ABSTRACT

New Caledonia was one of the first archipelagos of the Western Pacific where rock art was identified by Europeans. A wide survey of petroglyph sites has led to the identification of major iconographic themes, tentatively dated through comparative studies. Direct dating of hand stencils and a number of related figurative and symbolic motifs has demonstrated that rock art was produced throughout the entire human occupation of Southern Melanesia. Regional links are inferred from the presence of shared motifs with other archipelagos. These connections raise questions about long-held assumptions concerning post-Lapita isolation between populations of the region.

Over the past two centuries significant archaeological research has been conducted throughout the world on rock art (Clottes 2000). The outcomes of surveys, the resulting analytical typologies, dating, and interpretations of these art forms, which are sometimes separated from each other by tens of thousands of years, result in different conclusions by each generation of archaeologists – as they have been tangibly influenced by the scientific norms specific to each period (Chippindale and Taçon 1998). Some Pacific Islands, such as Hawaii (Lee and Stasack 1999) and Easter Island (Lee 1992), received early attention with publications on syntheses of their petroglyphs. However, Melanesia, the Pacific region richest in engravings and petroglyphs, has not received the international attention it deserves until recently. This is particularly the case with New Caledonia, despite the fact that the archipelago was the first region where rock art was described at the end of the nineteenth century (Glaumont
1888). Due mainly to a lack of systematic survey, there was no integration of the archipelago’s rock engravings within regional cultural chronologies (see Wilson 2002:4–6), and much of the data collected did not circulate beyond local publications. Given these circumstances, it is not surprising that English-speaking researchers (see Specht 1979; Ballard 1988; Wilson 1998, 2002) have depended, in the main, on an old source that needs careful and critical use (Luquet 1926) or on a more recent but quite incomplete account (Frimigacci and Monnin 1980) in their reviews of New Caledonia’s rock art. This chapter stems from a recently published synthesis of New Caledonian petroglyphs (Monnin and Sand 2004) and a preliminary study of rock paintings from the Loyalty Islands (Sand et al. 2006). I will profile the high diversity of engraved and painted typologies and motifs from the archipelago, and will also discuss the chronology of rock art and the identified links with the rest of the Melanesian region.

NEW CALEDONIA’S CULTURAL CHRONOLOGY

The prehistory of New Caledonia fits into the known chronological framework of the peopling of the southwest Pacific (Kirch 2000). The archipelago was discovered at the very end of the second millennium BC by Austronesian sailors, the makers of Lapita pottery, who rapidly settled both the Loyalty Islands and the New Caledonian mainland between 1100 and 1000 BC (Sand 2010). The gradual expansion of settlement toward valley bottoms on the mainland and on the plateaus of the Loyalty Islands led to a diversification of cultural traditions by the end of the first millennium BC. From the beginning of the first millennium AD, the islands with limited area, such as the Loyalty Islands, displayed the first evidence of significant conflict. Tension is especially evident on the central plateau on Maré Island, where huge megalithic defensive walls were erected (Sand 1996). Conflicts over land were probably linked to relative overpopulation but also to profound human impacts on the environment and resulting crises among resident groups. There is evidence that during the first millennium AD there was a deepening of linguistic and political differentiation between regions. At the same time, intensification in horticultural practices occurred during the second half of the first millennium AD, with the development of complex methods for tuber cultivation (Sand et al. 2003). Raised earth ridges were built for dry yam crops (Dioscorea alata), and these were sometimes 1 m high, nearly 10 m wide, and several tens of meters long. For wet water taro crops (Colocasia esculenta), horticulturists developed complex sets of artificial ponds on terraced hillsides. The expansion of this intensive horticulture involved the construction of considerable agricultural structures during the second millennium AD, linked to a specifically Kanak cultural complex (Sand et al. 2008). The appearance of numerous permanent hamlets characterized by raised mounds of round huts; the development of new ceramic traditions that lasted until the arrival of the Europeans; and the development of a more structured management of the natural environment within the framework of centralized chiefdoms are all recognized particularities of Kanak traditions that were developed at this time. In parallel with these internal changes, from the beginning of the second millennium AD, different groups within the archipelago engaged in new exchange networks and new ties were forged between chiefdoms. These sometimes extended
toward the rest of island Melanesia, reaching as far as Vanuatu to the north, and
toward Western Polynesia to the east.

