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Capítulo 20

DE OTROS ARBOLES ESTIMADOS Y DE VALOR POR EL MADERAJE; Y SUS DIFERENCIAS, QUE ACA SON MUCHAS Y TODAS BUENAS

Antes de pasar adelante a tratar de los árboles aromáticos (que no faltan acá, con otras hierbas y raíces de la misma calidad, de que trataremos en el capítulo siguiente) quiero tratar en éste de los que, o por su grandeza extraordinaria, o por su dureza, o por su color y calidades, son de muy grande alivio en estas Islas,¹ y más para las tan ordinarias como necesarias fábricas de naos, que son su conservación y aumento, pues sin ellas no hubiera trato ni contrato, como lo hay ordinario en [*sic*] la Nueva España, de donde viene la plata, y con los demás reinos circunvecinos a estas Islas, que son muchos y opulentos, y de donde vienen los géneros que con ella se compran, y de que viven los vecinos de estas Islas, sin lo cual ni pueden conservarse ni durar, ni ellos, ni la fe, que depende de ellos, como en su lugar diremos.

Es tanta, pues, tan buena, de tanta variedad y calidades la madera de estas Islas y los árboles que copiosísimamente la ofrecen a las seguras que quizás no hay tierra en el mundo, no digo que la exceda pero ni aún que la iguale, ni aún las célebres de Hirán, en la Escritura, etc.

¹ We must not forget that Alcina's *Historia* (1668) is a history of the Bisayan people of Samar and Leyte. His references to people, places, customs, animals, plants, language, etc., will, in general, refer to those two islands.

Chapter 20

CONCERNING OTHER TREES PRIZED AND VALUED AS BUILDING MATERIALS; AND THEIR DIFFERENT KINDS, WHICH HERE ARE MANY AND ALL USEFUL

Before going on to treat of the aromatic trees, which are not lacking here, along with other herbs and roots with the same characteristics, which we will discuss in the following chapter, I wish to deal with those trees which are of the greatest benefit in lessening the burdens of living in these islands. We will treat their extraordinary size, their hardness, color and other qualities. Especially those valuable for ordinary uses as well as those so necessary for the construction of ships which are the means of preservation and growth of these Islands. For without them there would be no trade or commerce, as this is done with New Spain from whence comes the silver. Also, with the other kingdoms that are neighbors of these Islands and which are both numerous and wealthy. From these come the goods which are purchased with the silver and from which the inhabitants of these islands make their living. Without this trade people would not be able to maintain themselves nor survive; neither they nor the faith which depends on them, as we shall say in its proper place.

The timber of these islands is abundant, excellent, of a great variety and easily available to the wood man's ax. Perhaps, there is no land in the world that would, I do not say exceed but, even equal it. Not even the famous work of Hiram in the Scripture,² etc.

² Samuel 5:11 and Kings 1:5.

Los *molaves*,³ que llaman acá los españoles, y los indios *hamorauon*,⁴ por ser los más en abundancia, en fortaleza y que más sirven para edificios, maderamientos, pilares o columnas, llevarán el primer lugar que, cuando no lo tengan por su calidad, merécenlo por sus servicios.

Es el *molave* árbol de madera si no más fuerte tanto como los carrascos o encinas mejores de Castilla. Su altura y corpulencia, mayor. Hay árbol de éstos que tiene tres brazas de ruedo,⁵ aunque éstos son pocos; de dos, más; y de una y media, poco más o menos, los ordinarios.

La corteza delgada, el color de la madera algo amarillo, la hebra, en el género más duro de ellos que llaman *quiris*,⁵ tan retortijada como cabellos de negros. Y hay algunos pies tan nudosos que parece son todos ataraceados y nudosos; que esta es la causa de su fortaleza y de durar mucho tiempo enterrado debajo de la tierra. Y por ésto son los mejores en algunas partes y de más dura los *molaves*, y entre ellos los que llaman *lalaki*, que es macho (que, como dije ya en otra parte) acá a todos los árboles los dan esta diferencia los naturales, de macho y hembra, siendo aquellos más duros, mayores y de calidades más fuertes.

Seis diferencias, por lo menos, de *molaves* he hallado, que llaman con distinto nombre estos naturales. Y la una de ellas se suele convertir en piedra, o naturalmente aún en el monte donde nace, o ocasionalmente en los suelos donde le hincan para hacer casas.

De uno y otro he visto yo; de los del monte, un pedazo de raíz convertida totalmente en piedra, quedándose la otra parte palo. Y de los que sirven de *hariguís*, que son los pilares o columnas de las casas, vi otro que se arrancó, y por estar ya muy comido en la haz de la tierra, que es lo más expuesto a los calores del sol y humedades del agua,

³ In Tagalog we have the word *mulawin*. It is the name of a hardwood tree, probably hispanized by the Spaniards into *molave*. Buceta writes *molavin* (Buceta, M. - Bravo, F., *Diccionario geográfico, estadístico, histórico de las Islas Filipinas*. Madrid, 1850, 2 vols., II, 345). Other spellings are *mulawin*, *maolawin*.

⁴ The "*Hamorauon nga lankan*" is the best and hardest kind of *molave*; the wood is oily and of an intense yellow color. The "*hamorauon nga manabahon*" is a whitish *molave*. It is soft and lasts little when used as *haligi* (Cfr. A. Sánchez de la Rosa, OFM, *Diccionario español-bisaya para las provincias de Samar y Leyte*. Manila, 1914, 138).

⁵ *Quiris* means to fricate things in between the hands. Also the act of rubbing the pig after it has been singed, to remove the skin (cf. Sánchez, *op.cit.*, 265). The thing used to remove the singed skin came to mean the action.

The *molaves*, as the Spaniards call them here and the natives, *hamorawon*, the most abundant, the strongest and the most used for dwellings, houses frames, posts and columns, must be given the primacy, if not because of their quality, they deserve it for their usefulness.

The *molave* tree is a timber as strong or stronger than the better small holm oaks or the evergreen oaks of Castile. They are taller and their girth is greater. There are some trees of this variety which have a circumference of three "*brazas de ruedo*",⁶ although this is rare. Some have two or more. Ordinarily they are about one and one-half *brazas*.

The bark is thin, the color of the wood is somewhat yellow, the fibers, in the strongest variety which are called *quiris*, are as curly as the hair of the Negroes. Some of the trunks are so knotted that it seems that they are gnarled. This is the reason for their strength and their durable qualities when buried underground. For this purpose the most durable and the best in some places are the *molaves* and among these the ones they call *lalake*,⁷ a masculine reference. As I have said in another place, here all the trees are given this difference of masculine and feminine by the natives. The former are harder, larger and with strong qualities.

I have found at least six different kinds of *molaves* given distinct names by these natives. One of these usually turns into stone, either naturally in the forests, where they grow, or occasionally in the ground where they are driven in order to build houses.

I have seen myself these two cases. From the forest I have seen a piece of root completely turned into stone, while the other portion remained as wood. These serve as *haligi*,⁸ which are the pillars and posts of houses. I saw another which had been pulled up. It had become weather beaten at the portion above the ground since that part is most

⁶ *Braza*: a measure of six feet, or around two meters

⁷ In Tagalog man is called *lalake* and woman *babae*. In most Filipino languages this is also the case. *Lalake* and *babae* are also used for animals and plants. In Spanish it would be *macho* and *hembra*, male and female.

⁸ In modern Tagalog the spelling is *haligi*. The early missionaries wrote it as *haligue*, *halige*, *jarigue*, *jarigui*, *harigue*, *harigui*. The Spaniards tended to hispanize the Filipino names and use them in plural forms. In the two chapters we present here we have many examples: *molaves*, *hariguis*, *quiliquiles*, *ipiles*, *lauanes*, *balotos*, etc. When Alcina speaks of *haligui*, he means the *haliguing cahoy*, not the *haliguing bato*, that is, the wooden posts not the stone posts.

variándose estos temperamentos muchas veces, no digo al mes sino aún al día, lo que más presto se gasta es un palmo,⁹ poco más o menos, de lo que está más cerca de la haz de la tierra, pues este *harigui*, que su nudo estaba vuelto en piedra totalmente dura y sólida (y que sirvió después para amolar cuchillos y otras herramientas) más de dos palmos de la punta que estaba dentro de ella, y lo demás se quedó en su ser de palo, aunque ya muy gastado por los años, que había estado sirviendo en aquel ministerio, que, según la calidad de los suelos y del *molave*, es más o menos. El durar algunos de *molave* más de cincuenta años, sin lesión, es considerable, y es ordinario; y otros duraban mucho más.

Finalmente esta madera, donde no le dan las inclemencias del cielo, aguas y soles, se puede decir incorruptible, pues son sin número los años que dura, siempre fuerte.

No es inferior otro palo, que llaman *ipil* (dejando otras virtudes del *molave*, como son el ser contra-yerba para ponzoñas, y para animales ponzoñosos, que muerden y suelen matar, como los cientopies, que acá llaman *ololaypan*, y otros).

