

# Introduction: E. W. Gifford, New Caledonia, and Oceanic Prehistory

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This special issue of the *Kroeber Anthropological Society Papers* is devoted to a restudy of archaeological collections obtained by Professor E. W. Gifford of the University of California, Berkeley, during his pioneering excavations on the island of New Caledonia in the southwestern Pacific, conducted in 1952. As described in the Preface to this volume, the restudy was a collaborative student project, made possible by Gifford's meticulous cataloging and subsequent curation of these materials in the Phoebe A. Hearst Museum of Anthropology at Berkeley. In order to understand the significance of Gifford's path-breaking research and the collections resulting from it, and how a restudy of the latter may contribute to current issues and debates in New Caledonian and Pacific Islands prehistory, this Introduction reviews the background to Gifford's field research, his excavation and laboratory methods, and the contribution his work made to revitalizing archaeology in Oceania. I also review subsequent archaeological research in New Caledonia as a context for interpreting the new analyses presented in this volume.

## **E. W. Gifford and the Revitalization of Pacific Prehistory**

Professor Edward W. Gifford was already in the twilight years of a long and productive career in anthropology when he undertook to revolutionize the field of archaeology in the Pacific Islands. It is unclear whether he thought of his new project as 'revolutionary,' but there can be no doubt that such was its effect. At the age of 60 when most faculty think of winding down their careers and writing up their memoirs, Gifford and his wife Delila took advantage of a sabbatical leave from the University of California in 1947, to spend six months on the island of Viti Levu, Fiji. World War II had focused considerable attention on the Pacific Islands among North American anthropologists, many of whom had been engaged in war-related intelligence work. Perhaps this was one influence on Gifford's decision to return to Oceania, a region he had worked in a quarter-century earlier. In 1920, Gifford had been the leader of the Bernice P. Bishop Museum's Tongan Expedition, one of the famous Bayard Dominick Expeditions. His assignment then had been to conduct a salvage ethnography and ethnohistory of Tonga, and his monograph *Tongan Society* (Gifford 1929) is still regarded as a classic of Polynesian anthropology.

What intrigues us from the viewpoint of late-twentieth century anthropology--with its marked interdisciplinary distinctions--is why Gifford should have focused his renewed Pacific research on archaeology, rather than ethnography. During the 1920 Tongan Expedition, the archaeological aspect had been assigned to W. C. McKern (1929), and Gifford thus had no prior background or experience in Pacific archaeological work. Like many of his founding generation in anthropology, however, Gifford was firmly grounded in a *holistic* vision of the field. Best known for his extensive ethnographic and linguistic work among California Native American tribes, Gifford had nonetheless conducted some archaeological excavations in California shell-mounds and other sites. Thus he was familiar with the methods and aims of archaeology as practiced in North America at the time. Gifford was not one to go on at length about the thinking

or personal reasons that lay behind his decision to carry out archaeological excavations in Fiji (he would probably have been appalled by the 'reflexivity' of modern social anthropology). His own statement is characteristically terse:

As tropical Polynesia has yielded archaeologically only the early phase of the local cultures which were flourishing at the time of discovery, I decided to look farther west for a succession of cultures. Fiji seemed a likely place, and moreover I reasoned that it might show traces of early Polynesians, if they had come via Fiji (1951:189).

To appreciate the revolutionary aspect of Gifford's plan, one must realize that in 1947 the number of previous archaeological excavations that had been carried out in Oceania could be counted on the fingers of one hand. Aside from a few test trenches by McKern in Tonga in 1920, some rather unsystematic "digs" in New Zealand, and an unpublished excavation by J. F. G. Stokes on Kaho'olawe Island in Hawai'i, all archaeological work in the Pacific had been surface survey. (Kenneth Emory of the Bishop Museum, often associated with the resurgence of archaeology in Polynesia, did not commence his program of stratigraphic excavations in Hawai'i until 1950.) This pervasive attitude that archaeological excavation would provide "nothing more than a duplication of information already available" from ethnographic sources, as the social anthropologist Ralph Piddington put it in 1939 (see Kirch 1989:13), depended upon a number of assumptions. Among these were a belief that the time depth of prehistoric human occupation on Pacific Islands was shallow, that there had been little culture change in prehistory, and that the humid, acidic soils of the tropics would preserve little more than stone objects, of which the world's museums already held representative examples. Moreover, the absence of pottery among many Pacific Island cultures meant that archaeologists would be denied their primary tool for chronology construction, this still being the period before Willard Libby invented the method of radiocarbon dating.

Despite this prevailing attitude, Gifford went to Fiji to excavate, and what he found overturned all of the unquestioned assumptions. Pottery there was in great abundance;<sup>1</sup> moreover, the ceramic styles showed definite change over time. Because he had no ceramic sequences from adjacent regions with which to cross-date his Fijian materials, Gifford was at a loss to say just how much time depth had been revealed in his sites. He hazarded a guess, "and it is only a guess," that the base of his Site 17 might date to "about two thousand years ago" (1951:235). As later radiocarbon dating would demonstrate, he was quite close to the mark. Gifford clearly felt that his first season of excavations in the southwestern Pacific had been worthwhile. When his next sabbatical leave became available, in the spring of 1952, he returned at once to the Pacific.