Early contacts between Kanak groups and Europeans, beginning with Captain
James Cook in September 1774, were sporadic. However, these contacts in New
Caledonia, as elsewhere in the Pacific, had devastating effects on the indigenous
population. Introduced diseases developed into epidemics within decades. Numerous
epidemics during the first half of the nineteenth century, both on the mainland and
in the Loyalty Islands, certainly had an impact on demography and on political
organization (Sand et al. 2007). It was traditional societies in crisis that had to face
the first French installation after a colonial takeover in 1853, before trying to limit,
by various revolts, land encroachment by settlers. Some led to the resettling of Kanak
groups in reservations, often located away from their former lands. Therefore, a loss
of cultural transmission relating to rock art inevitably occurred at this time; however,
as I will argue below, art production (in some areas) continued until the twentieth
century, and there are many oral traditions associated with specific art bodies.

**ROCK ART RESEARCH IN NEW CALEDONIA**

The Kanaks have always been familiar with the engraved and painted designs on rocks
in their valleys, seashores, and caves. Equally, from the beginning of colonization,
Europeans noted the presence of engraved motifs on rocks on their newly “acquired”
properties. We owe the first writings on the subject of the New Caledonian petro-
glyphs to G. Glaumont, dating from the end of the nineteenth century. Strongly
influenced by the latest work on the prehistory of Europe at this time, he attempted
to adhere to the successive cultural phases proposed by European archaeologists,
using for New Caledonia such terms as “the Magdalenian, Solutrean, Thénaisian,
Neolithic phases” (Glaumont 1888:21), with the assumption that the archipelago’s
populations had experienced profound isolation “that had lasted a long time”
(1888:22). Glaumont talked of petroglyphs several times in his writings, and was
indeed the first to publish illustrations of motifs, accompanied by the first transcrip-
tion of data from oral tradition concerning petroglyphs (1888:113–115). He con-
cluded that there was a cultural continuity of production of engravings up to the
nineteenth-century indigenous Kanaks.

The first real survey of New Caledonian petroglyphs was made a few decades after
Glaumont by M. Archambault, a civil servant in the colonial postal service, who lived
in New Caledonia for most of his life (Figure 10.1). His writings on New Caledonian
petroglyphs have profoundly influenced following generations of scholars trying to
understand the origin of this art. The philosophy underlying Archambault’s argu-
ments and analyses signals, from his first writings, the assumption that a major rupture
had occurred in the origins of the makers of the art. He wrote “What seems to me
to be certain from now on and that I want to bring into the light of day is that these
monuments ought not to be attributed to the tribal kanaks who occupy the island
at present” (Archambault 1901:266). There is no doubt from reading his writings
that Archambault felt little affinity with the Kanaks and did not hold them in particu-
larly high esteem.
Over the succeeding decades, a number of European authors studied the petroglyphs of New Caledonia (Sarasin 1917; Luquet 1926; Avias 1949; Oriol 1939), most of them denying any link between the engraved rocks and the indigenous Kanak population. It was not until the 1960s that a more scientific approach was undertaken by L. Chevalier (1959, 1964), and then D. Frimigacci (1976) and J. Monnin (1986), leading to the first structured typology and systematic recording of oral traditions about petroglyphs (Frimigacci and Monnin 1980; Monnin 1986, 1987). It was based on this work that Monnin and Sand’s synthesis (2004) was published. While paintings in caves and rock-shelters were identified from the 1960s in different parts of the archipelago, it was not until the 1990s that the first detailed study of this other form of rock art was made (see Sand et al. 2006). To highlight the difference in data, this chapter will first discuss the New Caledonian petroglyphs, before synthesizing the data on painted rock art.

**NEW CALEDONIAN PETROGLYPHS**

Mainland New Caledonia is a vast and mountainous island about 400 km long, of complex geological origin. To the east, the Loyalties Islands chain is formed of limestone. Petroglyph sites are mainly found on the main island, in varied geographical settings: beside the sea and distant from it, along stream and river banks, as well as on ridges and hillsides. One of the commonly used rock surfaces for making petroglyphs was peridotite, present in metal-rich metamorphic environments originating from the seabed floor. Most of the engravings were produced on large boulders and cliff sides, on a variety of other substrates when peridotite was not present.
A unique assemblage of three riverbed sites, characterized by engravings created on small, easily transportable boulders, has also been recorded (Monnin and Sand 2004: 205–208).

