

Field Report

FROM EXPLOITATION OF THE FOREST TO URBAN DEPENDENCE IN PAPUA NEW GUINEA

C H R I S T I A N C O I F F I E R

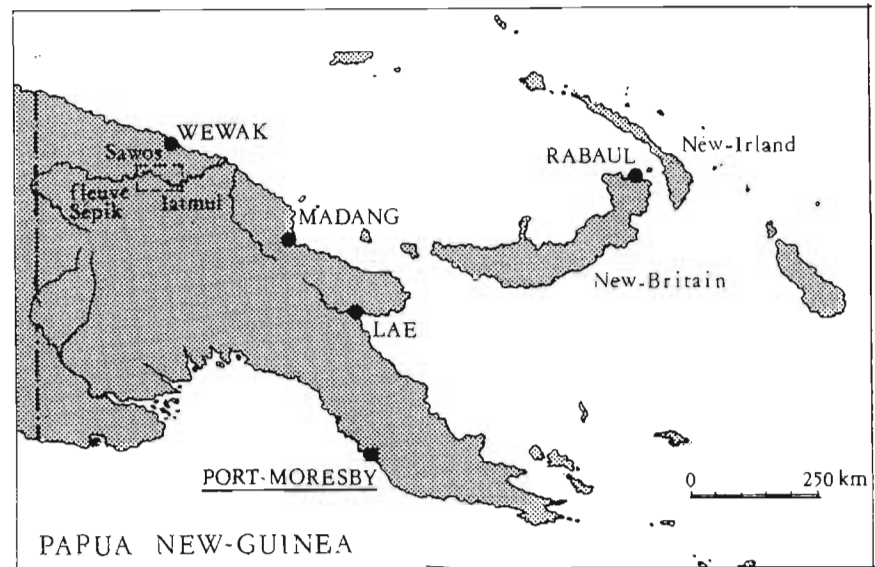
For centuries European intrusion has profoundly modified the socioeconomic structures of the peoples of the Sepik region of Papua New Guinea. One effect has been that many villagers now immigrate to new urban areas. Until the 1970s the construction techniques of the Sepik peoples were solely based on the exploitation of their physical environment (forest, swamps, river). At the present time, however, those who live in urban zones have become dependent on the town for their food and housing. Meanwhile, those who remain in the villages import more and more manufactured products from the city.

UNLIKE AFRICA AND ASIA, MELANESIA HAD NO URBAN TRADITION before the arrival of Europeans, whose colonization of the area at the end of the nineteenth and beginning of the twentieth centuries established the bases for urban infrastructures in the various archipelagos. Since, urbanization has grown so rapidly that it has become one of the most crucial problems the new states of the region, created in the past fifteen years, will face in the coming decades.

The development of towns in Papua New Guinea is a case in point. At the beginning of the colonial era urbanization was an exclusive concern of colonists (German and Australian traders, merchants, adventurers, or civil servants). These people were linked to their home countries by seaports and, later, airdromes, and the whole process of urbanization was centered around these sites. The construction of roads, allowing the spread of urban culture, only began much later.

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FIG. 1. Map of Papua New Guinea showing the principal towns to which Sepik peoples migrated.



In this article I shall show the interdependence between the development of the present towns and the bush villages from which their inhabitants come. I agree with Spiro Kostof that dissociating the study of towns and villages hides the interdependence of their respective evolutions.¹ After all, towns developed from the rural world, not the contrary.

THE PEOPLE AND THE AREA

Papua New Guinea is a vast country with hundreds of different peoples (FIG. 1). Those of the Middle Sepik River Valley seem particularly appropriate for demonstrating my point. Colonization has forced these peoples who lived until the beginning of the twentieth century isolated from Western techniques in intimate association with their physical environment to become involved in a long process of social, economic and cultural transformation which has entailed their adaptation to a radically different life-style and conception of their environment. After having struggled for centuries against a particularly hostile environment, which they came to dominate, the Sepik peoples have now had to adapt to a town life created by colonists, who brought their own cultures to the area and imposed them on it.