Gifford seems to have had a clear sense that the "big" problems of Oceanic prehistory would be resolved in the western part of the Pacific, rather than in Polynesia. Having outlined a culture sequence for Fiji, he turned his attention farther westward, to the large Melanesian island of New Caledonia. His stated 'research design' was again characteristically terse: "Our aim was

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1. In his Fijian monograph, Gifford writes: "If one were to ask, 'What is the chief characteristic of Fijian archaeology?' the answer would be, 'Pottery, above all else'" (1951:189).

to fill in gaps in the knowledge of New Caledonian archaeology" (Gifford and Shutler 1956:1). Assisted by Richard Shutler, Jr., then a student at Berkeley, and by Delila Gifford and Mary Elizabeth Shutler, the expedition spent nearly seven months on La Grande Terre, discovering 53 archaeological sites, and carrying out systematic excavations in eleven of these (Figure 1). As in Fiji, potsherds proved to be abundant--and even more varied stylistically--but the New Caledonian sites also yielded shell artifacts, and various kinds of ground and chipped stone. Now, however, Gifford and Shutler were able to draw upon the new technique of radiocarbon dating to assist them in constructing their chronology for the island's prehistoric past. Gifford submitted nine charcoal samples from the New Caledonian sites, along with four from his previous Fijian excavations, to H. R. Crane at the University of Michigan. The resulting radiocarbon dates, among the first to be reported from the Pacific Islands (Gifford and Shutler 1956:89-92), indicated nearly three thousand years of prehistoric occupation in the southwestern Pacific. Moreover, in their discussion of "foreign cultural relationships," Gifford and Shutler (1956:94-95) made the first explicit connections between a "unique type of incised" pottery<sup>2</sup> from their Site 13 (Lapita) and that from several other localities, in Fiji, the Bismarck Archipelago (Watom), and even in Sulawesi (the Kalumpang site). Within a short time, this pottery style would come to be known as "Lapita"--after the toponym associated with Site 13--and has come to play a fundamental role in our understanding of the earliest phases of human settlement in the southwestern Pacific (Kirch 1996).

By the time Gifford and Shutler had analyzed and published their New Caledonian results, in 1956, the pace of renewed archaeological investigation in the Pacific was picking up rapidly, largely in the eastern or Polynesian sector. Emory was engaged in a major excavation program in the Hawaiian Islands, Shapiro and Suggs were beginning their Marquesan Islands research, and Thor Heyerdahl had enlisted four archaeologists for his Norwegian Archaeological Expedition to Easter Island and the East Pacific. Gifford, however, obviously remained convinced that it was in the *west*, rather than in Polynesia, that his efforts should be concentrated. For his third and final expedition, Gifford chose Micronesia. Alexander Spoehr of the Field Museum of Natural History had excavated in the Marianas Islands in 1949-50 (Spoehr 1957), and Gifford would have known through personal communications that Spoehr had been successful in revealing a lengthy cultural sequence with changes in ceramic styles. Gifford decided to focus on Yap, only slightly east of the Marianas. He reasoned that Yap "lies in the path of the eastward movement of peoples from Malaysia into Micronesia and Polynesia" (Gifford and Gifford 1959:149). Spending a little more than four months in the field in 1956 (he was now 69 years of age), Gifford and Delila excavated at five sites. Gifford did not live to see the results of his third expedition published; the monograph co-authored with Delila was issued some eight months after Gifford's death in May 1959.

Edward W. Gifford was truly a remarkable anthropologist. Having already accomplished more than most academics in his long career in North American ethnography, he set out late in life to explore the unknown pre-European past of the western Pacific islands. His three expeditions to Fiji, New Caledonia, and Yap laid the foundations for the next generation of

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2. The term "incised" is actually a misnomer, as the technique used was "dentate stamping." See Ulta (this volume) for a reanalysis of the Site 13 ceramics.



*Figure 1. E. W. Gifford, Dick Shutler, Jr. and their New Caledonian crew in the field, 1952.*

*(Photo courtesy of the P. A. Hearst Museum.)*

archaeological research in Oceania, and his monographs are still a mine of useful information. But Gifford was not only a great fieldworker and a scholar who believed in the prompt publication of results--he was also a committed museum anthropologist who appreciated the importance of preserving his collections so that future generations of scientists would have access to these irreplaceable materials. Gifford brought vast quantities of materials back with him from the field: plain as well as decorated potsherds, stone and shell artifacts, representative samples of shell midden, bone, charcoal, and even systematic column samples of sediment carefully dug from the excavation sidewalls. He did not privilege artifacts over other kinds of archaeological specimens, and all of his collections were carefully numbered, cataloged, and stored systematically in hundreds of wooden trays used by the Anthropology Museum at the University of California, Berkeley.<sup>3</sup> More than once, these collections have been reanalyzed by later generations of Pacific archaeologists (e.g., Shaw 1967; Green and Mitchell 1983), their value proven repeatedly. Indeed, the papers presented in this volume owe their existence to Gifford's foresight in seeing that his collections would be curated and preserved for future study.