Es el *ipil* tal vez mayor que el *molave*. Son sus hojas y corteza muy diferente. El color de la madera es más colorado. En la duración e incorruptibilidad se semejan mucho. En algunas partes lo es más el *molave*, y en otras el *ipil*, según la calidad de los suelos. A lo que yo puedo alcanzar por la experiencia, en las partes que exceden en humedad dura más el *molave*, y en las que el calor y que los suelos son más enjutos el *ipil*, el cual tiene una propiedad más que el otro, que, aunque haya cien años que se cortó, lo que está metido bajo la tierra está siempre verde y casi como el mismo día que se cortó en el monte; y aun lo que está fuera de ella tiene un género de jugo resinoso, de modo que, poniéndolo en el agua, se vuelve pegajoso y tiñe el agua de color colorada. Y por esta causa, en las embarcaciones que hacen estos naturales (que, como apuntamos ya, van como cosidas con unos tarugos de *bahe*¹⁰), para que estos no se salgan con facilidad, les clavetean por la parte de adentro con tarugillos cuadrados como clavos, de *ipil* que, abriéndole camino primero con la punta de un clavo, o punzón, meten en mitad del tarugo, que para eso los dejan señalados de antemano con unas rayas, y con eso no pueden deslizar a ninguna parte.

⁹ *Palmo*: the distance from the tip of the thumb of the hand to the extreme of the little finger, with open and extended hand.

¹⁰ *Bahe* is the outer cover of the wild palm, hard and strong. Used, as we can see here, to hold together parts of the ships used by the natives.

exposed to the heat of the sun and the moisture of the rainfall, conditions that vary many times, I do not say a month, but even in the course of a day. The portion that most quickly wears away is about a palm's length nearest the surface of the ground. The portion of the *haligi* that was in the ground was completely changed into a hard, solid stone. More than two palms from the point which had been in the ground as a post was afterwards used to sharpen knives and other tools. The rest remained in its original state as wood, although today it is very much worn because of the years that it has been serving its function. Depending upon the quality of the soil, the *molave* is better or poorer. It is common for the *molave* trees to last for more than fifty years without appreciable damage; others last much longer.

Finally, this wood, where it is not exposed to the inclemency of the heavens, water and sun, can be said to be incorruptible, for it lasts countless years and is always strong.

Not less inferior to this is another kind of wood called *ipil*. I omit the other uses of the *molave*, such as its use as an antiseptic for people against poisonous animals which bite and usually kill, such as centipede called here *ololaypan* and others.

The *ipil* is even larger than the *molave*. Its leaves and bark are very different and the color of the wood more reddish. In durability and incorruptibility they resemble each other a lot. In some places the *molave* lasts longer while in others, the *ipil*; it all depends on the quality of the soils. To this I may add from my experience that in the places where there is greater humidity, the *molave* lasts longer; in places where the heat is greater and the soils drier the *ipil* lasts longer. The *ipil* has another property over the *molave*, that even after a hundred years since it was cut down, the portion that is buried beneath the ground is always green and almost the same as the day it was cut in the forest. Also, the portion above ground has a kind of resinous liquid, so when placed into the water it restores its viscosity and tints the water with red. And so for this reason, in the sea-vessels that these natives constructed (as we have already pointed out how they are held together with a kind of a *bahe* wooden pin or dowel) and so that these do not come apart easily, they fasten them on the inside with little square pins like nails of *ipil*. After first making a hole with a nail or a punch, they thrust these into the middle of the pin. For this purpose they are marked beforehand with lines. As a result none of the sections can come loose.

Añado, para calificación de la duda de cuál dura más, si el *molave* o el *ipil*, lo que vi por mis propios ojos en una iglesia de las mayores de todas estas islas de Bisayas y del mayor pueblo que hoy hay en ellas, que se llama Calbiga,¹¹ y la derribó un *baguio*; que, para reedificarla en parte más a propósito, por ser muy aguanoso el que le servía de suelo, aunque terraplenado, fui arrancando todos los *hariguís* que habían quedado enteros. Eran ellos de tres géneros: de *molave*, de *ipil*, y de otro que llaman *quiliquili* (de que hablaremos luego). De la parte derecha de la iglesia, que estaba más aguanosa, quedaron algunos *molaves* buenos y casi sin lesión; de la otra, que era más sólida, los *ipiles*. Y esto no igualmente; que algunos, y lo mismo fue en los *molaves*, aunque más grandes, estaban totalmente podridos en lo que estaba junto a la superficie de la tierra, y otros sin señal alguna de podredumbre.

De modo que no es fácil determinar cuál sea de más dura. Eslo, sin duda, en uno y otro género el que nace entre peñas, porque, aunque no son tan corpulentos comúnmente, son más fuertes por estar con el calor más curados, y ser el pasto o el humor que los alimenta menos áqueo.

Estos dos géneros de palos nacen comúnmente cerca del mar, o en partes donde alcanzan sus influencias y vientos.

Al contrario, los dos géneros que se siguen. Al uno que llaman *quiliquili*, es del tamaño y grandeza que los dos pasados. Nace en partes apartadas del mar y en lo que acá llaman *irayas* (que es lo que está cerca de los nacimientos de los ríos, en lo más apartado del mar).

La madera de estos *quiliquilis* es de un color amarillo como azafranado, y el de más encendido color es el más duro y de más dura.

Tiñen las indias con el agua de este palo (que hacen hervir muy bien, cortado en menudas astillas) sus vestidos y les dan un color como naranjado, no malo recién dado, aunque con el tiempo se ennegrece y queda como pardo oscuro. Es de mala calidad y suele encalabrinar su

¹¹ *Calbiga* is a town of Western Samar, not too far from the capital of the province, Catbalogan, overlooking Carigara Bay. Buceta says that Calbiga had a parish priest, a *gobernadorcillo* and an elementary school. The town was well defended against the wind. The climate was temperate and healthy. It had around 1,270 houses, a solid church and a solid town hall. Its forests were principal and had trees of the finest qualities (*op. cit.*, I, p. 463). Buceta was writing in 1850.

I add, in clarification of any doubt, as to which is more durable, the *molave* or the *ipil*, from what I saw with my own eyes in one of the larger churches in these Bisayan Islands and in the largest town that there is today called Calbiga. A *baguio* destroyed the church and they decided to rebuild it in a more suitable place because the former site was virtually a swamp, even though it was built on land-fill. They were pulling out the *harigis* which had been left intact and which were of three kinds: *molave*, *ipil* and *quiliquili*, about which we shall speak later. In the area of the church which was most severely flooded there remained some fine *molaves* without any damage. In the drier portion where the church was situated, the *ipiles* were preserved but not uniformly. Some of these, as is true of some of the larger *molaves*, were totally rotten at the portion above-ground. Still others had no sign of rot whatsoever.

Therefore, it is difficult to determine which is the most durable. There is no doubt that of the two varieties, it is the one that sprouts among the rocks, since, although generally not so large, they are tougher because of their exposure to the heat and because the sap that nourishes them is less aqueous.

These two types of timber commonly grow near the sea and in areas exposed to the winds and elements.

The two varieties which now follow are just the opposite. One called *quiliquili*, which is the same in size and shape as the previous ones, grows in places away from the sea and what is called here the *irayas*,¹² that is, in places that are near the sources of rivers and at the farthest distances from the sea.

The wood of these *quiliquiles* is of a saffron-like yellow in color; and that which is the brightest in color is the hardest and lasts longest.

The native women dye their clothes with chips made out of this wood and boiled for a long time. Immediately upon dyeing it gives their clothes an orange-like color; with time, however, it darkens and becomes a dark brown. It has an awful quality for its odor makes the

¹² In the history of the Dominican missions of Luzon we have the so-called *Irayat* region in Cagayan Valley. It included the towns of Gamu, Ilagan and Cabagan. The highest mountain in the island of Batan, of the Batanes group, is called the *Iraya*. The geographical definition of Alcina befits the situation of the *Iraya* of Cagayan Valley and the *Iraya* of Batanes.

olor las cabezas a los que no estamos acostumbrados a él. Y así, en unos pueblos de *irayas* (que es gente apartada de la mar, donde usan mucho el teñir así sus ropas) se han desmayado algunas veces los Padres, cuando están los domingos en la iglesia todos juntos, por la mala calidad y mal olor, que, estando en ayunas (como es fuerza lo estén los Padres, pues han de decir misa) causan. Yo me he visto algunas veces en ese peligro, y así me prevenía alguna hierba olorosa dentro la mano, como albahaca u otras que acá hay, con cuyo olor templaba la mala calidad de el *dinarag*,¹³ que así llaman a lo teñido con dicho palo del *quiliquili*.

Para que se conozca su fortaleza, y si es más o menos que el *molave* o el *ipil*, contaré lo que experimenté en otra iglesia, harto grande y capaz, que también derribó un *baguio* en el pueblo de Palapag,¹⁴ cabecera de Ibabao, a donde llegué yo algunos meses después del fracaso (y no tanto que no hallase los rastros de la ruina, y entre ellos las flautas de un órgano de Japón,¹⁵ que son de tablas con un betún negro, y suenan tan bien como las de estaño y plomo de España, que recogí con otros trastes). Pues lo que allí reparé fue que casi todos los *hariguís* o pilares, que pasaban algunos de braza y media de ruedo, otros de dos, y eran de *molave*, *ipil* y *quiliquili* (todos habían hecho vileza, y estaban destrozados por el suelo los más). Sólo de *quiliquili* habían quedado cuatro o cinco enteros y sin lesión en lo inferior, aunque rajados por lo superior.

Tanta como esta es la violencia de los *baguios* (como diremos después, cuando tratemos de los enemigos que tienen estas Islas) que estos son uno de los mayores que, aunque no cautivan, matan y asuelan las casas, los templos y pueblos irremediamente.

