To Fill a Vacuum

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Whether by bulldozer or sable brush, the digging archaeologist spends a great deal of valuable time separating the analytically important wheat—artifacts, ecofacts and the samples that science is heir to from the huge mass of disposable chaff—the soil matrix of the site being excavated. In Hawai'i, where small-scale handwork is the rule, the common process is to clear away the loosened and obscuring dirt generated by one's digging by scraping, sweeping, brushing and scooping it into buckets that are then carried to screens for sifting.

This scraping, sweeping, brushing and scooping by which we measure many of our days in the field is time consuming; it often damages the very context that it is designed to expose and protect; and it often results in the discovery of items of interest in screen rather than *in situ*. Further, the process is often needlessly repetitive and inefficient as excavation must be interrupted frequently to ensure that the digger can see what is being dug.

Traditionally, archaeologists have accepted these problems fatalistically or have not considered them problems at all. I would like to suggest that the time has come for archaeology, the profession that has profitably plundered bits and pieces from an enormous variety of technological and scientific fields, that has embraced the computer and the backhoe (however reluctantly), to adapt a common custodial appliance and apply it to the task of tidying up.

While brooms and brushes and feather dusters still serve important housekeeping and janitorial functions, our civilization has long since assigned the major task of ridding its living floors and activity areas of undesirable dirt and dust to that percheron of custodial technology, the vacuum cleaner. Surely this technological wonder, born with the 20th century, has proven its worth sufficiently that it may now be safely accepted into the archaeological tool kit as well.

Picture an archaeologist digging a test pit near Kailua, Kona. As she loosens the soil matrix with a trowel in one hand, she manipulates a nozzle with the other. The nozzle is the business end of a vacuum cleaner hose that leads to the machine itself squatting at the rim of the pit. A screen at the nozzle excludes everything larger than the ⅛ inch mesh size of the screen as the obscuring silts and sands are continually whipped away to the belly of the whirring beast above, or evacuated via hose to a backdirt pile some distance downwind. As the archaeologist works, she manipulates a lever that controls the strength of the suction. Thus she is able to apply a light touch to protect fragile *in situ* objects or strata in one corner of the pit and, in-another, power up to get rid of stubborn gravelsized debris.

Such a hypothetical scene requires no technological breakthrough. The machine referred to above might be a bulky barrel-like industrialstrength "vac" (used for, *inter alia*, cleaning up messes made by carpenters) or, perhaps, some version of the self-contained blowers used in yardwork. Models without a self-contained power source could be connected to one of a variety of small, compact, relatively inexpensive generators now on the market. The variable suction control might be achieved with an electrical rheostat or by varying the closure of holes in the nozzle tube.

An archaeological vacuum cleaner would not only increase the visibility of the subject matter so vital to controlled excavation but would also reduce the amount of time wasted in repeated sweeping, thus increasing the efficiency of the operator. Given the finite nature of time, not to mention money, available for archaeological research, it is time for the vacuum cleaner to come out of the broom closet in the service of science.

Though this hooveresque idea struck me several years ago, I have not yet found the opportunity to put it into action. It is my hope that this brief piece may inspire exploration by others into this uncharted void of archaeological technology. Perhaps it will encourage some field director, faced with much to do in too little time, to leap into the methodological breach to fill a vacuum.