### **Gifford and Shutler's 1952 Excavations of Sites in the Koné Region of New Caledonia**

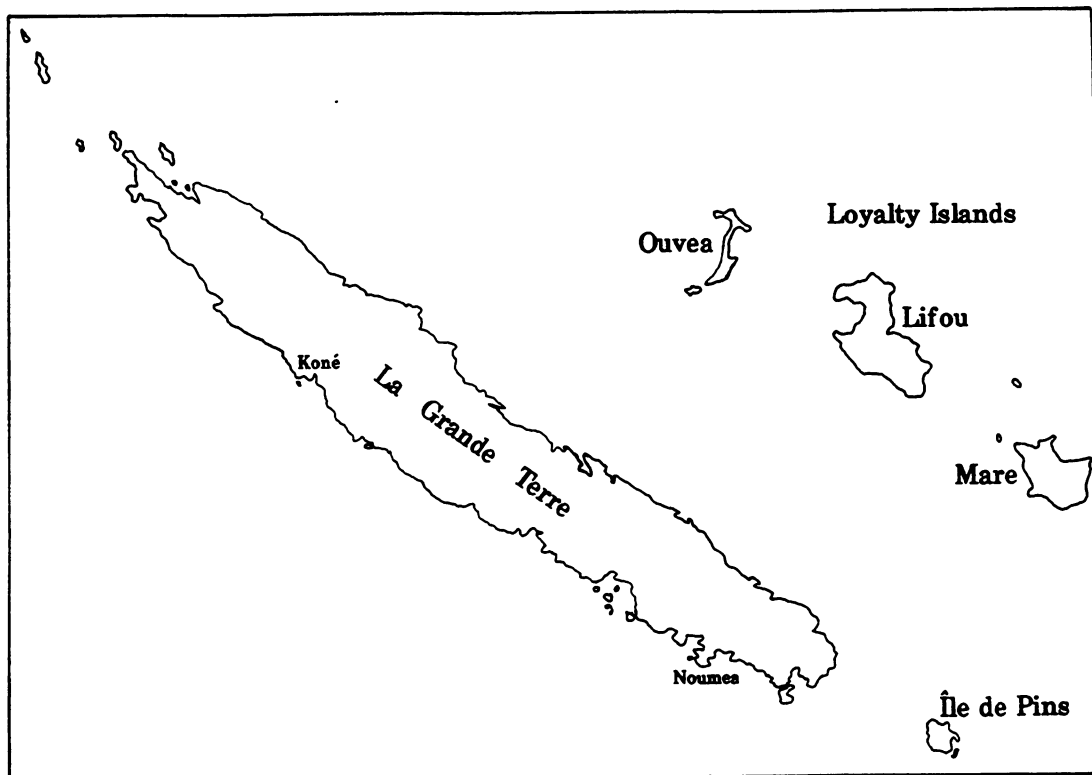
Gifford and Shutler excavated at eleven of the "most promising" sites they discovered on La Grande Terre of New Caledonia.<sup>4</sup> Three of these sites (numbers 13, 14, and 26 in their catalog) are located within close proximity of each other near the town of Koné, about two-thirds of the way up the southwest coast from the capitol city of Noumea (Figure 2). Sites 13 and 14 are situated on the Foué Peninsula, while site 26 is the "aboriginal village" of Oundjo, between Koné and Voh, about 11 km from Foué. As already mentioned, site 13, or Lapita, yielded a distinctive style of decorated ceramics to which it has given its toponym as the name for an important cultural horizon throughout the southwestern Pacific. Site 14, Podtanéan, produced a different ceramic ware with distinctive ribbed-paddle impressions, while Site 26, Oundjo, yielded yet another ceramic ware with "incised" decoration and other features such as suspension holes.

In their seminal article revising the New Caledonian culture-historical sequence, Green and Mitchell (1983; see also Frimigacci 1975) applied these three site names--Lapita, Podtanéan, and Oundjo--to three main ceramic traditions that they believed could be defined for the island. Thus, these three sites are in effect "type locations" for three major phases in New Caledonian prehistory. In choosing sites on which to concentrate a reanalysis of Gifford and Shutler's collections, it seemed to me reasonable to focus on this triad. That these sites were in close geographic

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3. At the time of Gifford's work, this was simply the Anthropology Museum. In the early 1960s it became the Lowie Museum of Anthropology, in conjunction with the naming of the new building in which it and the Anthropology Department were housed as Kroeber Hall. Recently, the Museum was renamed the Phoebe A. Hearst Museum of Anthropology in recognition of the key role of its founding patron, Phoebe Apperson Hearst.

4. 'La Grande Terre' refers to the main island of New Caledonia, distinguishing it from such smaller offshore islets as the Île de Pins, and the Loyalty Islands group to the east.



*Figure 2. Map of New Caledonia showing the location of the Koné area.*

proximity meant that differences between them (for example, in ceramic or lithic resources utilized) would be unlikely to result simply from differences in local environment or resource base. And, since they appeared to span a large part of the New Caledonian sequence, a more detailed analysis of temporal variation in ceramics, lithics, and other materials might help to resolve or at least clarify some enigmas in the prehistory of this large and culturally-complex island. One such problem was the relationship between Lapita and Podtanéan ceramic wares, which seemed to be coeval (Green and Mitchell 1983, Figure 8). Another issue concerned the emergence of the Oundjo ceramic tradition, and whether this could be seen as a development out of Lapita/Podtanéan, or as something intrusive and unrelated to the earlier traditions. Such were the kinds of problems that oriented our efforts to restudy the Gifford and Shutler collections from sites 13, 14, and 26.

#### *Gifford and Shutler's Excavation Methods*

Before turning to the sites themselves, some discussion of Gifford's field methodology is required, for his use of certain techniques constrains the possibilities for analysis of his collections. Gifford was above all else a *systematic* excavator, and one of his primary objectives was to have "comparable data" from all sites. Unfortunately, however, he was not a *stratigraphic* excavator, although he did take note of depositional stratigraphy. All sites were gridded out prior

to excavation, in a series of rectangles (not squares) measuring 6 by 3 feet. Excavation itself proceeded according to arbitrary 6-inch levels, rather than according to natural strata.<sup>5</sup> However, Gifford and Shutler (1956) do refer to changes in natural stratigraphy in their published site descriptions, and the unpublished field notes (Gifford and Shutler MS) available in the archives of the Hearst Museum contain additional observations on stratigraphy. Thus, while it is not possible to conduct a strictly "stratigraphic" analysis of their collections, in most cases one can relate the various 6-inch levels to changes in stratigraphy, in a rough manner. Gifford's use of the arbitrary excavation technique certainly poses the greatest problem in using his materials, but it is not insurmountable.

Gifford and Shutler screened all the earth excavated from their sites, using at all times a 1/2-inch mesh screen, and "whenever advisable" a 1/4-inch mesh screen (Figure 3). Gifford was adamant that "no cultural material was overlooked," and the range of materials returned from the field and cataloged suggests that he was indeed vigilant in this regard. In addition to saving all faunal and floral materials encountered (Gifford made great use of his Berkeley colleagues in the natural sciences to identify these materials), Gifford and Shutler also took "earth samples . . . at 6-in. intervals for the analysis of the components at various levels" (1956:3). This procedure reflected a long-standing interest of Gifford's in the "composition" of California shellmound sites (e.g., Gifford 1916, 1949). These sediment samples were analyzed by fine-sieving in the laboratory, with the micro-constituents identified and reported quantitatively. Fortunately, even these micro-constituents along with the resulting "residue" were cataloged and saved, allowing us to reanalyze the sedimentary sequence for sites 14 and 26 (see Leonard, this volume).