At the beginning, the Sepik people who immigrated to urban areas tried to conserve their own social organizations and techniques. Yet, despite their efforts, the cultural matrix created by colonization inevitably altered certain bases of their societies (language, beliefs, ways of living), as they were forced to adapt to new forms of knowledge and techniques for survival. Today the process seems also to have begun to run in reverse. People from the urban areas are now returning to their villages and are bringing with them a syncretism of

Western and local cultures developed through dozens of years of cultural mixing in the urban zones.

FROM COUNTRY TO TOWN: THE PAST

Unlike many other Melanesian peoples, the rural societies established on the banks of the Sepik River created village units (FIG. 2). These were regroupings of hundreds of people (sometimes more than a thousand, e.g., Tambanum village) coming from lineages and clans formerly spread out over the whole region. Gregory Bateson hypothesized that in these societies without institutional heads, villages could never have grown so large without the existence of certain ceremonies which reinforced the bonds of alliance between lineages.²

Another difference fundamental to Sepik River Valley societies was a system of exchange based on the monoproduction of foodstuffs necessary for survival (e.g., "fish for sago").³ This barter system between accredited partners probably involved other exchanges: women and techniques, for example, as well as consumption goods.

The construction of habitats within these societies was based on the use of plant material: collections from the forest, salvage of tree trunks floating in the river, and barter with neighboring peoples possessing forests richer in varieties of wood suitable for processing into lumber (FIG. 3).

Most peoples living on the banks of the Middle Sepik constructed their villages on longitudinal plans. The villages consisted of large houses built on solid stilts deeply set in the clay of the river bank. The family houses were usually large (5–8 meters wide by 12–20 meters long) and had a single room

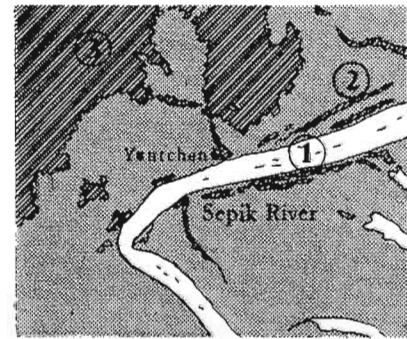
which sheltered an extended family (FIG. 4). This allowed each member to maintain privacy for sleeping thanks to individual basketry mats that were covered with mosquito netting (FIG. 5).

The ceremonial houses for men were often larger than 10 meters wide by 40 meters long (FIG. 6). They represented the cohesion of the many clans that participated in their construction, and served as evidence of the bond between human beings and the spiritual entities of the waters and forests. Smaller houses for adolescent boys and young men who had not yet been admitted to the ceremonial houses also existed. Provisional structures such as platforms, enclosures, and monumental doors were also built from time to time.



FIG. 2. (BELOW LEFT) Map of the principal Sepik Valley villages and urbanization zones.

FIG. 3. (RIGHT) Places on the Sepik River banks where construction materials are found: 1) tree trunks floating; 2) forests near river; 3) dense forest.



Certain technical characteristics of this type of habitat were especially well adapted to the region. For example, long, narrow buildings with walls made of lath and suspended curtains allowed air to circulate freely (FIG. 7). Bordered by trees and reinforced with earth, these platforms were protected from the heat and cooled by the breeze (FIG. 8). The houses were also resistant to the earthquakes that occurred frequently in the area, because they were assembled from pieces of framework bound together by liana.

Vast quantities of plant materials were needed to build these houses: dozens of large tree trunks for the stilts, beams and joists; dozens of palm and bamboo trunks for the roof frame and the floors; hundreds of sago and borass palm leaves to cover the roof and the walls. The different parts were tied together by kilometers of treated liana creeper. Such consumption of plant materials in villages having about a hundred buildings each meant that the inhabitants had to manage their forest patrimony carefully. Trees were inextricably linked to human life and family lineage and were planted and cared for with an eye for future use.

Each house, built using axes and adzes with stone blades, represented hundreds of hours of work shared by various

members of the village community. Men did the actual construction while women prepared the food for the dozens of workers involved. Like the construction materials, the food was gathered from the river (fish, water plants) and the forest (sago, vegetables, pork). The food was cooked on fires made from pieces of floating wood salvaged from the river. Like the house itself, the food had a spiritual dimension related to the entities of the waters and forests.

