

1984
In G. Huxstater & S.B. Hady, Eds.
Infanticide: Comparative and Evolutionary Perspectives
New York: Aldine Press pp. 487-502



24

A sociobiological analysis of human
infanticide

Martin Daly
Margo Wilson

All organisms, including people, are products of the historical process of differential survival and reproduction that Charles Darwin called *natural selection*. This selective process is creative, producing attributes that appear to have been designed to achieve adaptive functions: digestion, clear vision, circulation of the blood, escape from predators, and so forth. But attributes are naturally selected only if they eventually contribute to reproduction, or more precisely to genetic replication, hereafter called "fitness." In evolutionary theoretical perspective, then, species-characteristic attributes must be explained in terms of their contributions to fitness. This is the "adaptationist program" that has guided most advances in biological understanding (Mayr, 1983).

This adaptationist approach is relatively straightforward when the attributes in question are morphological structures: A first question about a newly discovered organ or skeletal structure is, "What is it for?" Applying the same perspective to behavioral control mechanisms ("psyche"), however, is more problematic since a structural description of species-characteristic psyche (the thing to be explained) remains elusive. An adaptationist ("sociobiological") approach can shed considerable light on the human psyche, and we shall consider the motives and circumstances surrounding infanticide as a case in point.

Our emphasis on a psychological, rather than behavioral, level of description is intentional and, indeed, essential. The specific act of infanticide may or may not benefit the actor's fitness, whether in

an individual case or on average, but the act need not contribute to fitness for a sociobiological analysis to be illuminating. Infanticide can be viewed as one (rare) manifestation of variations in more abstract motivational states such as child-specific parental love and solicitude. Adaptation may then be sought at the level of these more abstract states. Thus, in this chapter, we shall use the proposition that parental inclination varies adaptively to generate a series of testable hypotheses about human infanticide, hypotheses that in no way demand that infanticide *per se* contribute to fitness.

Two very different sources of data will be used to test our hypotheses. The first is the ethnographic record, which contains descriptions of circumstances in which infanticide is allegedly common, acceptable, sometimes even obligatory, in various human societies. Scrimshaw (Chapter 22, this volume) reviews several examples. These ethnographic accounts will enable us to test whether the circumstances in which infanticide is alleged to occur in different societies correspond to circumstances in which mitigation of parental inclination can be predicted from evolutionary theory. (These predictions presuppose that there is a cross culturally consistent human psyche at some level of abstraction, in contrast to an hypothesis of extreme cultural relativism we do not expect that motives of people in one society will be totally alien to people from another.) A limitation of ethnographic sources is that they are almost devoid of quantitative information that would permit the test of more specific predictions about the probability of infanticide under different circumstances. For this purpose, we shall examine recent data on children as homicide victims in Canada.

INFANTICIDE IN THE ETHNOGRAPHIC RECORD

The adaptive functions of parental solicitude toward offspring seem obvious. Parental care makes a clear and direct contribution to parental fitness. But each episode of parental care in animals such as ourselves also involves an enormous commitment of time and resources that might have earned higher fitness returns elsewhere. Evolved mechanisms of parental motivation are therefore unlikely to be indiscriminate: Natural selection would be expected to favor those individuals whose parental effort is best allocated so as to contribute to their own fitness. Parental inclination to care for a particular child is thus expected to be determined in part by available predictors of that child's eventual contribution to parental fitness. In Richard Alexander's (1979:109) words:

Selection should refine parental altruism as if in response to three hypothetical cost-benefit questions: (1) What is the relationship of the putative

offspring to its parents? (Is the juvenile really my own offspring?) (2) What is the need of the offspring? (More properly, what is its ability to translate parental assistance into reproduction?) (3) What alternative uses might a parent make of the resources it can invest in the offspring?