### *Site 13, Lapita*

Site 13 was reported by Gifford and Shutler (1956:7) as being situated "on the beach on the Coral Sea side of Foué Peninsula, between 4 and 5 mi. from Koné on the road to the wharf in Koné Bay." They observed that the low isthmus was flat, with the ocean on one side and mudflats on the other (Figure 4). Midden and pottery were eroding out of the beach terrace for "more than a quarter-mile." As this description hints and later investigations have proven (Sand 1996b), Lapita is a large and complex site, covering a substantial part of the Foué Peninsula.

Excavations in late July and early August, 1952 were carried out at two separate localities, designated sites 13 and 13A. Site 13, at which four rectangles were excavated, is located west of a fence across the peninsula. Site 13A, described as "the richer part of the site," lay some 0.25-mile southeast of the first location. At site 13A Gifford and Shutler dug eight rectangles in two trench alignments (1956:7, diagram 5). The stratigraphy at site 13A was described as follows: "There, dark midden material was about 15 in. deep, below which was beach debris yielding artifacts to a depth of 42 in." (1956:7). Site 13A yielded a far greater concentration of

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5. The use of such 6-inch levels was in fact fairly standard practice in California archaeology in the 1940s and 50s. Prof. John Rowe (pers. comm., 1995) informs me that before departing for New Caledonia, Gifford asked Prof. Robert Heizer for advice on excavation methods, and was told by the latter that the use of arbitrary 6-inch levels was the way to proceed; Gifford obviously followed his colleague's advice to the letter.



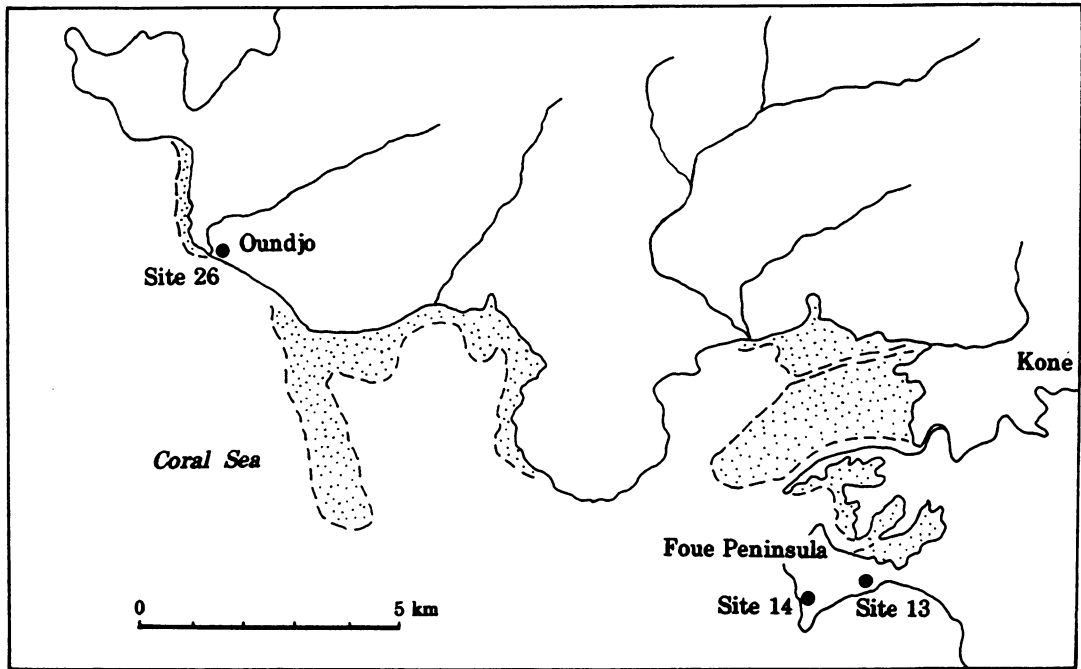


*Figure 3. Gifford, Shutler, and New Caledonian crew at the sifting screens.  
(Photo courtesy of the P. A. Hearst Museum.)*

pottery than site 13. Gifford and Shutler obtained two radiocarbon dates from site 13:  $2800 \pm 350$  B.P. and  $2425 \pm 400$  B.P. (1956: 89). These were the first dates associated with Lapita pottery from the Pacific.

Site 13 has continued to attract archaeological attention, especially in recent years. In 1967, Richard Shutler returned to Lapita where he carried out a new excavation, yielding among other finds a human skeleton; this excavation remains unpublished. Daniel Frimigacci (1975) presented the first stratigraphic section of the site in his doctoral dissertation, although he did not undertake excavations. Since 1987 there have been several rescue excavations at site 13A, under the auspices of the Département Archéologie of the Service des Musées et du Patrimoine de Nouvelle-Calédonie (see Sand 1996b and references cited therein). Of special note was the recovery, from the eroding beach front at site 13A, of two large, complete, elaborately-decorated vessels. The renewed work at Lapita has also produced several additional radiocarbon age determinations, ranging from  $3050 \pm 60$  to  $2800 \pm 60$  B.P. (Sand 1996a, table 1). These suggest that the initial occupation of this site dates to around 1000 B.C.





**Figure 4.** Map of the Koné region showing the locations of sites 13, 14, and 26

#### *Site 14, Podtanéan*<sup>6</sup>

Site 14, described as "the deepest of the three [sites] seen on Foué Peninsula" (Gifford and Shutler 1956:8), lies on the outer side of the peninsula, where it "is reached by a cow trail southwest over the hill about one-quarter mile from the road near the Koné Bay wharf." As at nearby site 13 the shoreline is eroding, and potsherds and chipped stone artifacts were recovered from the eroding slope. Over a four-day period in August, 1952, Gifford and Shutler dug four rectangles in two blocks about 15 feet apart (1956, diagram 6). The cultural deposit extended to a depth of 78 inches. Gifford and Shutler remark that while physically close to site 13, the deposits at site 14 yielded "mostly undecorated" potsherds. "Whether this difference is one of age or of cultural antecedents of the occupants is not clear" (1956:8). A radiocarbon age of  $1700 \pm 300$  B.P. was obtained from a sample from the 42-48 inch level; Gifford and Shutler estimated that the basal deposits might date to as old as the eighth century B.C. Green and Mitchell (1983) took the name *Podtanéan* as the designator for the ceramic tradition characterized by ribbed-paddle impressed pottery.