THE COLONIAL PERIOD

When, at the end of the last century, the Germans sailed up the Sepik River in search of new lands to colonize, they discovered hardly any land suitable for plantations.⁴ They did notice, however, that these inhospitable lands were more heavily populated than other regions of Papua New Guinea. They decided to use the Sepik population, who were skilled in silviculture, as laborers on their Rabaul plantations.

At the end of World War I the Middle Sepik territory came under Australian control. Tribal wars and headhunting were forbidden, and now-idle warriors were encouraged to become part of the workforce organized under German administra-

FIG. 4. (RIGHT) *Palimbei village: family houses (1980).*

FIG. 5. (MIDDLE) *Floor plan of a traditional family house showing the location of mosquito nets. Scale 1:200.*

FIG. 6. (BOTTOM) *Payembit ceremonial house in Palimbei village. (See also Fig. 15).*

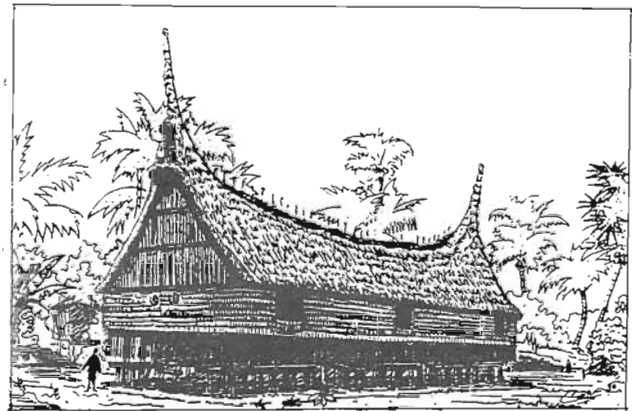
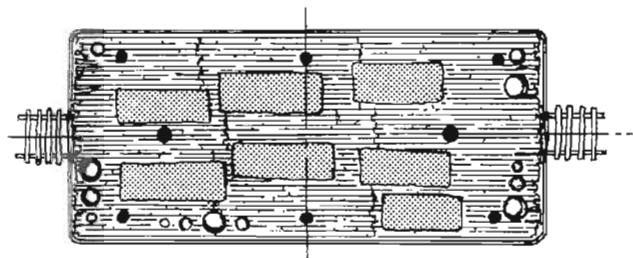


tion. This policy had the effect of emptying certain villages of working-age men, and led to a collapse of the cultural values on which many societies were based.⁵ Numerous secondary effects made themselves felt in neighboring populations not yet under Australian administrative control.

The years between the two World Wars were thus a turning point between eras for the Middle Sepik River peoples. During this period they saw the irreversible disintegration of their cultures. Young men were encouraged to leave their villages for three to six years (sometimes longer).⁶ Along with new ideas and ways of doing things, they brought manufactured objects bought in the plantation zones back to the villages.

In terms of built form, however, great changes in construction techniques did not occur until the end of World War II. This period represented a second profound psychological shock for the Sepik Valley peoples. During the war the Sepik peoples had been obliged to choose between foreign belligerents (Japanese, American, and Australian) who were fighting for causes that hardly concerned them. Villages were bombed or destroyed, and many men who had been impressed into the armed forces were killed. After the war the disaster-stricken villages and urban zones had to be reconstructed, and the recruitment of contractual workers began again.

The Australian administration encouraged missionaries to establish schools in the villages in order to bridge the gap created by the collapse of the former educational system (due in part to the departure of the male population).⁷ The missionaries trained catechists to teach the new religion in pidgin and carpenters to build schools, churches, and various dwellings. New techniques, such as the use of the lever to raise beams and triangular frames, now spread rapidly to villages



deserted by young men, the traditional workforce (FIG. 9), and other imported construction techniques, requiring few workers, rapidly replaced old methods.

During the decade 1970–1980, which marked the end of the colonial period, the laws restricting the free movement of Papua New Guinea peoples were relaxed and then abolished. Workers from the Sepik region who had been housed by their employers in single-sex dormitories began negotiating with owners (according to customary law) to rent plots of land just outside the burgeoning towns. These new tenants constructed traditional dwellings using salvaged bush materials.

During the process they cleared and built with new tools: metal axes, saws, and bushknives.