*Barayong*¹⁶ llaman al otro género de palos duros, que con nombre general llaman los indios *tugas*, que quiere decir "lo más recio y duro de

¹³ The *Diccionario* of Sánchez does not have the word *Dinarag*, but it has the word *Dinagat*, meaning faint, to faint. Off the coast of Samar, a little southeast, we have *Dinagat* Island, today part of the province of Surigao del Norte.

¹⁴ At the time of Alcina, Palapag was the *cabecera*, the main center of the Island of Ibabao, as the eastern part of Samar was then known. Juan Ponce Sumoroy started his revolt against Spain there in 1649-1650. Buceta writes that Palapag had a parish priest and a *gobernadorcillo*. The parish church was large and solid. In 1845 its population was 3,062 inhabitants. It had textile industry of cotton, in which women were employed (*op. cit.*, II, p. 377).

¹⁵ In the original Spanish text of Alcina the word is always spelled *baraiong*. The

heads swim of those who are not accustomed to it. In some of the towns of the *irayas*, where the people live some distance from the sea and where they often dye their clothes in this manner, the odor caused some of the Fathers to faint when all were gathered in church on Sundays. That bad odor and the fasting which the Fathers must keep since they must say Mass brought that about. I have found myself at times in this danger and so I, as a precaution, carried some fragrant herb in my hand, such as the sweet basil or others that grow here. Its fragrance neutralized the bad characteristic of the *dinarag*, as they call that which is dyed with the wood called *quiliquili*.

In order that its hardness may be appreciated and to see whether it compares with the *molave* and the *ipil*, to a greater or lesser degree, I shall recount what I found out in another church, rather large and spacious, which was also destroyed by a *baguio*. [This occurred] in the town of Palapag, a *Cabecera* of Ibabao where I arrived some months after the disaster. This happened not so long after, so that I was still able to find traces of the damage. Among them were the pipes of the organ from Japan¹⁶ made out of wood with black bitumen, which I gathered, which sounded as well as those of tin and lead from Spain, with some other furnishings. What I discovered there was that almost all of the *harigis* or posts, some of which a *braza* and a half in circumference and others two, were all of *molave*, *ipil* and *quiliquili*. All had been damaged and most were lying in pieces on the ground. Only five of the *quiliquili* remained whole, without being broken off at the bottom even though split at the top.

So great is the violence of these *baguios*, as we shall describe later when we treat about the enemies of these Islands. This is one of the greatest enemies. Even though these do not take captives, they kill, topple houses, churches and towns mercilessly.

Barayong is the name given to another type of hard timber; the natives call it by the general term *tugas* which is to say, "the strongest

right spelling is *barayong*. (Cf. Santos, Domingo de los, *Vocabulario de la lengua tagala*, reimpresso por Tomás Oliva [Manila] 1835, 468.

¹⁶ How an organ built in Japan was found in Palapag is quite strange. We know of the strong Jesuit connection with Japan from the time of Saint Francis Xavier (died 1552). Perhaps the missionaries of Japan donated it to the Jesuits in the Philippines. At the time of Alcina's *Historia* (1668), Japan was a *Sakoku*, a closed land.

la madera." Este, aunque no es tan duro como los dichos, lo es poco menos, pero mucho más hermoso que todos (dejo el árbol, que no es inferior en lo grande y copado, y en lo corpulento de los troncos, a los dichos). Trato del género y calidades de la madera, que es tan colorada como el mismo palo de "brasil" (que llaman en Europa, y acá lo hay en abundancia, como veremos en el capítulo siguiente).

Son los *barayong* palos derechos, lo más como un uso,¹⁷ y poco nudosos, y así muy a propósito para ser labrados, y, aunque sirven también como los otros para *hariguís* o pilares en las casas e iglesias donde hay muchos, y es comúnmente lejos del mar (aunque tal vez se hallan también cerca) su mayor y mejor uso es para sacar tablones de que se hacen bufetes mejores que de nogal, escritorios, cajas, mesas, sillas, todos (cuando nuevos) colorados como la sangre de las narices, aunque con el tiempo se vuelven algo prieto el color, quedando un colorado oscuro.

Es palo en que no entra polilla, como ni en los antecedentes tampoco, y que es de las buenas maderas que se puedan desear para todo género de marcos, balaustres, rejas de comunión, puertas y otras cosas a este modo; que para todo sirve famosísimamente.

Hay también dos diferencias conocidas, si no más, porque hay unos que son más blanquizcos. Estos tienen la hoja más ancha, señal común de los que llaman hembras, y, aunque nuevamente labrados, no tienen tan buen color como el más colorado. Con el tiempo lo adquieren, y en parte es mejor, porque nunca llegan a tener el color tan negro como el otro.

Casi todos estos árboles son medicinales y tienen sus calidades proficuas, y a las veces nocivas. *Manaba* llaman al *barayong* en otras partes.

Tratemos ya de otra especie de palo, que llaman "maría" los españoles. Y a su nombre (no sé por qué ocasión se le dieron tan bueno), corresponde su bondad, pues para fábricas de galeones dudo que la haya mejor, ni aún su igual, en todo el mundo. Así lo he oído a muchos hombres peritos y maestros de naos, que han andado muchas partes de él.

¹⁶ The Spanish text says "uso," without *h*. It should be "huso," which we translate as spindle. The modern generation, whether in Spain or in other European

and hardest of timbers.” This one, although it is not as hard as those mentioned earlier, is only slightly less so but is much more beautiful than any of them. I pass over the fact that the tree is not inferior in size, shape and in girth of its trunk to the others. I treat about the type and quality of the wood which is as red as the Brazil wood, as they know it in Europe and grows here in abundance, as we shall see in the next chapter.

The *barayong* are for the most part straight like the spindle,¹⁷ and with few knots. Thus, they are very suitable for carving and although they are also utilized, like the others, for posts in houses, churches, where they are plentiful, and these ordinarily are found far from the sea, although they are also found very close to it, these are principally fashioned into boards, from which are made finer writing desks than those from walnut, boxes, tables and chairs. When new, these are red like blood from the nostrils; however, with time the color somewhat darkens and becomes a dark red.

It is a wood into which the wood worm will not enter, as it is also true of the others that have been mentioned. It is an excellent wood as one can desire for all kinds of frames, balustrades, communion gratings, doors and other things of this sort for which it is so well-known.

There are also two different kinds known only by the fact that some are more white. These have a wider leaf, which is an ordinary sign for those they call female. And although they may have been newly worked, they do not have as fine a color as the deeper red which they acquire in time. In a way this is better because it never comes to have as black a color as the other.

Almost all of these trees are medicinal and have their useful properties; at times, noxious ones. In other places, the *barayong* is called *manaba*.

Let us now treat another species of wood which is known as “*maría*” by the Spaniards. Its name reflects its fine qualities, but I do not know what occasioned such an excellent name. For the construction of the galleons I doubt whether there is a better or even an equal in the whole world. I have heard this from many knowledgeable individuals and masters of the *naos* who have gone through many of its parts.

nations, has never seen a spindle and a distaff, much less a typical old woman “manufacturing” the thread through that primitive way.

Llámanle los indios en su lengua *dancalan*. El tronco es grueso, aunque no largo, como los referidos; las ramas muy corpulentas. En las hojas y corteza semeja a los perales de España, y aún en la fruta, que es a modo de unas peras berroquiñas que hay redondas. Esta del *dancalan* no se come, que es como un pedazo de corcho. Solo el talle y color tiene de fruta.

Nace este árbol en las orillas de la mar y donde casi llega su resaca, que parece que la naturaleza, que le dio la bondad, le dio la inclinación a lo marino. Con ésto están más a mano para cortarlos.

Procuran sacar de este palo (si se puede hallar de las medidas convenientes) todas las maderas que llaman de cuenta, por ser las que son con *[sic]* fundamento para la fábrica, y entre ellos el que llaman los marineros "codastre"¹⁸ (que es parte de la roda de popa, que es el más difícil de hallar al propósito) y a veces sucede gastarse mucha cantidad de pesos y no ser de provecho, porque, en teniendo cualquiera lacra o abertura no puede servir.

(Díjome una vez uno de los oficiales mayores de naos que para la fábrica de una se habían gastado más de quinientos pesos¹⁹ para hallar un codastre a propósito, porque dos o tres que se habían traído, buenos al parecer, en labrándolos no fueron de provecho, hasta que el cuarto salió bueno).

No alcanza este palo para servir de quilla, porque no se alarga tanto, pero sí para dicho codastre, y la roda de proa, que también es difícil de hallarse, aunque no tanto, y para las costillas o ligazones, que llaman "planes" y "piques", y para los corbatones de mayor calidad y que piden más fortaleza.

El color de este palo (que, quitada la corteza exterior, es todo bueno y sólido, sin tener lo inmediato a ella más blando y que admita carcoma, a que llaman los indios *aramay*, que quiere decir "lo blando y que presto se pudre", en que éste más que otros, y el *molave* después, exceden a los que no la admiten) es colorado o encarnado, cuando nuevo, y lo va perfeccionando hasta que queda rojo como sangre. Y tiene una propiedad notable (por la cual le llaman los Indios "la mujer del

¹⁸ In nautical terms today *codaste*: the last part of the keel, touching the stern-post and the rudder. From *coda*, in turn from latin *couda*, *cola*, tail.

¹⁹ Five hundred pesos was a huge amount at that time. It was the annual salary of the Dean of the *Cabildo Eclesiástico* of the Cathedral Chapter.