6. Gifford and Shutler (1956:8) report that the name *Podtanéan* was given to them by their informant, A. Wabealo. The toponym appears on the 1988 1:50,000 scale topographic map of the Pouembout quadrangle as *Poathanéané*.

### *Site 26, Oundjo*

Oundjo, location of site 26, is a traditional village lying "on a low rocky promontory jutting into the Coral Sea below Mt. Kafeate," roughly some 11 km northwest of the Foué Peninsula (Figure. 4). At the western edge of the village/site is a "stream or slough" of which Gifford and Shutler made use to wet-screen the "muddy subsoil" encountered in some of their excavation units at site 26. When the site was first visited in February, 1956, "the women and children of the village flocked around and helped us collect surface potsherds, resulting in an accumulation of 246 oz." (1956:8). Gifford and Shutler put down excavation units in three localities at Oundjo (designated A, B, and C), orienting these in relation to the village church (1956, diagram 7). Location A, 168 feet southeast of the church, was laid out as a trench, in which 10 rectangles were sampled. The deposits here proved to be shallow (the deepest level noted was 18 inches), and work was discontinued after three and one-half days. Location B, 177.5 feet northwest of the church, proved more interesting, although difficult to excavate because the basal cultural deposits were below sea level and the water table. Here eleven rectangles were opened in two trench lines, with a maximum depth of 48 inches obtained. Despite the high water table, Gifford and Shutler reached the base of the cultural deposit by bailing, and screened the muddy sediment in the nearby creek. They speculated that the subtidal deposits might warrant "the hypothesis of a sinking coast line," although "the alternative hypothesis of the gradual accumulation of midden on the rocky bottom may be more valid" (1956:9). Finally, six rectangles were dug at Location C, situated in the "clear central part of the village . . . in front of Chief Bome's house," some 213 feet north by east of the church. "Large quantities of fish bone, decapod, and shell, along with sherds and charcoal, were recovered from Location C" (1956:9).

The pottery from Oundjo was quite different from that recovered at either sites 13 or 14, and Gifford and Shutler submitted two radiocarbon samples to assess its chronological position in the New Caledonian sequence. The samples yielded ages of  $785 \pm 300$  and  $900 \pm 300$  years B.P. (1956: 89). As noted above, the Oundjo site has given its name to a major ceramic tradition in the northern part of New Caledonia, which is regarded as spanning much of the last two thousand years.

### **Why Reanalyze the Koné Site Assemblages?**

Gifford and Shutler's monograph, *Archaeological Excavations in New Caledonia*, which was submitted to the University of California Press editors just two and one-half years after the completion of their fieldwork, and published in June of 1956, is a model of systematic data presentation, reflecting Gifford's penchant for controlled comparisons. Wasting no words, and making abundant use of tables, diagrams, and plates, Gifford and Shutler report on all classes of material recovered from their excavations. "Natural history specimens" such as mollusks, bones, corals, and so forth were identified by specialists in these fields (often faculty colleagues at Berkeley), and the "composition of sites" as determined through fine-sieving of the "earth samples" was reported quantitatively. The bulk of the text treats the abundant bone, shell, stone, and ceramic artifacts, whose distribution by arbitrary 6-inch levels was again reported in tabular format. Given such detailed data presentation, the question arises, 'why reanalyze the Koné site assemblages?' The answer requires that we inquire into Gifford and Shutler's approach to the analysis of variation in the archaeological record.

*Gifford and Shutler's Approach to Archaeological Systematics*

An evaluation of Gifford and Shutler's New Caledonia monograph must commence with an assessment of their procedures for classification of archaeological materials, i.e., their "archaeological systematics" (Dunnell 1971). Their work was undertaken well before the first stirrings of what became the 'New Archaeology,' at a time when the so-called "culture-historical" paradigm held sway in North American academic centers (Trigger 1989). Their statement of what today would be called 'research design' appears naively elegant: "Our aim was to fill in the gaps in the knowledge of New Caledonian prehistory" (1956:1). Despite the lack of any more explicit statement of research agenda, however, a close reading of the 1956 monograph--and particularly of the thrust of its concluding discussion--reveals that two issues were of over-riding significance to the authors. These are (1) cultural chronology, and (2) external ("foreign") cultural relations, particularly as the latter bore on the problem of determining the origin of New Caledonia's ethnographic cultures. Gifford and Shutler's analytical methods and their "systematics" largely follow from these unstated but nonetheless clear aims, and therefore concentrated on patterns of artifact change over time and between sites. This approach is evident, for example, in their attempt to quantitatively assess cultural relationships between sites in terms of percentages of shared ceramic "traits" (Gifford and Shutler 1956:84-88, table 44).

Despite a rising self-consciousness among North American archaeologists of the post-World War II era in the theory and method of classification or typology (e.g., the well-known typology debate between A. Spalding and J. Ford), Gifford and Shutler's approach to the classification and descriptive analysis of their New Caledonian materials can only be characterized as ad hoc, intuitive, and strongly inductive. Underlying assumptions were not stated nor was there any attempt to make their analytical and classificatory procedures and methods explicit. Thus, their classificatory approach must be inferred from the kinds of units they created, and from the way in which these units are presented and manipulated in the published monograph. At the highest level in their scheme, Gifford and Shutler partitioned their New Caledonian portable artifact collections into seven units, based primarily though not exclusively, on raw material. These primary categories (they comprise the subheadings of the chapter on "Artifacts") are: (1) bone artifact, in this case a single specimen; (2) shell artifacts; (3) chipped stone artifacts; (4) sinkers and anchor stones; (5) grindstones and smoothers; (6) ground stone artifacts; and (7) pottery. Following Dunnell (1971), such units are "groups" rather than "classes," and were evidently created using an ad hoc combination of descriptive (raw material, technology) and functional-ethnographic (sinkers, anchor stones) criteria.