Insofar as possible, these new in-town houses were situated as they would have been in the home village — aligned perpendicularly to the nearest source of running water for the Iatmuls from Palimbei, for example.⁸ Each such “village” in the new urban zone included a small meeting house. When the building of new in-town homes was finished, men brought their wives and children from their home villages to the newly constructed urban zone. The towns of this period thus remained enclaves of traditional village life.

THE POST-COLONIAL PERIOD

Under the direction of Michael Somare, the independent state of Papua New Guinea, created in 1975, entered its existence firmly committed to a free-market economy (with Australian help). Somare, a former school teacher, is a good example of the new generation of Papua New Guineans who, although educated in the missionary schools of the post-war period, are marked by, and proud of, their original culture.

But with its insistence on monogamy, Christianity (reinforced by the introduction of various Protestant sects) deeply changed family organization and housing in both villages and urban zones. The traditional dwelling had been designed for an extended family, but it was gradually replaced by a smaller house suitable for a nuclear family.

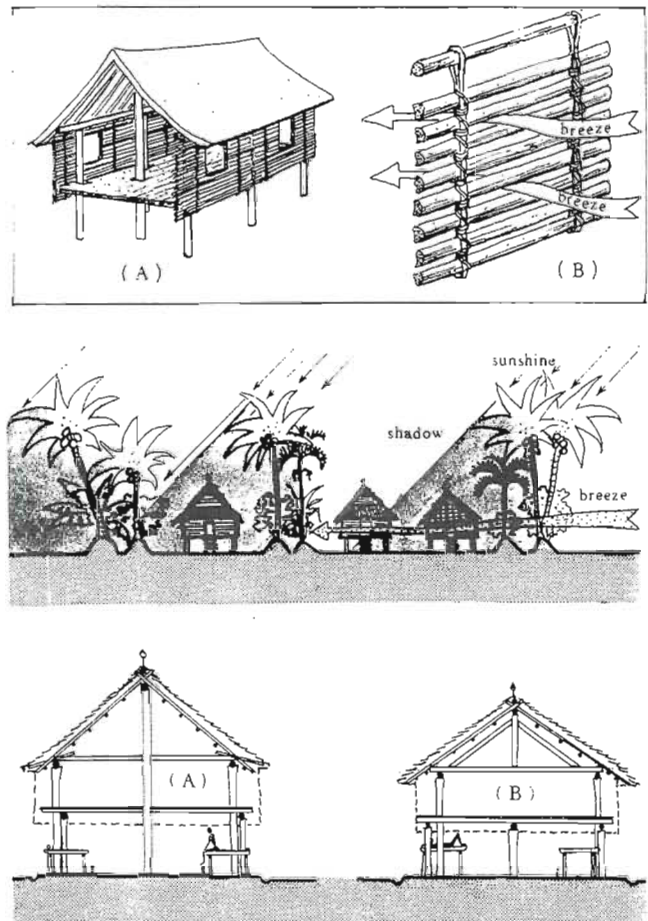
Even if the social legislation of the new government did not apply to villages, it greatly influenced the housing of rural migrants in urban zones. The use of bush materials was gradually forbidden on the outskirts of towns for reasons of security and hygiene. But migrants had neither the means nor the habit of using manufactured building materials. As a consequence, they were excluded from plots managed by town corporations and forced to settle on pieces of land (swamps or quarries, for example) that were situated outside the towns.

The rapid economic development of certain coastal cities further added to the process of change by creating an additional need for manpower. It was easy, even automatic, to recruit workers from the Sepik region, where job opportunities were few, and where the population had grown considerably thanks to progress in medical care since World War II. Networks of hiring were created, and some employers came to deal directly with certain privileged villages.

FIG. 7. (BELOW) Overall plan: (A) ventilation; (B) walls made of suspended curtains.

FIG. 8. (MIDDLE) Transverse circulation of air through a family garden showing how family houses are ventilated and protected from the sun.

FIG. 9. (BOTTOM) Designs of the two types of frame used: (A) central pillar; (B) triangular frame.



After using bush materials left over from the clearing of their land, migrants now turned to the surrounding forests. This practice sometimes created conflicts with the customary-law owners of the surrounding areas, and soon usable materials

from this source also became increasingly scarce because of ever-growing demand. From year to year forests surrounding urban areas receded, until they were finally located too far away for migrants who did not own vehicles.