The natives call it in their language *dancalan*. The trunk is thick but not as high, as those already mentioned. The branches are very bulky: in its leaves, bark and even in the fruit it resembles the pear tree of Spain. That of the *dancalan* cannot be eaten, because it is like a piece of cork. Only in its size and shape does it resemble the fruit.

This tree grows at the shores of the sea just out of reach of the surf. It seems that nature which gave it its fine qualities gave it its inclination to sea-fearing. As a result, it is close at hand for cutting.

One may derive out of this wood, if it can be found of reasonable measure, all the timber necessary for the special parts in ship construction, for it has all these essentials. Among these special parts is that which the mariners call the sternpost [*codastre*] which is the stem of the poop and which is difficult to find for this purpose. At times a great quality of pesos is spent without avail because, if the beam has any kind of defect or fissure, it cannot be used.

It was told one time by one of the higher ship officials that in order to build a vessel, there was spent more than five hundred pesos in order to find a stern post that was suitable. For two or three that had been brought, good in appearance, in working them they were found to be useless. Finally, a fourth one came out well.

This wood is never useful for the keel because it does not become very long; it is for the stern post and the stem beam of the prow, which is also very difficult to acquire but not so much. It is also good for the ribs or buttocks which they call "bottom of the ship" and crutches and for better quality sloops of war [*corbatones*] which require greater strength.

The color of this wood, after the bark has been taken off, is very fine and solid. It does not have a softer layer immediately beneath which is subject to attack by the wood worm which the natives call *aramay*, which is to say, "that which is flabby and rots quickly." This wood more than the others, with *molave* following, excels in that they repel the wood worm. It is red or deep red when new and it continues to change until it becomes a blood red. It has a notable quality for which reason the natives call it "the wife of the iron"²⁰ because it welds itself

²⁰ This is a beautiful metaphore, which shows even the "religious" concept of marriage among the Bisayans. As the wife clings to her husband, so this wood receives the nail and clings to it. The union is "cemented" for life.

hierro”), que se une tanto con los clavos con un generillo de goma que tiene connatural que, habiendo dormido una noche el clavo hincado en él, aunque no entre mucho, primero lo quebrarán que lo arranquen otra vez, conservándose lo que está dentro de dicha “maría”, sin herrumbre, aunque sea muchos años.

Hablaré en este caso con la experiencia que vide y toqué con mis manos en el pueblo de Borongan²¹ (que está en la costa oriental de la isla de Ibabao y que recibe los tumbos de la mar de la Nueva España).

Habíase perdido en aquella costa el año 1620 una nao llamada San Nicolás, de que trataremos en otro lugar, y fue la primera que allí se perdió (aunque fue pérdida gananciosa) y, después de quemado y recogido todo el hierro de lo que quedó (había quedado la quilla con todo el plan hasta la última, o ínfima, cubierta dentro del agua, que, cuando más bajar, tenía cinco brazas, poco más o menos de hondo).

Ivan allá los indios a bucear sus pedazos de hierro o clavos, que buscaban abajo, ya desgajando pedazos de las ligazones, ya revolviendo el lastre que allí tenía la nao; a que fui yo algunas veces con ellos por estar cerca del pueblo, como por vía de huelga. Y dejando aparte varias cosas que delante de mi sacaron, entre ellas fue una tinaja de China (que son muy sólidas y vidriadas) la cual estaba enterrada en el lastre, y sólo la una parte de la barriga sobresalía algo, que, pensando un [in]dio [*sic*] buzo que era piedra, la quiso apartar para buscar algún clavo. Viendo que era tinaja, la sacó y la vimos todos, que toda la parte que estaba fuera de lastre, que era más de un palmo en ruedo de la barriga, se había convertido en piedra blanca y como de arrecife. Diéronmela a mi y yo la llevé a casa, donde servió muchos días, y allá la dejé cuando me mudaron de aquel puesto.

Sacaron también barretas de acero sin dañar, y aún sacaron un papel de alfileres que me dieron a mi, que, aunque estaba podrido el papel y los alfileres, que serán de azofar negros aunque fuertes, guardaba los mismos dobleces antiguos; si bien, luego que los desdoblamos, los perdió. Y de este modo sacaron varias cosas que se conservaban allá bajo, catorce o quince años había, pues esto fue el año de 1635 quince años, o cerca de ellos, después de la pérdida; que el de 1634 fui yo a Borongan.

²¹ *Borongan* is today the capital of the province of Eastern Samar, *Ibabao* in early Spanish times and during Alcina's time. Buceta says that Borongan had a parish priest, justices and school. The climate was humid and hot; not too healthy. The

to the nail with a kind of resin that nature gives it. When the nail has been driven into it overnight, even though not very deeply, the latter will even break off before it can be pulled out again. The portion that is buried in the "*maria*" lasts without rusting, even for many years.

I shall speak about this case from experience in having seen and touched it with my own hand in the town of Borongan, which is situated on the eastern coast of the Island of Ibabao and which receives the surf of the sea from New Spain.

There perished on that coast, in the year 1620, a ship called the *San Nicolás*, about which we shall treat in another place. It was the first that had gone down there. And yet [in a way] it had been a profitable loss. After it was burned and all the iron that was left had been recovered, there remained the keel with the entire bottom of the boat covered with water. When the tide was out it was about five *brazas* deep, more or less.

The natives went there to search for pieces of iron or nails, which they looked for below, ripping out pieces of timbers or rolling away the ballast which the ship carried. At times I went with them just for fun and because it was near the place. Leaving aside various things they recovered in my presence, one of them was a jar from China (which are heavy and glazed) and which was buried among the ballast. Only a portion of the mid-section was showing. A native diver, thinking that it was a stone, wished to remove it in order to look for nails. Discovering that it was a jar, he pulled it out and we saw all of it. The entire portion that was above the ballast, which was more than a palm's width from the middle portion, had been changed into a white stone like a coral. They gave it to me and I took it home where it was used for many a day. I left it there when I was moved from my post.

They also brought out undamaged metal bars and even they recovered a paper of pins and gave it to me. The paper, of course, was rotted but the pins were of blackened brass. The paper even preserved its original creases; but as soon as we opened it, these disappeared. In this way various items were pulled out which had been preserved there below for fourteen or fifteen years. This was the year 1635, approximately fifteen years, after it perished. I came to Borongan in 1634.

church was small. The forests were extremely rich in hard woods, palms, rattan, honey, wax, wild buffaloes-carabaos, deer, wild-boars, etc. (*op. cit.*, I, p.400).

Pero, viniendo al caso porque traje esta materia, en una de las veces que allá me hallé descubrieron una argolla que debía de estar hacia la proa según la cuenta. Amarráronle una maroma, hicieron su esfuerzo, rompió la argolla y sacó consigo una astilla de "maría" de más de una braza, en que estaba dicha argolla y otros clavos, tan tenaces que jamás quisieron desasirse.

Salió el palo tan colorado como la sangre de las narices, y tan fuerte como si fuera recién sacado del monte. Hiciéronle astillas para sacar dicha argolla y algunos clavos, y, aunque lo redondo estaba algo comido, el perno, o clavo, que era harto grande, estaba dentro, sin señal de herrumbre, aunque estaba algo negro.

De donde se colegirá con cuánta razón le llaman los Indios "que se casa²² este palo con el hierro", y cuánta es la bondad de esta madera "maría"; (pero ¿cuándo no fue bonísimo todo lo que tiene, aún en sombra, tan divino nombre) pues después de tantos años estaba como en su primer verdor?

Semejante en la bondad y dureza de la madera es otro palo que llaman *talisay*, aunque es su color pardisco como nogal, y su fruta muy parecida a los piñones de pino, aunque los da en una como bolsilla de materia estoposa, que no tiene más que dos o tres cada una de ellas. Son de calidad seca y cálida, y, si se comen muchos, suelen dar dolor de cabeza, pero del palo usan como del de "maría", y con los mismos efectos.

Juntemos a este "maría", o *dancalan*, el árbol que los indios llaman *lauan*, por ser compañeros inseparables para las fábricas; el uno para los menesteres y oficios referidos, y éste del *lauan* para la tablazón, que, si fuera de tanta dura como el pino de España, fuera la mejor madera para costados del mundo: pero, quitada la duración, que es poca, y raro tablón de costado llega a dos años (siendo, como son acá, de *lauan* los más), en las calidades buenas excede a todo otro maderaje de tablazones. Son *lauanes* los mayores palos de estas Islas y los que más crecen en largo y grueso. Llegan algunos a veinte, y más, brazas de largo. Son algunos tan corpulentos que no les abarcarán cinco

²² The text reads se saca, but clearly it must read se casa, ['is married'] to justify the metaphore applied to the wood *maria*, called by the natives "la mujer del hierro" ("the wife of the iron"). Here the text is meant to say "que se *casa* este palo con el hierro" ("this wood is married to the iron").

But returning to the point of the matter which I am treating: on one of the occasions that I was there, they found a large iron ring which must have been near the prow, according to the account. They tied a rope to it and by using force broke the ring loose and brought it out fastened to a plank of "*maria*." It was more than a *braza* in length to which the ring was attached with nails so firmly that they seemed that they could never be separated.

The wood emerged as red as blood from the nose and as strong as if it were recently taken from the forest. They splintered it in order to take out the ring and some nails. Although the rounded portion was somewhat deteriorated, the spike or nail which was especially large on the inside was without any sign of rust; however, it was a bit blackened.

From all this one may gather with how much reason the natives have named it "this wood is married to the iron" and how fine is the quality of this timber called "*maría*" (when in fact was it not most excellent anything that had even in similarity so divine a name?), for after so many years it was in the first vigor of the wood!