The shell artifacts from their excavations comprise a large and morphologically diverse group of objects; these were further categorized by Gifford and Shutler into a variety of units, some of which are "functional types" based on ethnographic analogy, while others are descriptive groups. With specimens for which a probable function seemed obvious based on ethnographic analogy or common sense, Gifford and Shutler used such functional type labels as "net sinker," "money shells," or "bracelets and rings." In some cases, such as the "money shells," the ethnographic analogy was made explicit with citations to the work of ethnographers such as M. Leenhardt and F. Sarasin. However, where function could not readily be assigned on this basis, descriptive labels were applied to identify groups of morphologically similar shell objects (e.g., "spire-lopped univalves," or "abraded bivalves").

Chipped stone artifacts comprised another major category in the New Caledonian collections. Fortunately, Gifford and Shutler were explicit about their retention of all possible chipped stone during their field work and screening operations: "The scarcity of stone artifacts in the New Caledonian sites prompted us to retain all likely chipped stone fragments for more detailed examination" (1956:66). In the lab, many of these were later to be categorized as unworked (yet they were nonetheless dutifully cataloged and retained in the Museum's collection). Those specimens considered upon close inspection to be artifacts were divided into two groups. Of these, Gifford and Shutler wrote: "Typologically (though not chronologically) all are probably Lower Palaeolithic or Eolithic and strongly suggest the nondescript assemblage so characteristic of Australia" (1956:66). Group 1 chipped stone consists of those specimens with "definite, though slight, modification for use" (1956:67). Exactly what criteria or attributes were used to discriminate "modification for use" were not specified. We presume that only macroscopically-visible "retouch" was considered, since the examination of flakes for microscopic wear patterns was an unknown approach in the 1950s. The 183 specimens in Group 1 were further partitioned into eleven units (labeled A through K), again following an ad hoc, intuitive set of presumed functional categories, such as "scraper-hammerstones," "end and side scrapers," "gravers," and "choppers." The sorting criteria for these groups are not made explicit, and only cursory descriptions are provided. Group 2 (with 361 specimens) consisted of "unclassified flakes and cores." Thus fully two-thirds of the chipped stone assemblage was swept into a catch-all bin without further analysis or discussion.

The bulk of their excavated materials, and certainly the category they were most interested in given their culture-historical aims, consisted of potsherds. Gifford and Shutler observed that "most potsherds are too small to show the vessel form" (1956:70), a fact that seems to have influenced their analytical approach. They made no attempt to use a type-variety approach despite the dominance of such procedures in North American archaeology at the time. Rather, they used a "trait" analysis, which we might characterize as an early form of "attribute analysis." All sherds were initially sorted into one of three units, referring to the nature of surface treatment or decoration: (1) plain; (2) incised; and (3) relief. Interestingly, and in contrast to the inductively-formed "groups" mentioned above, these categories can be characterized as "classes" (Dunnell 1971) or ideationally-defined units. That is to say, ideal types were defined in advance and the field specimens fitted to these. The basis for these ideational classes seems to have been Gifford's prior work in Fiji: "Our potsherds . . . are classified on the same basis as those from Fiji" (1956:71). This method creates some of the greatest problems in using Gifford and Shutler's ceramic data. Not only are no explicit definitions of criteria provided for these classes, but examination of the actual collections quickly reveals that these ideal classes masked critically-important variation. For example, the "incised" category subsumed not only later prehistoric pottery decorated with a wide range of truly incised designs, but also the early Lapita pottery for which the decorative technique is not incising at all, but rather dentate-stamping.

Relatively little analytical use was made, however, of these broad ceramic classes. Rather, the major thrust of Gifford and Shutler's ceramic analysis was at the "trait" or attribute level. Such traits included "rim and lip types" (1956, table 42), features such as handles and suspension holes, and a number of specific decorative attributes for both "incised" and "relief" sherds (such as nubbins, ribs, "cross or checkerboard" patterns, "wavy lines on rim," etc.). It was the intra-site (6-inch level) and inter-site distribution of such "traits" that Gifford and Shutler

focused on in their attempt to define a cultural chronology, and to assess "foreign" cultural relationships beyond New Caledonia. Their efforts to be systematic and objective in determining such distributions led them to use a quantitative approach, in which "shared traits" were tabulated as counts and percentages (1956, tables 44 and 45). Unfortunately, they were unaware of the potential effects that sample size might have on such statistical comparisons. Table 1 shows the sample size effects for pottery from their eleven excavated assemblages. For example, site 26 which was regarded by Gifford and Shutler as a "true culture center" (1956:88) because it had the highest number of shared traits with all other sites, also has the largest sample size.

**Table 1**  
**Sample Size and Number of Shared Ceramic "Traits" for Excavated New Caledonian Ceramic Assemblages**

Site	Sherd Weight (oz.)	Rank of Sherd Weight	Number of Shared "Traits"	Rank of Shared "Traits"
26	6,783	1	69	1
20	2,631	2	34	4
13	1,470	3	33	5
51	1,190	4	35	3
44	1,104	5	38	2
50	828	6	38	2
6	799	7	38	2
19	506	8	35	3
14	490	9	31	6
52	324	10	28	7
48	107	11	14	8

Spearman's rho = +0.6023.

### *Reassessing Variability*

While Gifford and Shutler's practice of archaeological systematics was firmly within a "normal science" paradigm of North American archaeology in the early 1950s, from our perspective more than four decades later, it is clear that a great deal of potentially-significant variability in the New Caledonian artifact assemblages was missed in their analysis. Moreover, and in all fairness to Gifford and Shutler, their pioneering research had to be done without the benefit of an extensive comparative base for Oceanic prehistory. That is, with few other excavated assemblages for comparison (excepting Gifford's own work in Fiji), it was not possible for them to have *a priori* knowledge of the kinds of attributes or artifact classes that would display temporal or spatial distribution patterns of significance for regional culture history.