We predict here that the typologically described circumstances of infanticide in different societies will reflect parental sensitivity to each of these cost-benefit questions. A still stronger adaptationist hypothesis is this: Parentally instigated infanticide that does not make reproductive strategic sense within this framework will nowhere be described as normal or typical.

In order to test these hypotheses, ethnographic materials in the Human Relations Area Files (HRAF) for the "Probability Sample" of 60 societies described by Lagacé (1974) were examined. The HRAF consist of ethnographic materials arranged on microfiche according to various topics, one of which is infanticide (Murdock, 1976). The Probability Sample has been devised by cultural anthropologists to be independent and representative of the world's cultures, according to several criteria including geographic region and mode of subsistence. The files which we consulted contained ethnographic source material published up to 1971.

Infanticide was reported in these sources for 39 of the 60 societies in the sample, and circumstances in which infanticide allegedly occurs were described in the HRAF materials for 35 of these 39 (Table I). Often, several circumstances were noted for a single culture; Dogon (Africa), for example, were said to kill deformed infants, those conceived in adultery, those born to unwed mothers, and those whose mothers died in childbirth. Counting each such rationale in each society separately, 112 infanticidal circumstances to be noted in the sample of HRAF material (Table I) were found. Most of these are clearly related to one or more of Alexander's three cost-benefit questions.

Question 1: Is the infant the putative parent's own?

Twenty of the 112 infanticidal circumstances were explicit matters of nonpaternity. In 15 societies, adulterous conception was offered as grounds for infanticide. In three, tribal males were said to insist upon the death of any child whose features suggested a nontribal sire. And in two societies—Tikopia (Oceania) and Yanomamö (South America)—men acquiring wives with children were said to demand that those children be put to death.

Question 2: What is the infant's fitness potential?

Alexander (quoted previously) translated offspring "need" as capacity to convert parental assistance into fitness, and it is important to note this nonintuitive translation. A hopelessly deformed infant, for

Table I. Circumstances of alleged infanticide in society^a

Society	Inappropriate paternity			Poor infant quality	Inadequate parental resource circumstance					
	Adulterous conception	Nontribal sire	Sired by mother's first husband	Deformed or very ill	Twins	Birth too soon or too many	No male support	Mother dead	Mother unwed	Economic hardship
<i>Africa</i>										
Dogon	X			X				X	X	
Twi	X			X		X				
Tiv										
Baganda				X						
Masai				X			X			
Pygmies				X	X					
Azande										X
Bemba				X						
Lozi					X					
<i>Asia</i>										
Central Thai				X						
Andaman		X		X	X					
<i>Europe</i>										
Serbs	X									X
Lapps										
<i>Middle East</i>										
Somali				X						X
<i>North America</i>										
Tlingit	X				X	X				X
Copper Eskimo				X	X	X				
Blackfoot				X						
<i>North America (continued)</i>										
Ojibwa	X						X			X
Iroquois								X		
Klamath	X			X	X					X
Tarahumara							X			X
<i>Oceania</i>										
Iban	X							X	X	
Toradja	X			X	X	X		X	X	
Aranda	X	X			X	X				X
Trobriands										
Lau										
Truk				X		X	X			
Tikopia	X		X		X	X			X	X
<i>Russia</i>										
Yakut										X
Chukchee				X				X		
<i>South America</i>										
Cuna	X	X		X			X		X	
Cagaba										
Aymara	X			X	X	X				
Ona										
Mataco	X			X	X		X	X	X	
Guarani				X	X					
Bororo						X				
Yanomamo	X		X	X	X	X				
Tucano	X			X	X	X			X	
Number of Societies	15	3	2	21	14	11	6	6	14	3

^a Circumstances in which infanticide allegedly occurs in 39 out of 60 societies in a representative sample drawn from the Human Relations Area File. Listed are 95 infanticidal circumstances that make clear reproductive strategic sense for the parents; other miscellaneous rationales are discussed in the text. (A bibliography of ethnographic materials from which this table was compiled is available on request from the authors.)