Housing sites grew up spontaneously around plants that processed timber, as migrants realized that scraps and waste (e.g., off-cuts of wood, non-standard beams, and stilts) could be salvaged and used in the construction of their own dwellings.⁹ New housing models appeared in this way largely due to the ingenuity of Sepik migrants, who had long been accustomed to exploiting salvaged materials.

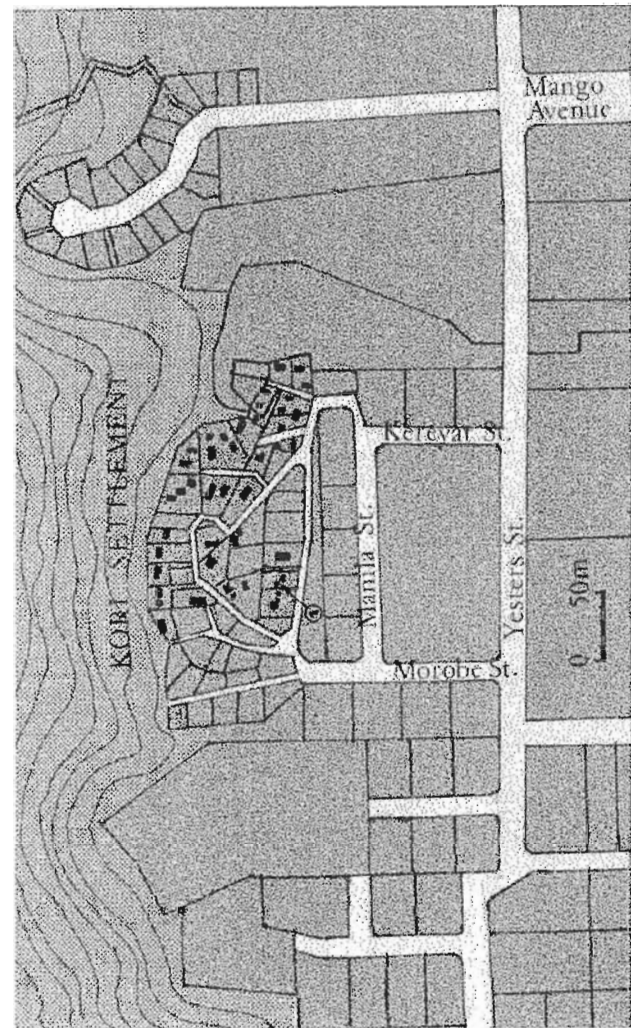
The Sepik migrants continued to exploit the forest at second hand, and thus adapted to using factory-processed lumber. Some even found work in the timber mills and helped fellow migrants from their villages buy materials at reduced prices.

An ecological disaster struck the Middle Sepik in the 1980s; *Salvenia Molesta* invaded the river and destroyed the fish-breeding fauna. The local economy based on fishing was deeply disturbed, and many people had no choice but to leave the region. This caused a swelling in the number of migrants in the urban zones.

The customary-law owners of plots just outside the towns were outnumbered now by squatters and tenants who could not pay their rent. Mutual suspicion grew, and there were some open conflicts. The rise in the number of unofficial residents also rapidly increased the amount of pollution, since drainage was bad and sanitary installations and equipment were poor. The impoverishment of these urban zones, over which town corporations had no authority, was an inevitable consequence.

THE PRESENT

Since 1980 the national administration has helped townships create new housing sites for migrants, complete with access roads, sewers, running water, and electricity (FIG. 10). A squatter's right to the plot on which he has lived has been recognized (Nuiko Settlement in Wewak, Kori Settlement in Rabaul), and a home-loan policy has been implemented. This policy has not been successful, however, because borrowers often cannot pay back their loans; indeed, the system is on the verge of bankruptcy. Unemployment has risen sharply and jobs remain scarce. Moreover, city-planning laws are not fully respected, and numerous dwellings in bush materials have been built on the new sites.



Sepik River migrants have never given up their tradition of building houses next to water, whether a stream or the sea. Unlike other Papua New Guinea peoples, they have never settled in the hills surrounding the cities. In Lae and Wewak, where they cannot salvage floating pieces of wood for fires, they use kerosene stoves for cooking. Their diet has also changed: increasingly, rice has replaced sago and tubers, canned fish has replaced fresh fish, and shop-bought meat has replaced pork and fowl raised at home (FIG. 11).