Despite these shortcomings, and the unfortunate field method of excavation in arbitrary 6-inch levels, the eleven excavated assemblages obtained by Gifford and Shutler in 1956 still constitute one of the largest and best-controlled sources of data on New Caledonian prehistory. It was with this in mind that I set my Anthropology 132 students to the task of reanalyzing the assemblages from sites 13, 14, and 26 in the Koné region. Our aim was to see whether, with the application of modern analytical methods, more of the significant variability in these assemblag-

es could be teased out. In the process we sought to clarify some of the problems and issues in New Caledonian prehistory that had arisen subsequent to Gifford and Shutler's work. Each student developed an explicit analytical protocol (examples of these are given as appendices to several of the papers) that laid out the specific attributes and attribute states to be examined. These protocols were based on a literature review of other studies in the Pacific region, and on an initial examination of the New Caledonian assemblages. Protocols were often further "fine-tuned" as the students continued to work with their materials. To conclude this Introduction, I now turn to a brief overview of archaeological research carried out in New Caledonia since 1956, providing an additional context for the interpretations made by various contributors to this volume.<sup>7</sup>

### **Recent Advances in New Caledonian Prehistory**

After Gifford and Shutler's 1952 expedition, the next archaeologist to excavate in New Caledonia was Jack Golson in 1959-60, who focused on a reported Lapita site on the Île de Pins, and on some of the tumuli then thought to possibly represent a pre-Lapita cultural phase. Other than a brief summary report (Golson 1963), this work remains unpublished. In 1966-67, Colin Smart was sent to New Caledonia by Golson to further investigate the island's ceramic sequence for his Ph.D. dissertation, under the latter's direction. In a tragic incident, a fire destroyed Smart's records and collections at excavations he had made at three sites in the vicinity of Naïa Bay on the southwest coast. Smart abandoned his Ph.D. project, although some summary notes are available (see Green and Mitchell 1983:21). In 1969-70, French archaeologist Daniel Frimigacci began a long-term series of archaeological studies in New Caledonia, like Golson commencing with the Île de Pins, where he excavated at Vatcha, a Lapita site. Over the next few years, Frimigacci continued to amass data for his Ph.D. dissertation (Frimigacci 1975) which presented the first overview of New Caledonian prehistory, although it emphasized the Lapita period. (Frimigacci later carried out excavations at the Lapita sites of Boirra and Nessadiou.) However, Frimigacci did recognize the importance of the paddle-impressed ceramics, and of later ceramic traditions which he labeled an "ensemble culturelle Mélanésien."

A major advance in our understanding of New Caledonian prehistory--and its place in the larger sphere of southwestern Pacific archaeology--was the detailed review and synthesis published by Green and Mitchell (1983). Although they did not physically re-examine the 1952 Gifford and Shutler collections, Green and Mitchell relied heavily on that data set, and had access to a microfiche of the Lowie Museum catalog. Integrating their reworking of the Gifford and Shutler sequence with new data available from Frimigacci's dissertation (1975) and other sources, Green and Mitchell proposed a cultural sequence (based primarily on ceramic changes) with three main traditions, as shown here in Table 2. At the base of the sequence they positioned the "enigmatic tumuli," which as they observed, "provide a number of issues, the answers to

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7. It should be noted that the contributors to this volume had access to the available literature as of 1990 (including English translations of some of the important, unpublished French sources, kindly made available by Prof. R. C. Green), but have not had an opportunity to further revise their papers in light of literature published since then. In the Concluding Remarks to this volume, I attempt to relate their results to this more recent work.

**Table 2**  
**The New Caledonian Cultural Sequence**  
**According to Green and Mitchell (1983)**

Time	<i>North</i>	<i>South</i>
Contact	<b>Oundjo Style Assemblages</b>	
A.D. 0	<b>Lapita Style Assemblages</b>	<b>Podtanéan Style Assemblages</b>
1000 B.C.		
?	<b>"Enigmatic Tumuli"</b>	

which remain uncertain" (1983:60). Green and Mitchell were inclined to regard the tumuli as "man-made," although more recently Green has convincingly argued that these are the fossil incubation mounds of a now-extinct species of giant megapode bird, *Sylviornis neocaledoniae* (Green 1988; Sand 1995:108, Figure 69). The first unambiguous cultural horizons are those of the Lapita and Podtanéan assemblages, which Green and Mitchell saw as being more-or-less contemporaneous. They observed that the "viewpoint that the Lapita cultural complex is either the earliest or the sole early ceramic style in New Caledonia . . . is not supported," and argued that ". . . the presence of ribbed paddle impressing in Lapita ceramic assemblages may be attributable to the existence in New Caledonia of an equally early and separate ceramic style which we have called Podtanéan" (1983:61). Green and Mitchell cautiously observed that another interpretation was possible, however, as Frimigacci had proposed, which was that "the Podtanéan developed out of the Lapita of which it was originally a small part" (1983:61). The later (post A.D. 0) phase in Green and Mitchell's chart consisted of the Oundjo style assemblages which they regarded as a "distinctive style and horizon, albeit one in which some elements from the earlier Podtanéan continue" (1983:61). They noted that the Oundjo assemblages display consid-



erable variation, and that it would in time be necessary to "separate the very late or 'historic' ceramic assemblages from sites throughout New Caledonia into northern and southern groupings" (1983:63).