Any synthesis of an art form must be based on a meaningful inventory. The surveys of the past 130 years have resulted in over 700 petroglyph sites being recorded, representing over 4,500 individual motifs. This is a small sample of the actual number of sites present on the largest island, and new discoveries are added to the inventory each year. Nevertheless, the data are sufficient to propose a seriation of the diverse engravings recorded to date. This typology has been structured along the notions of “motif” (defined as an elementary form, such as a circle or a spiral) and of “category” (an assemblage of motifs resembling each other). In all, the typology proposes 40 different categories (Monnin and Sand 2004), combining previous schema from the past several decades (Frimigacci and Monnin 1980; Monnin 1986). Only the most significant categories are summarized here.

Category 1: Spirals. The spiral is an easily recognizable form (Figure 10.2). The inventory contains 210 spirals. Two-thirds of them are coiled regularly, without any irregularities. The designs of the remaining third are graphically more complex.

Category 2: Arcs of a circle with the ends curled back. This category is defined by an arc of a circle turned under at the ends, with a vertical axis of symmetry, which is sometimes expressed as one or two vertical grooves, parallel to each other and finally turning to the left. The arc is often reinforced by further parallel arcs. Most of the motifs include one of the main characteristics of New Caledonian petroglyphs – a surrounding line.

Category 3: Crosses. This easily recognizable category needs to be presented in detail because it is the one that contains the largest number of motifs (850), accounting for nearly 20 percent of the total number of motifs in the New Caledonian survey. The motifs in this category are made of a straight line that forms an axis of symmetry, cut – or “crossed” – perpendicularly by one or several other straight lines that deter-

![Spirals (category 1) and concentric circles (category 5) from site WPT003 of Katiramona.](image)
mine the arms of the cross. This definition has been adopted in order to distinguish the crosses from similar figures classified in other categories. In 99 percent of the designs, there is at least one sinuous closed line following the central motif of the cross in a regular fashion, forming an envelope (Figure 10.3). The existence of at least one envelope is one of the main characteristics of the New Caledonian engraved crosses. The largest number of envelopes recorded is eight (site EKU008) and the largest number of arms is 11 (WPO022) within only one envelope. Most crosses are found in the central region of the mainland.

Figure 10.3 Diversity of enveloped crosses (category 3) from New Caledonia.
Category 4: Ellipses with an axial segment. The typical form of the motifs in this category is an ellipse that is complete or open at one of its ends, with either a portion of small diameter or, more rarely, a cupule (see category 7 below), in the center. A total of 530 of these motifs have been recorded in the survey, making it the third most numerous of the typological categories after the cross and the circle (see category 5 below). The distribution study shows clearly that these motifs are characteristic of the northern part of the mainland and are practically absent from other areas. Interestingly, the northern region has few other categories of motifs.

Category 5: Circles. The circle category, with 639 motifs, is the second largest New Caledonian typology after the cross. Statistically, there are more motifs based on circles than on spirals (category 1), even though it is probably easier to engrave a spiral than a circle. A design in this category is most frequently shown as a group of concentric circles rather than in the form of juxtaposed circles; single circle motifs are rare. The distribution of this category is continuous throughout the archipelago. Motifs formed by one or several circles and surrounded on the outside by rays have been grouped into a sub-category called “suns.” The greater the number of motifs of this category in a region, then the greater the variety and complexity of overall motifs can be predicted.

Category 6: “Wheels.” These motifs are mainly concentric circles with an internal area of rays. The choice of the term “wheels” is somewhat of a proxy, but it does provide an immediate sense of the image. The concentric circles create a space between two consecutive circles, some spaces being hatched by segments passing across, or in which the extension passes through the center of the circles so that these segments form parts of spokes. Two main characteristics can be identified in this category. First, the hatching present in the space between two circles is always very regular. Second, the hatched space is usually present between the last two circles on the outside. Designs containing more than one area of spokes are rare. This category is represented by 60 or so designs.

Category 7: Cupules. A cupule is defined as a concavity achieved by percussion on the rock surface. These hollows are generally circular and small, with an average diameter lying between 1.5 cm and 2 cm. This category has a special place amongst the petroglyphs because, as the cupules do not take up much space, they are usually grouped together instead of each creating an individual design. Cupules found in the center of a motif from another category, for example in the centre of a spiral or a circle, are not included in the present category. “Clouds of cupules” are assemblages in which the cupules are positioned without a particular order. “Ranks of cupules” defines cupules that follow each other in lines that may be straight, curved, or wavy. In this case, the lines may be grouped in two, three, or more lines. Sometimes the number of cupules per line have been taken into account when recording these motifs. This category occurs across most regions of the archipelago. With 492 designs, it represents one of the most frequent motifs.