There is another timber similar in strength and durability of wood which is called *talisay*.²³ However, its color is grayish like the walnut and its fruit is very similar to the nut of the pine tree, although it grows in a kind of pocket of fibrous material and has only two or three nuts in each. These are of a dry and a piquant quality. If one eats many of them they will give him a headache. The timber, however, is used like the "*maría*" and for the same purposes.

Together with this "*maría*" or *dancalan* we must mention the tree which the natives call *lawaan*²⁴ because they are inseparable companions for construction. The first for the needs and purposes mentioned and the *lawaan* for planking. If it were as hard as the Spanish pine, it would be the best wood in the world for siding. But it lasts for a short time; few and rare are the siding planks that last two years. Here the greater number of these are *lawaan*. Its fine qualities render it better than any other timber for planking. The greater number of trees in these Islands are *lawaanes*; these also grow tall and bulky. Some get to be twenty or more *brazas* in height. There are some so big in

²³ *Talisay* is a common name of some towns in the Philippines. *Talisay* in Batangas, *Talisay* in Cebu, *Talisay* in Negros, *Talisayan* in Misamis Oriental.

²⁴ *Lawaan*, so-called probably because it grows near the *lawa*, lagoon, lake.

hombres, tocándose las puntas de los dedos y abrazando dicho tronco.

Hácese no pocas veces embarcaciones, y las he visto yo (y aún mandado hacer, no una sola) que, siendo de un solo palo, llegan a abrir o tener de ancho nueve y diez, y alguna doce palmos, y de largo cuanto quisieren dentro de la largura dicha del tronco. Es palo fácil de hendir, o partir, que es a modo de álamo y de largas hebras.

Son varias sus diferencias: uno más blanco, que llaman *talingahan*, que sus hojas parecen orejas humanas; otro colorado, que llaman *malasinoro*; y estos dos son los mejores y de más dura; y otros que se allegan, más o menos, a los dichos, y tienen sus nombres diferentes, aunque el general es *lauan*, y el que los comprende a todos.

De estos troncos tan grandes sacan las tablazones como quieren de largo y ancho, aunque para costado buscan los más largos y delgados, para que cimbreen mejor y se ajusten a lo redondo del buque, y para crujiadas y suelos los más anchos, que con menos se hace más obra. Y de todos ha dado Dios grande abundancia, en que pueden, como dicen, escoger como en peras.

Por lo que hace a esta tablazón, señalada y particular es su propiedad, pues es de tal calidad que nunca se raja o echa astillas, aunque la ascriben a balazos; que, o atorán las balas en ellas si son menores, o pasan de parte a parte las mayores, con poco más daño que si pasaran por una saca de lana o por un fardo de estopa, costando a veces cuidado a los buzos, que en estos lances bajan a tomar las aguas, el hallar por donde entró la bala, porque naturalmente la hebra que se rasgó con la fuerza, o se encojió (que es lo más ajustado a su natural estoposo) se vuelve naturalmente a cerrar.

Yo vi en una ocasión un galeón, llamado *San Luis* (que fue el que nos trajo a esta Islas a mi y a mis compañeros) que, después de aderezado, fue a llevar socorro a las fuerzas del Maluco y peleó con el holandés antes de entrar en ellas. Recibió muchos balazos en los costados y árboles, pero en especial en el mayor traía tres o cuatro balas de a veinticinco onzas, que habían quedado dentro atoradas, y apenas mostraban más que un rasguño, tan largo como la bala era de redonda, y como un dedo de ancho, y tan estoposo que apenas, si no se supiera que había entrado por allí la bala que con un hierro se tocaba dentro,

circumference that five men touching their finger tips cannot encompass the trunk.

Many vessels are built out of them. I have seen these and have even more than one made. These were out of single logs and were nine, ten and some twelve *palmos* in width. They were as long as desired within the limits of the aforementioned length of the trunk. It is a wood that is easy to split or divide like the poplar and has long fibers.

There are different kinds; the whitest one is called *talingahan* and whose leaves look like human ears. The other is red which they call "*malasinoro*." These two are the finest and the hardest. There are others which are more or less related to these and have different names. However, the general name is *lawaan* and is used for all of them.

From these great trunks they can secure planks of whatever length and width they desire. However, for ship siding they look for the longest and thinnest so that they might rock better and fit to the round shape of the boat. The widest they utilize for gang ways in the galleys and flooring so that with fewer they can do more of the job. God has provided an abundance of these timbers so that, as the saying goes, each one can select only the best for himself.

But that which makes this plank outstanding and unique is its special characteristics. It is such a quality that it never shatters or splinters, even though it may be penetrated like a sieve with shot. This either buries itself in the planks, if it is small caliber, or the larger pieces pass from one layer to the other with little more danger than if they were passing through a sack of wool or a bale of tow. At times it is important to look for the low canon shot which these guns cause in filling it with water and sinking. One must find where the ball entered because normally the fibers which were torn by the force draw together to close the opening itself again naturally. This is in line with the natural fibrous quality of the wood.

One time I saw a galleon known as *San Luis*, actually the one which brought my companions and myself to these Islands, after being refitted, it sailed to bring aid to the forces in the Moluccas. Before returning to the Islands it had an encounter with the Dutch fleet and received many canon shots in the sides and masts. The main mast especially carried three or four canon balls about twenty-five ounces which had remained tightly lodged within. Yet scarcely more was visible than a slit as long as the ball was round and about a finger in width and so full of fibers that it could hardly be determined that a ball

no se creyera.²⁵ Y por esta calidad de la madera (que también la “maría” la tiene aunque no tanto como el *lauan*) son los galeones de guerra de Filipinas los mejores y más seguros, y donde muere menos gente de cuantos tiene el rey nuestro señor, así por la calidad dicha de la madera como por el esfuerzo y valor de los que pelean, que no es menor acá (sino quizás mayor) que en Flandes y otras artes famosas por el valor y armas españoles.

Acabemos las prerrogativas de este árbol con otras dos no despreciables, por las cuales son de mucho útil a los indios, dejando el más general de las embarcaciones que ellos usan, que llaman *balotos*, y son las más de este árbol, por lo grande, por lo fácil de labrar y por lo liviano; todas, como dijimos, de una pieza grandes y menores y de varias formas, de que trataremos en otra parte.

La primera calidad y su mayor útil es el de la cera que, cuando florece el *lauan*, es en más abundancia que nunca; y si todos los años floreciera (que en esto no hay cosa asentada) fueran muchos sus provechos. Unas veces pasan muchos que, o no florece o no prosigue, frustándoles las esperanzas. Otras, los *baguios* las destruyen, y otras que se malogran por secas u otros accidentes. Cuando se logra se puede decir de estas islas de los Bisayas que es tierra “*fluens lacte et melle*”, pues es tanta su abundancia, tan grandes los panales y tan llenos de ella que no las pueden cargar a sus casas; y a la abundancia de miel [miel] corresponde la de la cera, que en su lugar, cuando tratemos de las abejas, diremos la abundancia con que se suele hallar cuando florece el *lauaan* [sic].

La segunda es en su fruta, que es abundante, al paso que se logra la flor si no le entra gorgojo antes de comenzar a tomar cuerpo, que suele suceder muchas veces cuando está aún tierna. Es a las veces mayor o menor que las castañas de España, aunque redonda o chata. No la comen hombres, sí los animales de cerda (o monteses o caseros, si se las dan). Suelen los monteses engordar tanto con esta fruta, por tenerla sin medida, que sucede en años abundantes de ella hallar los

²⁵ This insignificant passage of Alcina reflects clearly the Dutch danger in the Philippines. The Dutch came to the East at the end of the sixteenth century. From 1600 to 1648, they tried to conquer the Philippines. The nation survived and Spain remained in the Philippines. The price paid, especially by the Filipinos, was high. The Peace of Westphalia signed in 1648, after the thirty years was, put an end to these

had entered there. But for the fact that it could be touched with a piece of iron inside, one would not believe it was there. Due to the characteristic of this wood (the "*maria*" also has it but not to the degree of the *lawaan*) the Philippine galleons of war are the best and safest in which fewer men of any die, who belong to the king, our lord. This is due to both the qualities of the timber and the strength and valor of those who fight in them, which over here is not less—but perhaps even greater—than in Flanders and other places well-known for the power of the Spanish arms.

Let us complete the attributes of this timber with the mention of two others which should not be overlooked. Since these trees are very useful to the natives even for the most ordinary boats that they use and which they call *balotos*, most of them are constructed from this tree. This is due to its size, the ease with which it can be worked and its lightness. All, as we have said, are of one piece, both large and small and of various shapes, as we shall see in another place.

The principal characteristic and greater usefulness of this tree lies in its benefit for wax. When the *lawaan* blooms it is in greater abundance than ever; should it flower every year—this must not be taken for granted—its benefits would be many. Sometimes a number of years pass when it does not bear either flowers or fruit, dashing all hopes. At other times, the *baguios* destroy them; still on the other occasions they fail due to droughts and other calamities. When it does happen that they flourish, it can be said of these Bisayan Islands that they are a land *fluens lacte et melle* [Numbers, 13:28]. So great is its abundance, so large are the honeycombs and so full of honey that these cannot be carried to the houses. An abundance of wax brings about plenty of honey. In its place, when we discuss the bees, we shall speak about the wealth ordinarily found when the *lawaan* blooms.

