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 PROFILE OF AN ANTHROPOLOGIST
 

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## From Tikal to Tucson: *Today's Garbage Is Tomorrow's Artifact*

Archaeology is generally thought to be confined to the study of the past—ancient tombs and temples, mounds and mummies. Archaeological methods can be used, however, to study contemporary behavior and problems. As we live our daily lives, we produce the artifacts of tomorrow. We build houses, temples, and grand monuments that future archaeologists might excavate. We also create artifacts when we discard items into the trash to be taken away and deposited at the local museum of the very, very used (the garbage dump).

America is a consumer society. We work long hours to earn cash to buy a variety of material items, and most of what we purchase comes into the house. Some of it stays for a while (e.g., furniture), but most goes into the trash within a reasonably short period. This movement in the front door and out the back represents, to some degree, the stream of American consumer products.

The United States today is being buried in the remains of its own consumer products. We are in the throes of a garbage crisis, and informed policy decisions or solutions need to be found. Unfortunately, most officials must rely on what they know from personal experience. For example, an article in the *New York Times* (1/8/88) fingered nonbiodegradable fast-food packaging as a primary cause of strain on our solid-waste management systems. Too often such assertions are based only on casual observation rather

than carefully collected data. William Rathje's "Garbology Project" has shown that such fast-food packaging represents less than one-third of 1 percent of trash. In contrast, recyclable newspaper accounted for over 14 percent of trash. If we want to make policy decisions that will have a significant impact on this pressing problem, the kind of data Rathje has collected is indispensable.

This selection profiles archaeologist William Rathje, and the one that follows describes one research project in greater detail.

*As you read this selection, ask yourself with the following questions:*

- Why did Rathje become fascinated with garbage?
- In what ways can the study of garbage offer new insights?
- What does garbology tell us about how accurately people report their own behavior?
- What other uses can you think of for the archaeological study of household refuse (for example, market research)?

*The following terms discussed in this selection are included in the Glossary at the back of the book:*

*garbology*                      *nonreactive measure of behavior*  
*material culture*

*All archeologists study garbage, quips William Rathje our data is just fresher than most.* Rathje is discussing the Garbage Project he has been conducting in Tucson, Arizona, for the past 7 years. It involves scores of inter-

ested students and professionals who dutifully go down to the maintenance yard of Tucson's Sanitation Division and carefully catalog, measure and record the contents of countless thousands of bags of garbage from various neighborhoods of the city.

Rathje is Associate Professor of Anthropology at the University of Arizona. He is a well-known and respected Maya specialist and holds a PhD from Harvard

(1971). Yet he is fascinated by garbage. When he is not analyzing Mayan trade and exchange systems, he is scrutinizing the daily refuse of Tucson residents.

*I personally became interested in analyzing modern garbage for two reasons. I wanted to understand our society better and I thought that an archeological approach offered a new insight. We are literally buried in our artifacts, and every day they affect our lives more. We have technocrats who study things. We have behavioral scientists who talk to people. What we do not have and what we need are specialists to study the crucial relationship between people and things, especially now as the need to manage resources efficiently becomes essential. The Garbage Project studies household garbage because, whether dealing with the ancient Maya or modern America, the household is society's most commonplace and basic socioeconomic unit.*

The inspiration for the Garbage Project came from a course in archeological method and theory Rathje taught with Ezra Zubrow (SUNY-Buffalo). Students were required to produce studies of modern material culture. Three students independently did garbage studies and compared the contents of garbage cans to stereotypes of behavior in different Tucson neighborhoods. Those reports, coupled with popular accounts of celebrities' garbage, got Rathje hooked on a serious study of household behavior by methodically analyzing garbage content.

Fred Gorman (Boston) helped Rathje organize a student project. Since 1973 Wilson Hughes (Arizona) has been primarily responsible for day-to-day operations and the development of methodology.

The Garbage Project allows Rathje to focus on the difference between what people say and what people actually do. Often that difference is substantial. Several of the census tracts from which Rathje collects garbage coincided with tracts from which interview data had been obtained by social scientists. For example, people actually drink more beer than they say they do. This may come as no surprise to many social anthropologists, who have been wary of survey data for a long time. The three tracts that reported the lowest incidence of beer consumption in Tucson evidenced the highest number of discarded beer cans per household. Garbology, as the study of garbage is often dubbed, promises to be a reliable check on survey instruments, and will especially allow researchers to look at patterns of discontinuity between verbal reports and actual behavior.