Category 8: Star motifs. In general, each design in this category is formed by straight line segments radiating outward from a central point or a small circle. The rays number from three to over 30. Motifs with the general form of a star but with lines that diverge from a center have also been included amongst the stars. This category contains about 60 motifs.
Category 9: Masks or “mirrors.” The designs in this category are elongated, following a vertical axis of symmetry, with at least one circular extremity. The motifs are quite specific and have sometimes been called “mirrors,” although they probably represent humans or masks. Only a few examples – mainly in the center of the mainland – have been found in this category.

Category 10: “Cross” with arms bent downward. The motifs in this category are systematically enveloped by a line, and are characteristic enough to be differentiated from other classes. There are only 25 individual motifs, of which 19 are at the same site (EPN037), with the others being found within a radius of a few kilometers from this locale. From oral accounts, this quite particular motif may represent a “buzzard.”

Category 12: Figures with parallel hatching. The motifs in this category are partially open, often rounded, and have parallel hatching on the inside. The central axis has sometimes been engraved. This hatching theme is fairly well represented throughout the mainland with 63 designs, being found even on Lifou Island.

Category 13: Polygons. This rare category contains simple polygons. Although a few triangles have been found, most motifs are composed of quadrilaterals (rectangles or diamonds). They are usually of the same form, one enclosed within another.

Category 14: Forms ending in V or T. The motifs in this category are found in the central part of the mainland and are formed from a segment of a straight line that marks a well-traced axis of symmetry ending in a V or a T. As a group, the motifs have one, or sometimes two, enveloping lines.

Category 15: Grid hatching. Each motif in this category is formed from hatching in the form of a grid. The number of straight lines traced in each case is variable. The category is clearly distinguished from category 12 by its perpendicular cross hatching and absence of envelope. There are 39 designs found from both the north and center of the mainland.

Category 18: Anthropomorphic motifs. This category contains a variety of human figures. They are relatively numerous (62) and quite diverse, differing in size and complexity (Figure 10.4). An ambiguity exists between representations of humans and lizard motifs, probably originating in the desired effect of linking symbolic Kanak representations. Three different groups can be distinguished, with varied styles. Some designs show complete figures of men, women, or children. The most “linear” anthropomorphs are present in the north of the mainland, while those of wide multiple lines are concentrated in the area around Ponedihouen. Some motifs have stylized faces. Foot motifs are also included in this category.

Category 19: Zoomorphic motifs. This category is not as large as the anthropomorphic category and groups together animal representations. These are distributed throughout the archipelago. Engraved motifs of fish and lizards are present, fish being usually engraved on flat rocks along the shore. Half of the zoomorphs are turtles, some of which are accompanied by ranks of cupules (which may represent turtle eggs). A few designs have been interpreted as those of a bird, a snake, a bird of prey, a medusa, and a jelly-fish.

Category 20: Broken or wavy lines: “parallel” or “convergent.” This category groups together 230 of the motifs which are distributed principally in the center and north of the mainland and on the Belep Islands (northern outer islands). These forms do not occur in the south. Several sub-categories can be distinguished as large or small
parallel segments, parallel zigzag lines, curving “parallel” lines, “convergent” segments, or curved lines.

Category 21: Arcs of a circle. This category, consisting of about 300 motifs, has been grouped with the circles (category 5) in the past (see Monnin 1986). However, here these motifs have been separated as they are visually quite different. Several subcategories are defined (see Monnin and Sand 2004: figs. 3–46).

Other categories. The other 22 categories identified for the typology of New Caledonian petroglyphs are far less numerous in terms of individual motifs (lying between 20 and 30 examples, with others represented by a few individuals; Monnin and Sand 2004). The most significant are “two arcs cutting each other symmetrically on an axis” (category 22), “small segments on each side of an axis of symmetry” (category 23), “blazons” (category 27), “symmetrical volutes” (category 29), and “elliptical forms” (category 33). The synthesis of the typology makes it possible to propose a table of the diverse forms of petroglyphs in New Caledonia (Monnin and Sand 2004: fig. 3.118), in which the first column gives the category number, the second column the name or descriptive title, the third a descriptor of the motifs within a given category, and the fourth providing notes, in particular on the name and any possible
comparisons with other categories. Only 1 percent of the motifs have had to be grouped into the miscellaneous category – and these number 40.