In 1982–1983 timber-processing mills situated in towns were transformed into warehouses for finished lumber. Better roads made it more profitable for companies to combine logging and timber processing nearer the forest. Among other things this meant that migrants living near the former in-town timber mills could no longer obtain cheap construction materials. The well-to-do now buy prefabricated lumber and wood. The poor salvage what they can from public dumps and scavenge scraps and waste material (metal, plastic, ply-

FIG. 10. (LEFT) Map of Kori Settlement on the northern border of the urban zone surrounding Rabaul.

FIG. 11. (RIGHT) Some forest products that urban (manufactured) products have replaced.

wood, cartons) thrown out by factories. As a result, certain urban zones have come to resemble the shanty towns of Africa, Asia, and Latin America (FIG. 12).

FROM TOWN TO COUNTRY

For more than fifty years Sepik River migrants have returned to their villages with new objects. At the beginning, returnees only brought back easily transportable things such as clothing and tools. But the development of roads and motorized transport has led to the appearance of large objects of foreign manufacture in the villages: prefabricated elements for housing construction, cisterns, metal furniture, and trunks. The use of these objects has gradually modified the village landscape.

Beginning in the 1960s the Australian administration, as well as certain missionary groups, imposed various types of buildings on the original Middle Sepik villages. Schools and churches were constructed according to Western models and with imported materials. Only after Vatican II (1962) did churches in traditional materials appear (FIGS. 13,14). Additionally, during the colonial period each village had to erect one or two small houses for transient civil servants (policemen, patrol officers, census-takers). Although these buildings representing the colonial administration did not survive independence, the health posts set up by the administration in a certain number of villages are still used and accepted, and they are usually constructed in imported materials. The administration has also made each family have a toilet installed behind their house. Older people continue to use the bush, but younger people who have lived in urban zones prefer toilets.

Although the Sepik peoples adopted a triangular building frame in the 1950s (and thus basically changed the form of their dwellings), it was only in the 1980s that totally new types of buildings using imported materials (corrugated iron, for example) began to appear (FIGS. 15,16). "Stores" appeared at the same time: small buildings situated beside the family house, in which members of the extended family sold food and basic necessities. Owners usually learned how to operate such businesses while living in the urban zones. Owners of stores in villages located far from roads use motor-

HABITAT	
Roofing made out of sago leaves	Corrugated iron roofs
Stilts made out of tree trunks	Metal stilts
Walls made out of leaves	Cement, Asbestos, Fibrolite
Rope made out of liana	Nails and beer tops
Woven-rush mosquito netting	Cotton mosquito netting
Wooden seats	Metal seats
Drum made from a tree trunk	Metal drum
Basketry mats	Imported Chinese mats
TRANSPORTATION	
Boat made out of a hollowed tree trunk	Motorboats
Wooden oars	Metal oars
TOOLS	
Stone tools with wooden handles	Tools made out of metal
Glue made from the sap of certain trees	Chemical glue
Bamboo bushknife	Metal bushknife
Bamboo blades	Razor blades
Spears with bamboo tips	Spears with steel tips
FOOD AND EATING UTENSILS	
Tubers and sago	Imported rice
Fresh fish	Canned fish
Basketry meat-safe (or food-safe)	Metal boxes
Plates made out of plant fibers	Plastic plates
Wooden spoons	Metal spoons
Pottery jars in bamboo holders (water containers)	Plastic jars
Fishing nets in plant fiber	Nylon nets
Provision bags woven from plant fibers	Nylon or cotton bags
Vegetable and mineral dyes	Chemical dyes
CLOTHING	
Clothes made from plant fibers or animal skins	Cotton clothes (made by sewing machine)
Woven bags and baskets	Plastic bags and baskets; containers in imported leather
Belts of plant fibers or bark	Leather belts
MISCELLANEOUS	
Firewood for cooking	Kerosene stoves
Lighted bundles or bunches of coconut leaves	Flashlights; electric torches
Flutes/pipes of bamboo	Flutes/pipes of plastic tubes
Rough leaves for smoothing surfaces	Sandpaper
Jewelry from various berries	Beads and glass trinkets