*I believe garbology will soon become an acceptable tool in behavioral social science research, comments Rathje. It will not replace traditional methods—participant observation, interview surveys, questionnaires, inventories or others; nor was it designed to do so. It is a fresh perspective, a separate reality. Garbology is a way to see the disjunction between what people say and what people do. It is meant not to*

*accuse informants of poor reporting, but to gather data in an attempt to understand what the disjunction means.*

Rathje envisions applications for garbology in market research, nutrition, environmental psychology and cultural geography. The main applications presently are food-loss studies and solid-waste management. *After 7 years of research in Tucson and one and a half years in Milwaukee, it is clear that food losses are significant. Just recently we received a Department of Agriculture grant for a cooperative study with Gail Harrison, a nutritional anthropologist in the Medical College here at Arizona, to evaluate various methods of documenting food-loss patterns that can be used in USDA's national food consumption survey. The Garbage Project is also in the process of using our long-term data to document behavior patterns related to food loss.*

Rathje's data on food loss are made available on request to agricultural extension personnel, consumer educators, civic groups, organizations with strong environmental concerns, grade schools and high schools.

Garbology has some direct applications to solid-waste management. *Solid-waste managers have always looked at the problem of disposal as if garbage were God-given. To understand discards, they sort refuse into material categories and weigh them. The procedures lead to basic descriptions of the "waste stream"; but to really understand the causes of variability in the garbage from different neighborhoods in different seasons and to project future trends in refuse requires much more. Mistakes can be very costly. For example, while they look fine on paper, some multimillion-dollar resource-recovery plants are having great difficulty in achieving economic viability because they were not built to handle the kinds and quantities of solid wastes that are actually being generated. People do not buy aluminum cans to fulfill a discard quota of aluminum. To understand solid wastes we must understand household resource management strategies and specific purchase, consumption and discard behaviors.*

In the attempt to bring human behavior to solid-waste discard models, Rathje's project records not only weights, but also neighborhood of origin, brand names, and types and costs of the specific product/package configuration that creates the weights. The Garbage Project is currently conducting studies on behavioral factors associated with waste production for the Environmental Protection Agency, the Solid Waste Council of the Paper Industry, and several other packaging/trade associations. For EPA the Project charts recycling behavior of different populations in response to media campaigns. Again, Rathje is finding a marked difference between expressed ideology and actual behavior. In studies for the packaging industry, Rathje is looking at factors that affect the material composition of the waste stream. The industry wants the data to map out the possible consequences of several legislative proposals on different socioeconomic populations.

Despite garbology's strong links to social and behavioral research and to Rathje's disappointment, sociocultural anthropologists have expressed only limited interest in the new field. *We have not had more interest expressed by sociocultural anthropologists partly, I believe, because the materialist nature of our data base has tended to dampen their interest. This is our loss. It is just because of the heavy materialist bias of our data that our view of the resource management behaviors in American households would benefit substantially from the interests of more sociocultural anthropologists. For the present, Rathje works most with solid-waste managers, community health officials, and nutritionists.*

The Project has received wide media attention. Rathje has appeared on no fewer than 16 TV talk shows including "Today" and "Phil Donahue," and has been extensively interviewed by radio, TV and newspaper correspondents. As he points out, the project is a natural for the media and he is happy to get his message across to a diversity of audiences. *This is the kind of waste that goes on every day. It is up to you whether you do anything about it or not.*

He is especially aware of the drawbacks to publicity. *The media can be valuable, but it is important to be wary. I do not believe that most publicity has been useful for obtaining grants or gaining respect for the Project in the scientific or academic community. There are exceptions such as an appearance on the "MacNeil-Lehrer Report" or coverage by the New York Times or the Wall Street Journal. Nonetheless, coverage in Wet, Playboy, and the National Enquirer can be less than helpful.*

The facts that garbology is a new frontier in archeology, is directly related to social research and has received wide media attention have not always worked to Rathje's advantage in getting garbology accepted within the archeological community. Most of Rathje's colleagues have been supportive of the Project; some have been extremely positive. Nevertheless, Rathje has still had to work hard to achieve archeological credibility **for the research. Acceptance of our research as scientific and valuable has been faster and more wholehearted within other disciplines, where our data have been more directly used than within archeology. I assumed from the start that I would not have to prove to archeologists that garbology was, in fact, archeology. I was wrong. At present, Ed Staski (Arizona) is working on a dissertation that will directly relate the methods, data and conclusions of the Garbage Project to the concerns and contributions of other archeologists studying urban centers, whether ancient Teotihuacan or historic Alexandria.**

Rathje admits quite frankly that the academic prestige associated with his Harvard PhD and continuing research on Mayan trade and exchange systems have been instrumental in achieving credibility for the Garbage Project, but feels strongly that his work in Tucson is very much connected to the development of archeology. *The Garbage Project draws its strength from the vitality of dirt archeology and the unique perspective of archeologists. Today derives from the past and if we can see both from the same perspective, if we can plot our ancestors and ourselves on the same trajectory, we may be able to anticipate some of our future.*