**Some Kanak Oral Traditions on Petroglyphs**

One of the exciting elements of archaeological research in Oceania is the rich and diverse array of traditional cultural data that have been collected by Westerners since the eighteenth century, some of which is still part of the daily life of native Pacific societies. The Kanak oral traditions connected with petroglyphs show a diversity of meanings and interpretations according to the specificity of each site and the way in which the tradition was recorded. Contrary to what is generally believed in New Caledonia today, some very early writers did publish Kanak oral traditions relating to engraved motifs. Archambault, whose contrasting contributions to the study of petroglyphs have been highlighted earlier, actually included two distinct pieces of oral information in his reports. One tradition explained that the engraved designs were made to guard the memory of important events (Archambault 1901:266) and fits with explanations given more recently for other sites. The second, linked to another site, reports a mythological tale of a cannibal chief who eventually drowned (Archambault 1909:153).

During his long stay in New Caledonia in the first quarter of the twentieth century, ethnographer M. Leenhardt was a meticulous observer of Kanak society and wrote extensively on the subject. His only reference to petroglyphs is found in a text published in 1930:

> The kanaks had engraved or carved the stone . . . Cupules are known to present-day kanaks. In the European village of Houailou, a good series 1m 50 long, in two ranks, can be seen. It is not old. On the edge of the ravine at Karaguereu I saw three cupules that had just been made. Surprised, I asked what it meant: “It’s a testament, kibo” replied my kanak companion. He meant by this that the natives had arranged amongst themselves on the use of these signs, to confirm a decision taken, or to mark an action that had been carried out and he was astonished that I had not thought of this interpretation of the signs, the word in the language that signifies affirmation, a testament, being kibo, which means literally “to dig a hole.” (Leenhardt 1930:30–31)

L. Chevalier, the former curator of the New Caledonian Museum, recorded a series of traditions about the site at Taom (WUC001):

> According to Kamonluoca (from Buyen village), the motif on the west face represents a woman and that on the south face a man, and in the past anyone passing the rock would place a stone there. These days, should a native from the area pass the rock (this seldom happens because it is deliberately avoided) a leafy branch, gathered in the vicinity, is placed near the rock . . . The site at Taom is located at the border between what were once the territories of the Gomen and the Témala and it seems that it was as difficult to cross for one group as for the other. At the present time natives of the area deliberately redirect their steps away from this place. (Chevalier 1959:85)

The practice of making petroglyphs until quite recently is found in a tradition recorded in Gondé. According to Reverend Bwerheghau, people in his area were
carving petroglyphs until around 1914 (Frimigacci and Monnin 1980:51). During his systematic work on New Caledonia’s petroglyphs, J. Monnin was able to collect traditional data about the sites he visited. On site EPE017 at Tabé, for example, in the valley of the Tchamba River (Ponerihouen), rows of cupules in three parallel lines on a flat slab of the river bank were described as having served Chief Kanaké to keep account of the number of his wives (Figure 10.5). This explanation probably implies a more significant social act, such as remembering the matrimonial alliances woven together with other clans. A whole set of other traditions concerning the mythical makers of engravings, the meanings of some motifs, social bounds reflected in the site making, myths, horticultural connections and fertility rituals, as well as the mapping of itineraries, have been published in detail in Monnin and Sand (2004: ch. 4). These various accounts contradict the widespread view in New Caledonia that there is no Kanak tradition concerning the petroglyphs. This proposition was based solely on an ambiguous conclusion by Archambault, and has been subject to innumerable repetitions by later writers on the subject. Traditions are spatially localized and concern many subjects. These range from mythical tales without any apparent direct link to the engravings to concrete boundary-marking, counting, and some allowing for the identification of motif meaning. This first-hand information means that there is no overall simple and homogeneous system that could be easily understood.

**Painted Rock Art**

Research on rock art made with organic or mineral paints is far less developed than petroglyph studies in New Caledonia. The main reason for this is that most of the painted rock art sites, or at least the sites identified to date, have been located in deep
caves or in rock-shelters of the Loyalty Islands, where European settlement is nearly non-existent. This chapter now presents some preliminary comments on the main characteristics of the Loyalty Islands painted rock art, before briefly describing a unique rock-shelter on the east coast of the mainland.

