For the rest of us, it again underlines that anthropological data can help liberate us from our own, socially determined, self-images.

But this is not the only conclusion Sacks would urge upon us. She holds that the feminine role is generated by the place of the female within the prevailing mode of production. Indeed, she proposes that kinship relations, such as sister and wife, "are relations of production" (p. 73). Her argument is twofold. She collapses or reduces kinship to production; and she claims that male-female relations are created by the relative control each has over the means of production. Sacks suggests that only such a Marxist view can emancipate our thinking. Some readers, however, might question the argument as well as its relation to Marxism.

In most of the cases Sacks considers, and in most cases anthropologists encounter, relationships between people have a multiplex character. They are at once familial, political, religious, and economic. By contrast, in our own society, relationships appear to have an institutional singularity—for love or money, but not both. Our situation permits the argument that one or another institution ultimately determines the shape of the society. But can such an argument about determination be transported to other contexts? For example, in the case of the patrilineal Lovedu, which Sacks analyzes, women can be said to have "equality" only if their considerable ritual powers are included in the accounting. But this poses a problem. Either Lovedu female-male equality is a mystification (because it occurs at the level of ritual), or the normal slicing into a determining politico-economic base and a determined superstructure is not applicable. Sacks herself indicates that ritual power of females is to be counted as part of their real equality. But in that case what has been said about determination? Ritual roles become not the determined but part of an indissociable whole. One escape from this impasse would be to show how a determining function or "moment," such as the environment, the technology, or production requirements, sets the social roles of the society. Sacks, however, does not suggest this line of reasoning; in fact, she never analytically defines the productive base in order to show that it occupies a separate and determining position. What emerges, therefore, is not a materialistic argument about determination of the sister and wife roles, but a set of holistic contrasts and comparisons concerning females as they engage in the productive process. To recast the argument in this way, however, is not to demean it, for comparison of this type is in the finest of anthropological traditions. If the master key has not been presented, at least Sacks has raised the level of the debate about the position of females in society.

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Anglo-Americans Observed

Portraits of "the Whiteman." Linguistic Play and Cultural Symbols among the Western Apache. KEITH H. BASSO. Illustrations by Vincent Craig. Cambridge University Press, New York, 1979. xxii, 120 pp. Cloth, $14.95; paper, $4.95.

This is an unusual study in several ways. It deals with patterns of joking, make-believe scenes in which "Whitemen" are burlesqued, that have developed among the Western Apache of Cibecue, Arizona, in relatively recent years. The preconditions for this complex of behaviors are that the use of English is widespread, even though it is rarely used among Apaches by themselves, and that contact and social interaction with various white people have been regular and experienced by many of the Apache. In order to observe the behavior, the ethnographer has to control the Apache language and be well accepted within the community.

The data consist of a total of 39 performances, of which 12 were observed and 27 are known through report. The performances involved are examples of code switching, where English is used instead of Apache in social situations where Apache is normal. They frequently occur during drinking parties when the joker is relaxed but not drunk, and they involve the collaboration of one other, the butt, with whom the joker enjoys good relations, so that he will not take offense.

Most of the Whitemen portrayed are easily recognized categories of employees of the Indian Agency: doctors, nurses, schoolteachers, clerks. Traders and missionaries as well as whites encountered in nearby towns and cities add to the composite symbol of "the Whiteman," who is always present in Apache minds even when physically absent.

Most instances cited contrast the differences in deference and demeanor and the presentation of the self in social encounters between Apaches and whites. At the end of a joking performance, the butt usually comments that the Whiteman is brash, unthinking, ill-tempered, arrogant, vain, or lacking in respect or goodwill.

But the most important aspect of this study is that it shows a living, creative part of a culture, not reduced to the categories of the standard monograph. All the scenes are created on the spur of the moment. Code switching sets the scene and announces a joking performance to follow. This is quite different from the performances of the Pueblo clowns, whose acts are often planned and rehearsed for days ahead.

The significance of the study can be best summarized by a quotation (p. 82): "Imitations of Anglo-Americans are also statements about what can happen to dignity and self-respect when two systems of sharply discrepant cultural norms collide in social encounters. In the long run, the damage done by such collisions may be just as injurious as mishandled disputes over water rights, land claims, and the sovereignty of native courts."

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