The second characteristic lies in its fruit which is abundant at the moment that the flower falls unless the weevils get into it before it begins to take shape. This happens very often when it is still young. It is sometimes larger and sometimes smaller than the chesnuts of Spain, but round and flattened. People do not eat these but animals of the hog family do, both the wild and domestic if these are available. The wild ones gorge themselves with this fruit to such an extent, for they exercise

wars. Holland won its independence from Spain. The victories of the Filipino-Spanish forces have been immortalized in the LA NAVAL procession, still today the queen of all processions in the country.

puercos tan pesados de gordor que no se pueden menear ni huir. Llámanlos los indios, en llegando a esta gordura, *panas*, que quiere decir "que andan arrastrando", porque no pueden tenerse en los pies.

Parecerá esto encarecimiento pero no lo es, sino lo que pasa de verdad en años que dicha fruta se logra, que, aunque son pocos, son muy codiciados y deseados de los indios, y entonces sacan tanta manteca que, por falta de vasijas en que guardarla, se suele perder, y ellos la dejan de sacar.

Yo [no] he visto tanto exceso, mucha abundancia sí; y los puercos de más de lo ancho de la palma de la mano el ancho de la gordura. Y me contó uno de los Padres más antiguos que yo alcancé, que en un año de estos, en un pueblo de lo cercano a Palapag, llamado Catubig,²⁶ le daban tanta manteca los indios que, habiendo llenado treinta tinajas, la dejó de recibir por no tener vasijas en que la guardar.

De donde se colige con evidencia (dejando otros encarecimientos de los indios) la abundancia dicha, y de todo el conjunto la utilidad grande de estos palos, así cuando vivos en el monte como de los cortados para fábricas.

Añado sólo una circunstancia notable en éste y otros árboles de estas partes, que, con ser de la mayor entidad y grandeza dicha, ninguno de ellos tiene las raíces dentro la tierra hondas, sino tan someras que apenas ahondan tres palmos. Es verdad que ensancha[n] mucho sobre ella, con lo cual se pueden defender algo de los furiosos huracanes, de que trataremos.

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Milwaukee, Wiscosin
January 14, 1994

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November 20, 1995

²⁶ *Catubig*, in Eastern Samar, was founded by the Jesuits and passed to the Franciscans in 1768, when the Jesuits were expelled from the Philippines. It was burned by the Moros around 1770. Hundreds of people perished in the conflagration. More than five hundred were taken captive. (Felix Huerta, OFM, *Estado geográfico*,

no moderation in years when these are abundant, that one finds hogs so weighed down with fat that they can neither move nor flee. When they get to this state of obesity, the natives call them *panas*, which is to say that they go crawling because they cannot stand on their feet.

This may seem an exaggeration, but it is not. It is really what happens in the years when this fruit is plentiful. And even though these are rare they are yearned for and desired by the natives. At these times they draw so much lard that, for lack of vessels to keep it in, it is usually wasted and they cease saving it.

I have not seen such an excess, but a great plenty I have seen. I have seen hogs with more than a palm's span of fat. One of the earliest Fathers whom I knew for a long time told me that, in one of these years of plenty, in a town in the vicinity of Palapag called Catubig, the natives gave him so much lard that having filled thirty earthen jars, he stopped taking it because he did not have vessels in which to keep it.

For all this evidence one may realize how great is the abundance, leaving aside the exaggeration of the natives, and usefulness of this timber both when growing in the forests and when cut for construction purposes.

I shall add one single and very notable point about this and other trees in the regions. Although they are of a great size and grandeur, as mentioned, none of them has roots deep in the ground, but are so shallow that they are scarcely three palms deep. It is true that they spread out widely over the earth so that they are able to offer protection in some measure against the furious typhoons, about which we shall speak.

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topográfico, estadístico, histórico-religioso de la santa y apostólica provincia de S. Gregorio Magno. Binondo-Manila, 1865, 297-298). Buceta says it had a solid church, a parish priest, *gobernadorcillo* and a population of 8,333 people (*op. cit.* I, 529).

Capítulo 21

DEL ARBOL LLAMADO *TIGA* Y OTROS DE MADERAS COMO INCORRUPTIBLES DE ESTAS ISLAS

Aunque esta palabra *tigá* en Bisayas quiere decir "dureza", por ser tan grande la de cierto género de madera de estas Islas que más parece piedra en lo duro que palo, la llaman los naturales de acá *tigá*, que es como decir la misma dureza.¹

Es increíble la de este palo, que pocos han visto su hoja por nacer en los montes más altos y mediterráneos. Hállanse troncos bien grandes de él que las avenidas traen arrastrando por los ríos, porque en el agua se va a pique como piedra (calidad que tienen también algunos *molaves* de los más duros). Fueran muy a propósito para los *harigues*, o pilares, que se usan acá en los edificios de casas e iglesias, si la dureza no impidiera el labrarlos, porque ni hacha, ni escoplos, ni sierras hacen mella en ellos.

Vílo yo por mis ojos y probélo con mis manos en un palo de esta madera, que tendría de diez a doce palmos de circuito, que hallaron unos indios, acaso en lo hondo de una poza grande de un río, y lo llevaron a su pueblo donde estaban haciendo casa e iglesia de nuevo (por haberse juntado dos pueblos pequeños, que estaban circunvecinos, en uno mayor y más acomodado).

Estaba, cuando yo fui allá, el Padre Ministro (que era amigo, natural de Huesca) ocupado en la labor y edificio. Vi acaso esta palo dicho, que era de color carrasqueño, largo, rollizo y casi igual con [como] un cilindro en lo derecho. Admiróme de que no le hubiesen puesto entre los demás pilares que estaban ya inmediatos y, preguntándole la causa

¹ In Tagalog *tigás* means hardness, rigidity. It is applied also to a mental attitude, like *matigás ang ulo*, stubborn, obstinate.

Chapter 21

CONCERNING THE TREE CALLED *TIGA* AND OTHER SEEMINGLY INCORRUPTIBLE WOODS IN THESE ISLANDS

Although this word *tigá* in the Bisayan means “hardness,” the natives call this tree here *tigá*, which means to say “just as hard,” for being such the hardness of certain woods in these Islands that seem more like stone than wood.

The toughness of this timber is incredible! Few have seen its leaves because it grows in the highest mountains and forest interiors. Rather large logs are found that the floods bring dragging them down the rivers. In the water they sink like stone, quality which some of the hardest *molaves* also have. These would be very useful for the *haligis* or posts which are utilized here in the construction of houses and churches, except that their hardness makes it impossible to cut them. Neither hatchets nor chisels nor saws make a dent in them.

I have seen it with my own eyes and tried it with my hands on a log of this timber that was ten or twelve palmos in width; it was something they had found by chance at the bottom of a large, deep pool of a river. They brought it to their town where they were building new houses and church because they were joining two small neighboring villages into a larger and more commodious one.

When I went there, the Father minister, a friend of mine and a native of Huesca, was busy with the construction. By some fortune, I saw this log which was the color of the evergreen oak; it was long, round and almost as straight as a cylinder. I inquired why they had not placed it among the other posts which were already set up near it and asked the Father Minister the reason. He told me that this log was the first

al Padre Ministro, díjome que el primero de que había echado mano, por haberle llenado el ojo, era aquel palo y que no le había podido hallar modo para hacerle la cima o encaje, donde había de encajar el palo que acá llaman *sapaian*,² o *sablaian*, que es donde carga todo el enmaderamiento del techo.

Quise verlo por experiencia. Trajeron hachas para probar, y, al dar el golpe, volvían hacia atrás con más ímpetu; los escoplos no hacían ni el más leve rasguño; la sierra dejaba allí los dientes. Dije probaremos con fuego, pero como este agente obra natural y violentamente, y no se sujeta a arte o dirección, quemaba lo que hallaba más dispuesto y no lo que era necesario, y así se hubo de dejar.

No sé si es éste el que en la India llaman los Portugueses "*pao de ferro*"³ por su dureza; y yo añado que es más intratable que el mismo hierro, que con el fuego se ablanda y sujeta a un martillo y a un ímpetu, con que hace el oficial lo que quiere, y este palo no.

Para calificación de lo que dura en la tierra hincado, valga lo que vi en otro pueblo en donde yo vivía. Es algo mediterráneo y se llama *Alangalang*,⁴ que quiere decir que ni es marítimo ni es muy montés, sino una medianía. Había un *baguio* destruido todas las casas del pueblo. Mandélas reedificar y reducir en mejor orden, formando sus calles; que era y es un pueblo grande y de mucha gente. Ibanlas labrando, y entre los *harigues* o postes, que para el efecto tenía un principal, el mayor del aquel pueblo, dispuestos para su casa, reparé en uno que pareció pequeño. Tendría de tres palmos a cuatro de ruedo; los demás mucho mayores. Díjele que cómo ponía aquel menor entre ellos, y entonces me dijo: "Padre, este *harigue* que aquí ves, según mis noticias, tiene más de ciento cincuenta años, porque ya ha mudado tres o cuatro pueblos distintos en los que hemos ido dejando hasta juntarnos

² Alcina's definition fits well with the one given by Sánchez in his *Diccionario*: "Sablayan: Beam; long and thick log placed cross-wise along a building, from one pillar to the next, or on top of a harigue to the next on the opposite side." (Sánchez, *op. cit.*, 272).

³ The translation of *pao de ferro* would be iron wood. The name clearly conveys the hardness, the nature of the wood itself.