Since Green and Mitchell's important contribution was published, the pace of archaeological research in New Caledonia has gained speed. In his doctoral dissertation, Galipaud (1988) further refined the last 1500 years of the New Caledonian ceramic sequence, distinguishing between the Oundjo style which proved to be characteristic of the northern part of the island, and what he termed the Naïa style found in the south. A Department of Archaeology was created in 1991 under the direction of the *Sérvise des Musées et du Patrimoine de Nouvelle-Calédonie*, which according to Sand (1996a:45) has carried out "over 25 systematic inventories of archaeological heritage and salvage excavation programmes." Drawing upon the wealth of new data resulting from these projects, Sand (1995, 1996a) has presented the latest synthesis of the New Caledonian cultural sequence. His chart summarizing "the evolution of ceramic groups" is reproduced here as Figure 5. As is evident, this scheme builds upon the work of Green and Mitchell (1983), while adding the increased stylistic variation and complexity that has become increasingly well attested through archaeological study. In Sand's sequence, the "enigmatic tumuli" have now been dispensed with--being the work of birds and not humans--and the initial colonization of the island is now properly attributed to people who were part of the Lapita cultural complex. Moreover, it has become apparent that the "Lapita" and "Podtanéan" ceramic styles do not represent separate *cultural* traditions, but are rather the decorated and plain-ware components of a single Lapita cultural complex (see Kirch 1996:149-50). This conclusion has been supported by the discovery of both dentate-stamped and paddle-impressed pottery in the same depositional contexts, as at Koné, Bourail, and Paita, and by Galipaud's demonstration that both kinds of ceramics contain identical temper suites (Galipaud 1988). Following Galipaud (1988), Sand labels the first period in his sequence the *Koné Period*, which extended from initial colonization around 1000 B.C. until the first few centuries of the Christian era. During the Koné Period, the classic dentate-stamped Lapita pottery rather rapidly disappeared (perhaps after only one or two centuries), while the paddle-impressed and plain ware (Podtanéan) continued throughout. Moreover, in both the north and south parts of La Grande Terre, incised ceramic styles begin to be evidenced at about the time that the classic dentate-stamped "Lapita" style drops out of use. In the south, this early incised style has been termed Puen.

For the later part of his revised New Caledonian sequence (Figure 5), Sand divides the ceramic styles into two periods, the *Oundjo Period* in the north, and the *Naïa Period* in the south (Sand 1995, 1996a). Sand draws attention to the considerable regional variation in ceramics that has become evident through increased excavations: "Evolution [of ceramics] during the Oundjo-Naïa period marks a complete divergence in typologies, giving rise to two very different ceramic traditions, which themselves can be subdivided into regional groups" (1996a:55). As seen in Figure 5, these regional groups have been labeled Balabio, Oundjo (*sensu stricto*), Plum, and Nera. What is particularly important to note is that the Oundjo-Naïa traditions do not represent the intrusion of new cultural groups into New Caledonia, but rather in terms of vessel form and decoration they can be seen as continuing developments out of the late Koné Period ceramic styles. This does not rule out the possibility of continuing inter-archipelago contacts, however; Sand and others have drawn attention to some of the stylistic similarities between Oundjo-Naïa ceramics and those of the Mangaasi ceramic tradition of Vanuatu (Garanger 1971, 1972), as well

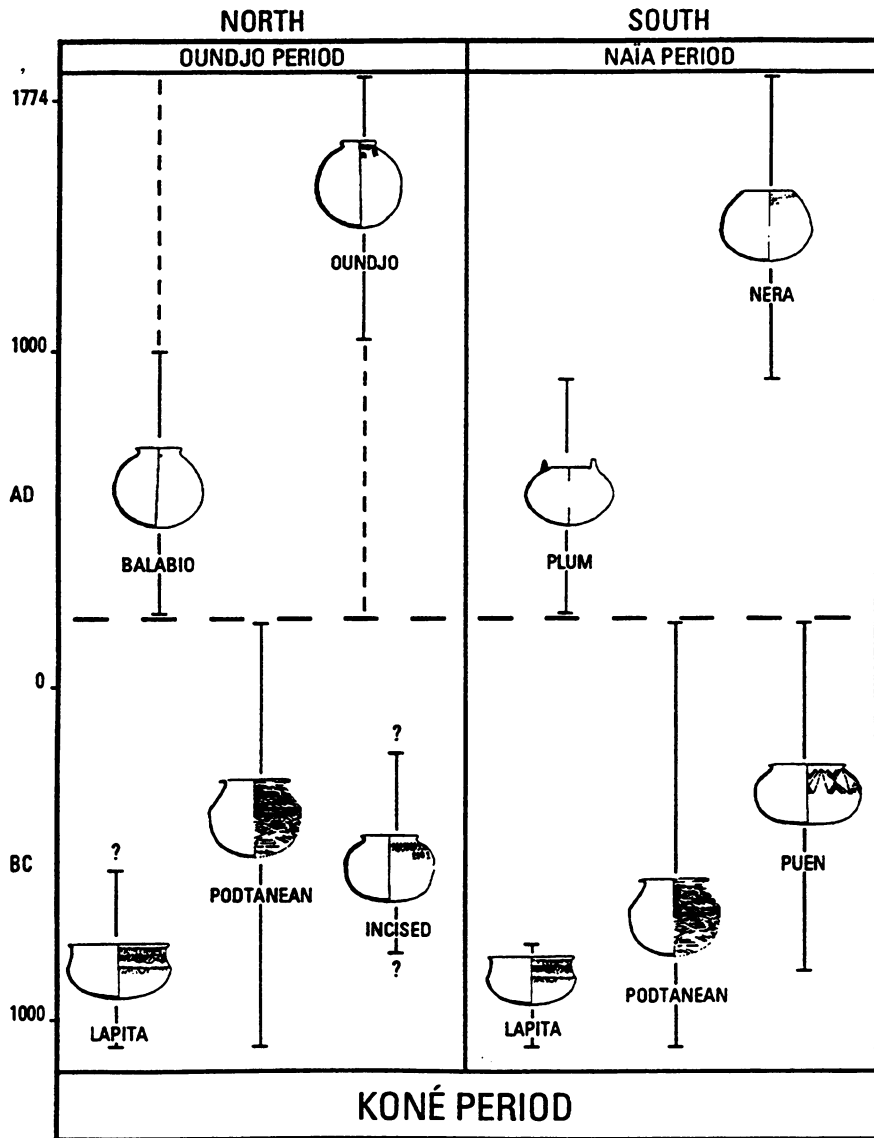


Figure 5. Sand's chart of New Caledonian ceramic sequence.

as with later prehistoric ceramics in Fiji. Nonetheless, the broad sweep of ceramic change in New Caledonia clearly represents a gradual process of continuous change and increasing local and regional differentiation. This is our current understanding of the New Caledonian cultural sequence, and that which provides a general context for the specific analyses presented in the following papers.