Rock art in the Loyalty Islands
In contrast to the few petroglyphs identified mostly on open limestone sites in the Loyalty Islands, paintings and stencils appear to be restricted exclusively to rock overhangs, shelters, and caves. Among the diversity of motifs recorded, negative hand stencils are without doubt the single-most dominant category. The stencils were carried out using mainly sprayed wood-charcoal, although examples made of naturally occurring iron oxides are also known. In the Fëtra-Hé cave of Lifou Island (site LWT059; see Plate 6), over 170 hand-stencils have been recorded on a series of walls of the main chamber (Sand et al. 2006: Figure 2). They are testimony to the first phase of visits to the cave, between 700 and 400 BC, probably during explorations searching for drinking water. A clear continuation of a stencil tradition over the whole cultural chronology is demonstrated in the same cave by the presence of a negative stencil of a shell-ring arm band circle, directly dated from the turn of the second millennium AD, during the development phase of the “traditional Kanak Cultural Complex.” Interestingly, this motif is still known in Lifou to signal the presence of water close by (Sand et al. 2006). Although this site is the only one dated so far, a great number of other stencils, especially hand-stencils, have been recorded in each of the Loyalty Islands. In more open and accessible rock-shelters, the tradition of hand-stenciling is practiced to this day, alongside the use of this technique to preserve negative images of modern objects, such as knives, plates, or axes.

The second main category of painted motifs comprises sets of bars and crosses displayed in chaotic and seemingly unorganized ways. The closest visual parallel would be old television antennae (see petroglyphs category 23). Most of these motifs recorded to date are made with iron oxide, and drawn on cliff overhangs. A few cases of engravings of these motifs in deep caves, close to paintings, have also been recorded. The presence of this motif type in Maré and Lifou islands, as well as in Vanuatu, lends credence to the hypothesis that there was a widespread meaning for the makers of these drawings.

The final, although rare, type of painted rock art comprises figurative paintings on limestone surfaces. Radiocarbon determinations at the Fëtra-Hé cave have shown the development of naturalistic paintings of birds and turtles (Figure 10.6) at the beginning of the first millennium AD (Sand et al. 2006). In the nearby small island of Tiga, a recent survey has recorded the stencil of a fish and the painting of an anthropomorphic figure, interpreted as a dancer, in a sacred rock-shelter used until the past century for fishing rituals (Sand et al. in press). Examples of canoe drawings are known in Ouvéa, the northernmost island of the group (Sand et al. 2008:169).

The painted rock-shelter of Cap Bocage (Houailou)
The small rock-shelter of Cap Bocage, on the east coast of the mainland near Houailou village, was studied in detail by J. Monnin and colleagues, who recorded
over 90 clearly identifiable painted motifs alongside numerous faded marks of vanished drawings (Monnin and Sand 2004). The paintings were done in three main colors: white, ocher, and black. Interestingly, apart from several recent motifs, all the designs could be classified in one or other of the petroglyph categories presented in the first part of this chapter, the three main categories identified being enveloped crosses (category 3), anthropomorphic–zoomorphic figures (categories 18–19), and simple geometrical forms. The turtle and the lizard are the most frequently drawn animals. Uniquely, this overall classic set of traditional motifs is associated in this site with a series of paintings of traditional canoes and boats, over half of these being nineteenth-century European sailing boats. Although not identified, oral tradition states that a World War II American war boat is depicted in the shelter, alongside the figure of a guitar player. These last two examples indicate a long-lasting tradition of painting rock art for this site, probably starting centuries, if not millennia, ago and ending only in the mid-twentieth century.

ANALYSIS

The field results summarized in the first part of this chapter have been analyzed in order to answer some of key questions raised by New Caledonian rock art. A study of site localities shows that there are petroglyphs in practically all habitable regions, occurring both on the mainland and in small numbers on the various outer islands. A clear difference can be seen with painted rock art distribution, however, which appears to be far more numerous in the Loyalty Islands than on the mainland, where only a few sites are known at present. There is a predominance of petroglyph sites

Figure 10.6 Bird and turtle motifs of Fetra-Hé cave.
near water, whether it is the sea or fresh water. This over-representation—60 percent of the total—is probably due in part to the contemporary distribution of the Kanak population on the east coast of the mainland, which has provided access to petroglyph sites that are close to their coastal zone and fields. The apparent under-representation of sites in the interior is certainly connected with limited access in unpopulated areas of the mountains (apart from water courses), as well as the difficulty of finding sites that have become overgrown by vegetation.