FIG. 12. (TOP LEFT) *Sepik migrant dwelling house in Kori Settlement (1988).*

FIG. 13. (TOP RIGHT) *Catholic church in Kreimbit village constructed of bush materials.*

FIG. 14. (BOTTOM RIGHT) *Catholic church in Kaningara village built in 1980 according to the traditional model but using imported materials.*

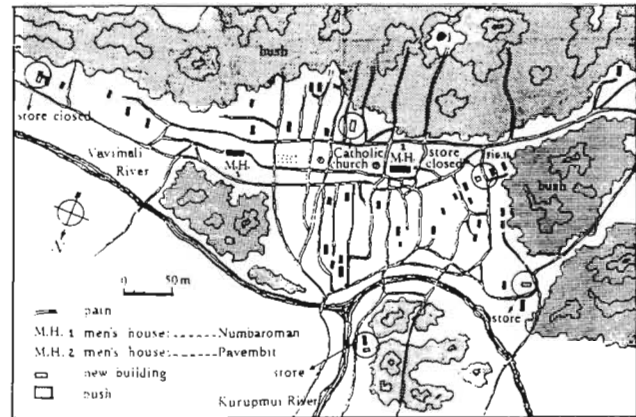
FIG. 15. (BOTTOM LEFT) *Palimbei village: traditional family house with trade store belonging to owner (1980).*

boats to transport their stock. The increasing number of such boats has stimulated the growth of stores.

Tourism is creating the need for another imported building type, the hotel. Certain village leaders have taken the initiative of having small buildings made of bush and imported materials constructed. These "lodgements," formerly unknown in the Sepik region, have water reservoirs, showers and toilets. Financial aid from missions has also led many villages to build centers where young people can meet, play billiards, chat, and smoke without the constant supervision of elders that exists in ceremonial houses.

Changes in construction techniques correspond to real needs in many cases, but a question of prestige is also involved. A

FIG. 16. Plan of Palimbei village showing sites of new buildings (1988).



family may be proud of building an Australian-type house, or a village may be highly satisfied that its youth center has sheet-metal roofing and a reservoir. The problem is that these buildings rarely have mosquito screens or nets on all the windows, and their reservoirs are not disinfected. The division of space into individual rooms, moreover, does not correspond to the social life and habits of the inhabitants.

A final intrusion in the old village fabric is provided by the fact that certain migrants take their city houses with them when they return to the village. They disassemble them for shipment, then reassemble the parts on the river bank. This solution to the problem of housing is probably less expensive than actually constructing a new house of traditional materials. On the other hand, buildings in modern materials are rarely kept up correctly and deteriorate rapidly in the Sepik Valley climate.

CONCLUSION: BUSH MAN AND TOWN MAN

The Middle Sepik region, whose inhabitants created an original and brilliant architecture based on the exploitation of forest products, is becoming increasingly dependent on foreign building models and imported materials. Many traditional techniques are still used, but new building processes are replacing old ones in a slow but irreversible process, and new architectural creations are often without inspiration.

In order to reach this stage of development, the cultural fabric of these societies has had to perish. Christian missionaries were partially responsible for causing the disappearance of a type of commerce that linked man to nature through the intermediary of spirits of the waters and the forests. The

international market further destroyed much of the local economy and its numerous networks, which had developed over hundreds of years: barter of food, forest products, raw materials, and various objects (e.g., pottery). Finally, successive colonial administrations accelerated the destruction of the cultural fabric by encouraging the recruitment of migrant workers.

For the peoples of the Middle Sepik Valley, there are now two ways of living. The first, that of the towns and surrounding urban zones, attracts young people who reject the past. Young men dream of a consumer society, a salary, and easy contact with women from other regions; young women are drawn by facilities such as schools and hospitals. The second way is represented by the village and its world of ancestors and traditions. This is a place where one can be at home, where food need not be bought. It is thought by some to be the ultimate remedy for the hardships of town life.

For those who have lived in urban zones for a long time the return to village life has become increasingly difficult. It does remain a possibility, however, an option not available to those whose ancestral lands have been swallowed up by urbanization. For Sepik migrants, nevertheless, the possibility of successful reintegration is inversely proportional to the degree of integration into the urban zones. It would seem one cannot be both a bush man and a town man.

REFERENCE NOTES

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All drawings and photos by author.

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