⁴ *Alangalang* was one of the first missions of the Jesuits in Leyte. It was opened at the end of the sixteenth century. The Jesuit Cosme Flores was the founder of Alangalang. According to Chirino, "...the first measure carried out by this holy priest was by means of utmost gentleness and diplomacy to attract all the villages, especially

that he had laid hands on because it had caught his eye. He had not been able to find means of making the cut or notch at the top where he had to fit the log, called *sapayan* or *sablayan*, which supports the whole of the wood framework of the roof.

I had wished to find out for yourself. Axes were brought to try again; upon striking a blow these bounced back with even more force. The chisels did not even make a slight mark, while the saw even left its teeth there. I said "let us try it with fire." But this element acts naturally and violently and does not submit to skill or direction. It burned away that portion which was most useful and not what necessary; as a result, we had to stop.

I do not know if this wood is the same what the Portuguese in India call *pao de ferro* due to its hardness. I would add that it is harder to deal with than iron itself; iron in fire becomes soft and subject to the blow of the hammer, so that the artisan can do with it what he wishes; but this wood, no!

As a proof of how it lasts when driven in the ground, let me mention what I saw in another village where I was living. It is somewhat inland and is called *Alangalang*, which means to say that "it is neither near the sea nor far inland" but somewhere in between. It happened that a *baguio* destroyed all the houses of the town. I ordered them relocated and rebuilt in a better way so as to form their streets. It was and is a large town with many people. They were working at this and among the *haligis* or posts which one of the *principales*⁵ —the most important of the town— had prepared for his house, came upon one that seemed small. It was three to four *palmos* in breadth; the rest were much larger. I asked him why he had placed that small one among the others; he said to me, "This *haligi* that you see here, as I have been informed, is more than a hundred and fifty years old. It has been moved

those farthest away and most difficult to minister, to move to their post, so as to make there a large town, as was done. He was in the process of setting there his church, his house, his school and his Christian community when Our Lord saw fit to take him to Himself, leaving the Indians orphaned, disconsolate and alone." (Pedro Chirino, *Relación de las Islas Filipinas. The Philippines in 1600*. Manila, 1969, 316-317; 78-79).

⁵ We use the word *principal* in English to translate the Spanish word *principal*. In Philippine history, the Spaniards called 'principales' the headmen of the villages. They kept them in power as the intermediaries between the Spanish central government and the ordinary Filipino people. When taken together the *principales* formed the *principalía*, the headmen class.

aquí. Sirvió en nuestra antigüedad, según oí a mis padres, a sus abuelos, y no sabemos de dónde lo sacaron, que acá no hay árboles como éste. No sé si es el que llamamos *tigá*, o si es otro. El está tan entero hoy como el primer día, sin que la tierra le haya hecho mella jamás" (y era así verdad que estaba tan duro como un hueso) "y así lo quiero poner aquí en memoria de mis antepasados y para que los venideros sepan que es mío."

Hicimos diligencia otra vez en éste, por ver si se podría labrar, y no le hacían mella las hachas o escoplos, y era como el que acabo de referir. Y aunque en la parte superior tenía una muesca como media luna, donde encajaba el *sablayan* que dije, nadie supo decir cómo se había hecho, pues con instrumentos de hierro no se pudo hacer, con que juzgué que dicho palo era digno de entrar entre los pilares de dicha casa para perpetuar su antigüedad; de lo cual se puede colegir lo mucho que duró, y Dios sabe cuánto durará.

Después de este palo (llamémosle hierro a imitación de la India) puede tener segundo lugar otro que llaman *sudiang*. Corre parejas con los más duros, como el *molave* o *ipil*. Excédelos en ser mucho más largo, pues hay tronco que llega a ocho y diez brazas de largo, sin las ramas, que en la firmeza y conservarse en el suelo no es nada inferior; por superior lo tienen algunos. Es árbol mediterráneo. En algunas partes de la isla de Leyte se da con abundancia y usan de él más que del *molave*, por tenerlo por de más dura y ser más liviano, y comúnmente más grueso al pie todo el tronco. Es muy buena madera y se labra bien. Tiene el color algo colorado, como el *bariong* [sic], más blanquizco, que decíamos, y algún género de él, que es el de la hoja más menuda y de verde obscuro, compite en la duración con el *tigá*, pues han durado, y duran, en casas antiguas de *datos* desde antes que viniesen los españoles, que ha ya cien años desde la venida de Magallanes.

El ébano, que acá llaman *bantolinao*, y se lleva a España de las Indias Occidentales, acá es muy ordinario, tan negro como se sabe, aunque lo negro es sólo el corazón, que, después de la primera corteza, tiene mucha parte del tronco blanca, y que se pudre con facilidad.

La dureza y duración del ébano sabida es. Nace en lugares marítimos y pedregosos, y aun entre las piedras y peñas, de las cuales imita su dureza. No es comúnmente palo largo ni muy grueso. Lo más que

⁶ When Alcina finished his *Historia*, in 1668, almost one hundred and fifty years had passed since Magellan's arrival to the Philippines in March of 1521.

to three or four different towns in which we have been staying until we came together here. It was used in ancient times, as I have heard, by my parents and their grandparents. We do not know where they got it; here there are no trees like it. I do not know whether it is the one we call *tigá* or if it is another. It is as sound today as on its first day, for the earth has never had any effect upon it." It is true that the log was as hard as a bone. "So I wanted to place it here in memory of my ancestors and so that posterity will know that it is mine."

We made another try to see whether in this second case it could be worked. Axes and chisels made no mark on it; it was like the one to which I have just referred. Although in the upper part it had a slot like a half moon where was embedded the *sablayan*, as it is called; no one knew how to explain how it had been done. Iron tools could not do it. Therefore I judged that this log was worthy of being placed among the posts of that house in order to perpetuate its past. From [all] this, one can realize how very hard wood is and God knows how long it will last.

After this timber —we may call it "iron-like" in imitation of that of India— the second place is held by another which they call *sudiang*. It compares with the very hard one like the *molave* or *ipil*. It surpasses them in length. It has a trunk which grows to eight to ten *brazas* in height without the branches. In firmness and ability to preserve itself in the ground, it is in no way inferior; some think that it is even superior. It is an inland tree. In some parts of the Island of Leyte it grows in abundance and it is used more than the *molave* because it is considered harder, lighter and ordinarily thicker at the base of the trunk. It is a very good wood and can be worked well. It has somewhat reddish color like the lighter *barayong*, as we have said. Some species of it, like the smaller dark green leaf, equals the *tigá* in durability. It has endured and still does, in ancient houses dating to the time before the Spanish arrived. It is now one hundred years since the arrival of Magellan.

The ebony, which they call here *bantulinao* and which is brought to Spain from the Western Indies, is very commonplace. It is very black, as is well-known, but its blackness runs only a layer deep. Beneath the outer bark a great part of the trunk is white and this rots easily.

The hardness and durability of the ebony is well known. It grows near seashores and stony places and even among the rocks and cliffs, which it resembles in hardness. Ordinarily it is not a tall tree nor very

yo he visto es del tamaño del cuerpo de un hombre, y poco más alto el tronco hasta las ramas. Con todo vi yo una llave, o viga, grande en una de las primeras iglesias que por acá se hicieron que decían era de ébano. Si lo era, es cosa rara (como la que se halló en Molviedro, en las ruinas de un templo de Diana, que dicen fue famoso en su antigüedad y era de enebro, que, como sabemos, en España es palo corto). De lo que yo vi, aunque en lo negro parecía de ébano, me persuado era de *mabolo* que, como dijimos, es palo negro y que le imita no poco, que por acá, como dijimos, son palos grandes y largos.

Al ébano se parece en lo sólido, aunque no en lo negro (que es de color de la encina en España) el que llaman *acábantigui*,⁷ comunicándole el nombre de duro del *tigá*, que dijimos; y si en lo atezado es vencido del ébano, excédele éste en lo duro y correoso, porque no es tan fácil de rajarse como el ébano (a quien parece que la demasiada solidez de las hebras le hace más quebradizo).

Son las del *bantigui* tan revueltas entre sí que se parecen a los cabellos retortijados de los negros, que, junto con su dureza, la hace difícilísimo de rajar; y por esta causa usan más de este palo que de ningún otro (aunque acuda también lo pesado) los carpinteros para hacer uno a modo de boz de zapatero que llaman *pacan*,⁸ que usan en lugar de macetas para dar en los escoplos, porque ni se rajan ni se hienden, y resisten mucho tiempo a los golpes.

Es palo famosísimo para balas, y para esto fueran de mucha estima en España. Valíme de él en una ocasión de enemigos (que acá somos los Padres ministros de estos naturales, en las repentinas, no menos soldados que predicadores, enseñándoles no menos de la ley de Dios que la de la defensa propia y necesaria con el manejo de las armas, y como allá⁹ los Macabeos en la reedificación de los muros de Jerusalén, acá a las veces es necesario acudir con ellos, y añadirles ánimo y aliento para defenderse de las ordinarias invasiones¹⁰ que de una gran caterva de enemigos, padecemos ellos y nosotros, sino contí-

⁷ 'Bantigue' is a surname in the Philippines. Apart from surname, the word *Bantigue* is unknown in Tagalog. From Alcina we see it was a tree in the Visayas.

⁸ "*Pacan*: s. Wood mallet, like a big hammer, used by the carpenters." (Sánchez, *op. cit.*, p. 228).

⁹ The text says "*con ella*", but surely it should be "*como allá*".