The explanations proposed by most writers on the meanings of the petroglyphs’ graphics have, above all, been connected with an *a posteriori* interpretation of the engraved designs in past societies. With very rare exceptions, no hypothesis has been based on detailed oral tradition or on a study of patterning within wider Oceanic cultural traditions. Any serious interpretation of the meaning given to rock art motifs must integrate Sarasin’s pertinent remark (1917:11) that sites must be placed within their local cultural context. In this regard, research into correspondences and connections between petroglyphs and other forms of art known in the chronology (be it from archaeological sources or traditional Kanak objects, such as pot decorations, wood carvings, bamboo engravings, and tattooing), highlight a number of parallels (Monnin and Sand 2004:211–217). A number of petroglyph motifs, such as the “geometrical” decorations (categories 12, 13, 20, 21, 23, 25), the cupules (category 7), and the “stars” (category 8), are represented in other media, in particular on engraved bamboo and ceramics. The “palm” (category 23), “spike” (category 28), and “symmetrical volute” (category 29) motifs have been reported in most comparative items, the cross (category 3)—simple and with one envelope in most cases (Figure 10.7)—has been found in all the art forms, including tattoos. About half of the petroglyph categories have corresponding motifs in other traditional art forms, indicating no fundamental dichotomy between graphic elements found on rock engravings and those found in other forms of ancient art in New Caledonia. A similar conclusion can be drawn from preliminary comparative studies of the painted motifs.

These results highlight that New Caledonian rock art certainly has a complex chronology. Stenciled hand motifs from a cave in Lifou Island have been dated from the early part of the cultural chronology, while other motifs have been dated to later periods. Certain petroglyphs are in all probability linked to the first period of human

Figure 10.7 Traditional Kanak wooden door lintel, carved with enveloped cross motifs (drawn from Luquet 1926: fig. 8).
population of the New Caledonian mainland 3,000–2,500 years ago. Even though examples have not yet been discovered in New Caledonian Lapita sites, a dotted sherd from the site of Nenumbo in the Reef Islands carries an example of an enveloped cross (category 3; Green 1973:337), with two anthropomorphic motifs (category 18) being graphically very close to images discovered on a Lapita pot on the Mussau site in the Bismarck Archipelago (Papua New Guinea; Kirch 1997: fig. 5.6). Other categories show a graphic development that is unique to the New Caledonian archipelago, probably linked in part to the emergence of specifically Kanak traditions by the end of the first millennium AD. If all the petroglyphs had been made during only the first half of the cultural chronology, there would be relatively few to be seen today, as the majority of clearly older sites have long been buried beneath alluvial deposits resulting from anthropogenic environmental changes in the course of the past 3,000 years (Sand et al. 2003). Interestingly, a technical similarity between the petroglyphs and the large Kanak wood carvings (roof spires, doorposts, and divining boards) can be clearly identified in the final polishing of the grooves, in which a rounded stone was used for stone engravings and an abrasive of coral or plant material for the wood carvings. Painted rock art is still practiced today in the Loyalty Islands, and the engraved stones found at the surface of some river beds provide the clearest evidence that the petroglyph tradition persisted into colonial times, reinforcing data from oral traditions. Thus, it is not surprising to find that on certain sites motifs have been engraved with a metal tool, probably during the nineteenth century, which further demolishes any idea that the New Caledonian petroglyphs as a whole belong to a distant past.

The long chronology of rock art implied by this study has regional implications (see O’Connor et al. 2010). Rock art sites are known throughout the Pacific, Australia, and South-East Asia. Roughly speaking, there are two areas where petroglyphs have a significant density, one on each side of the Pacific, separated by a central area with a paucity of rock engravings and paintings. Eastern Polynesia has a significant petroglyph component (Lee 1992; Millerstrom 2001) and then, on the other side of the Pacific, the Melanesian arc, mainland New Guinea (Wilson 2002), and Australia have abundant and sometimes enormous assemblages (Morwood 2002). By comparison, and despite considerable field research, rock art is depauperate on the small islands between Fiji and the Cook Islands. Spirals occur in the Western Pacific as well as in New Zealand, but appear to be rare in the interior of New Guinea and in Australia, even in pigment art. The arcs turned under symmetrically at the ends (category 2) are present in southern Papua New Guinea as well as the Bismarck and D’Entrecasteaux archipelagos, but are rare in the southern archipelagos other than New Caledonia. A more regional distribution can be seen for crosses in the Melanesian arc. This motif in its simplest “one arm” form is found mainly in the Bismarck Archipelago, the Solomon Islands, and Vanuatu, spilling over into southern Papua New Guinea and Pohnpei in Micronesia (Rainbird 2002; Rainbird and Wilson 2002). Nowhere is it as complex and diversified as in New Caledonia.

A regional comparison of petroglyphs reveals a number of significant patterns. Unsurprisingly, marked differences can be seen between diverse regions of the wider Pacific. Neither enveloped crosses nor cupules, especially the more ancient “vulva” forms, are known in South-East Asia (Wilson 2002:118), the putative origin of Austronesian languages which were spread across the Western Pacific by Lapita sailors.
Australian petroglyphs are characterized by a profusion of figurative motifs that are barely present in New Caledonia, where symbolic motifs dominate the inventory. On the other hand, there is an obvious relationship between southern Papua New Guinea and the archipelagos of the Melanesian arc, from the Bismarck Islands to New Caledonia (Rosenfeld 1988; Ballard 1992).

The homogeneity of petroglyph motifs within the Melanesian arc, and the often marked difference that exists with the rest of Oceania (Roe 1996), provide confirmation of the maintenance of links between New Caledonia and other Melanesian societies during at least part of the post-Lapita chronology, although the exact nature of these links and the precise time frame remain to be defined accurately by further pan-regional archaeological studies. Specht (1979) previously noted the existence of a “style” of engraved stones that was distributed between Goodenough Bay, New Hanover, New Britain, Vanuatu, and New Caledonia, while Roe showed that 50 percent of the petroglyph categories used in the New Caledonian typology were present on engraved stones from northwest Guadalcanal in the Solomon Islands (Roe 1992:123). Spriggs and Mumford (1992:133) have equally demonstrated that more than a third of the motifs in the New Caledonian inventory are to be found in petroglyphs of Anceityum Island in southern Vanuatu. On the neighboring island of Eromango, numerous “vulva” designs (category 4), commonly found in the north of the New Caledonian mainland, have been listed (Spriggs and Mumford 1992:134). More recently, Wilson (2003) has synthesized data on Melanesian rock art in her thesis on petroglyphs and rock paintings of Vanuatu. Despite the small number of sites listed in the archipelago (n = 87), compared with New Caledonia, and the preponderance of paintings, she proposed a chronology for rock art in the southwest Pacific (Wilson 2003). This area has a homogeneous petroglyph tradition with enveloping lines, spirals, turned-under curves, crosses, barred ellipses, and concentric circles that is clearly differentiated from eastern Polynesia (Specht 1979; Wilson 2002). Unexpectedly, a comparison of motifs appears to link New Caledonia especially with the coastal areas of Papua New Guinea. This raises an intriguing question for future research, as there are currently no satisfactory explanations for these similarities.

CONCLUSION

For over a century, Oceania’s rock art has been used by amateur scholars as a basis for debate about the peopling of the Pacific. Surprisingly, while engraved stones and rock paintings have been noted in many archipelagos, Oceanic rock art has seldom appeared in various works on Oceanic arts generally (see Thomas 1995; D’Alleva 1998). The paucity of rock art analysis becomes even more obvious in reading works summarizing Pacific archaeology (see Kirch 2000), this being particularly true of publications on the southwest Pacific (White and O’Connell 1982; Terrell 1986; Sand 1995; Spriggs 1997). Yet, in the few cases where there have been detailed rock art studies, it has been possible to reach significant conclusions which can be integrated satisfactorily within general archaeological syntheses (Lee 1992; Millerstrom 2001; Wilson 2002, 2003; Monnin and Sand 2004). Comparison of the data on motifs, categories, and geographic locations of the engraved stones and rock paintings
of New Caledonia, and associating these with Kanak oral traditions, has provided a firm basis for a meaningful comparison. A significant result has been the confirmation of a regional assemblage of engravings that unites the archipelagos of the Melanesian crescent and also differentiates them from other areas of the Pacific. The New Caledonian petroglyphs are not an anachronism developed on an isolated archipelago, but are part of a wider regional tradition — a style province. Despite an increase in the quantity and diversity of published data on New Caledonian rock art now accessible, archaeologists have only just begun to systematically develop major questions and answer these with relevant analyses.

Petroglyphs and, to a lesser degree, rock paintings are of a perennial, almost eternal, nature: something that their creators must have understood well. Paradoxically, the most efficient destructive agent of these sites today is development encouraged by some island leaders. Over the past century, mining, road construction, electric power lines, and residential areas, as well as changes to the fire regime (for example, the careless lighting of bush fires in which extreme heat causes exfoliation), have been responsible for the rapid deterioration of a number of archaeological sites. A greater understanding of the distribution and age of this art, its antiquity, and connectedness to Kanak oral traditions will, it is hoped, encourage the protection of this traditional art form well into the future.

REFERENCES

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