¹⁰ From the beginning of the seventeenth century the Moslems of Mindanao and Sulu, usually called *Moros*, intensified their raids against the Christian provinces of

bushy. Most of those that I have seen are the size of the body of a person, with the trunk slightly taller up to the branches. All in all, I saw an arch or a large beam in one of the first churches that was built here which they said was ebony. If it was of ebony, it was something rare, as the one found in Molviedro, in the ruins of the temple of Diana, which they say was famous in ancient times. That one was of juniper, which, as we know in Spain, is a short tree. From what I have seen, even though its black color made it look like ebony, I am convinced that it was of *mabolo*. This is, as we have said, a black wood and resembles the ebony closely because here, as has been mentioned, the *mabolos* become tall and very large trees.

The one they call *bantigui* resembles the ebony in hardness although not in blackness; it is the color of the evergreen oak of Spain. It shares the reputation of hardness with the *tiga*, as we have mentioned. While surpassed by the ebony in blackness, it exceeds the latter in toughness and fibrous quality. It is not as easy to shatter as the ebony which, it seems, because of the exceeding hardness of the fibers, they can be broken more easily.

The fibers of the *bantigui* are so twisted together that they resemble the curly hair of the Negroes. This, with its toughness, makes the *bantigui* very difficult to splinter and for this reason the carpenters use this wood more than any other in making a kind of a shoemaker's sewing device which they call *pacan*. Its weight is also an asset. They use it for handles on chisels for striking because it does not splinter and resists blows for a long time.

It is a well-known wood for making canon balls and for this it would be highly regarded in Spain. I made use of it on the occasion of an enemy attack. Here, we the Father Ministers of these natives, are at unexpected moments not less soldiers than preachers. We teach them the law of God along with proper and necessary laws of defense and handling of arms. Just as the Maccabees in rebuilding the walls of Jerusalem, so here at times it is necessary to encourage and inspire these people with the spirit of courage to defend themselves from the usual raids that we and they suffer from a great swarm of enemies. If

Visayas and even the underbelly of Luzon. These raids lasted until the middle of the nineteenth century. As Alcina says, the missionaries were compelled to be not less soldiers than preachers and "to encourage and inspire these people with the spirit of courage to defend themselves from the usual raids that we and they suffer from a great swarm of enemies."

nuamente, por lo menos cuatro o cinco meses del año, en que es menester estar alerta (como trataremos en su lugar).

En una ocasión, pues, de éstas, por faltarnos balas de hierro para unos falconetes que teníamos para la defensa de la casa e iglesia (que se procuran hacer, ya que no fuerzas, en forma de casas fuertes para poderse retirar en ellas la gente)¹¹ las mandé hacer de este palo *bantigui*, que es tan pesado como piedra, y, por lo dicho de sus intrincadas hebras, no rompe o quiebra con la fuerza de la pólvora, como suelen las piedras; pero no sirvieron (que fue mejor) porque no se atrevió a acercarse el enemigo, de modo que probara si hacían ronchas, o si, sin sacar sangre, quebraban los cascotes como cascotes.

Y dejando el *bantigui* (para que sea conocido por acá para los ofrecimientos repentinos) pasemos adelante en las maderas duras.

Llaman *anislag* acá en unas partes, y en otras *tubag*, a otro género de palos, que se dan igualmente en lo marítimo y en lo mediterráneo. Su hoja es pequeña, los troncos no muy grandes (aunque tal vez se hallan como los de *molave*). Lo común, cuando mucho, tiene una braza de ruedo, pero suple su dureza y la calidad especial que tiene de hermanarse, o casarse, con la tierra, que es una de las más duras maderas que hay por acá, y dura tanto como las que más en la tierra.

Hube yo de aderezar en un pueblo llamado *Salog*,¹² junto al que dije de *Alangalang*, la casa que servía de habitación al Padre y la había dado un principal, que en su antigüedad, y antes de llegar los españoles, la tenía para su habitación, y, después de bautizado, se la dejó al Padre, y él se mandó labrar otra. Había más de treinta años que servía a los Padres, hasta que fue necesario renovarla. Y yo, que hice cavar todos los *harigues* para ver si estaban buenos (aunque ninguno de ellos tenía a braza de ruedo) de catorce que tenía la casa, sólo uno hallé malo, y los demás estaban como verdes, y tan duros que juzgamos podrían servir muchos años, como de hecho se hizo la casa sin mudar más que el uno, mudando otros tres o cuatro mucho mayores y más largos que era, de *quiliquili* y sirven de pilares en la medianía, que

¹¹ A visit to the coastal towns of the Visayas Islands will immediately show that many churches are massive. They look oftentimes like fortresses. The reason why is now given here by Alcina.

¹² This pueblo of Salog must have disappeared from the map. Probably it was

not continually, at least four or five months out of the year. It is necessary to be on alert, as we shall describe in its proper place.

On the occasion of one of these raids, we lacked canon balls out of iron for some falconets that we had for the defense of the rectory and church. These are constructed if not like fortresses¹⁰ at least in the form of strong houses where the people could take refuge. So I ordered them to make some canon shot out of this *bantigui* wood. It is as heavy as stone and because of the twisted fibers it will not break or burst open with the explosion of the powder, as stones would do. But we did not use them, which was good, because the enemy did not dare to approach in order that it could be tested whether they would raise welts. Or, perhaps, without any pity they would crush their skulls like grape clusters.

Leaving the *bantigui*, just so that it may be known here for its unsuspected uses, let us go on in our discussion about the hard timbers.

There is another kind of timber which in some places they call *anislag* and in others, *tubag*. It grows well inland as well as near the sea. Its leaf is small and its trunk is not very tall. Occasionally it is found just as tall as the *molave*. Ordinarily, it is an arm's breath in circumference, but makes up for this by its hardness and it has a special characteristic of clinging or joining itself to the ground. This is one of the hardest timbers here and resists as much as any in the earth.

I had to repair the house which served as dwelling for the *Padre* in a village called Salog¹² near the town of Alangalang which I have already mentioned. It had been given to him by a *principal* who had used it as his dwelling from ancient times before the arrival of the Spaniards. After he was baptized, he left it for the *Padre* and ordered another one built for himself. It served the Fathers for thirty years before it was necessary to rebuilt it. I had all the *haligis* inspected to see if they were sound. Even though none of them was more than an arm's breath around, out of the fourteen which the house had, I found only one bad. The rest were so green and so hard that we judged they would be able to serve for many years. In fact, the house was built without changing more than the one, although three or four others much thicker and longer, which were of *quiliquili*, were replaced. They

fused, in the process of time, with bigger towns nearby. Buzeta and Huerta do not mention it in their *Diccionarios*.

llaman *palaos*,¹³ y son para que estribe el caballete del techo, y se unan mejor todos (pues en ellos descansan también las vigas del suelo y las de abajo el techo).

De modo que podamos decir, que Dios Nuestro Señor, con su infinita providencia, dispuso tanto diversidad de troncos, tan estables en su duración, porque sabía cuán necesaria había de ser en esta tierra la madera dura y casi incorruptible para las fábricas de las casas e iglesias, como para las de los españoles, y las fábricas de naos; que la experiencia ha mostrado ya, a costa de muchas vidas, que en estas partes no son a propósito casas de piedra, que por los muchos, grandes y frecuentes temblores se asuelan, caen y arruinan, como lo ha experimentado no pocas veces la ciudad de Manila, cabeza de este Archipiélago, que, siendo antes toda de muy buenas, hermosas y bien labradas casas de piedra, se ha visto también asolada y obligada a volver, como al principio, a reedificar de madera (que, por el peligro de los fuegos e incendios se habían dejado) y, por huir del fuego, *si no dio*¹⁴ en las brasas, ha dado en el suelo, con las casas hundidas de tan repetidos temblores, aunque antiguos en estas Islas, que, por serlo, como veremos, están más expuestas a ellos que el continente.

Si son sólo naturales o nuestros pecados (y el cuidado desordenado de mirar más por el aumento de la hacienda y de los regalos que del de la fe y gracia, riquezas del alma) los hacen sobrenaturales, Dios lo sabe y tan frecuentes ruinas lo indican.

Y, dejando otra mucha cantidad de otras maderas, famosas por su bondad para todo género de obras, de fábricas, edificios y templos, en que es mucha la que se gasta, sin que se conozca en los montes, que están siempre llenos de ellas, y los más lejanos mucho más, tratemos de otro árbol de los más célebres de estas Islas, que llaman *naga*, dejando el que llaman "cedro" los españoles y acá *lanipga*, que, por no tener las calidades acá que en otras partes, aunque en lo grande, grueso y proficuo no cede a ninguno de los dichos, y faltarle la incorruptibilidad tan celebrada en él, por lo demasidamente húmedo del terruño de

¹³ Sánchez defines *palao* as the big fruit of the coconut, but without flesh (*op. cit.*, p.232). Alcina's definition is not found in Sánchez. We wonder if the Palaos Islands off the East coast of Samar & Mindanao, received the name from the *palao* of the coconut.

¹⁴ The text says "*sin odio*" instead of "*si no dio*." Obviously this text was

are used in the middle part which they call *palaos* and are for the purpose of supporting the ridge of the roof. All is held together better for on them rest also the beams of the floor and those under the roof.

And so, we can say that God our Lord, in His infinite Providence, has provided such a great variety of timbers, so remarkable for their durability. He knew how necessary, durable and almost incorruptible wood was in this land for the building of houses and churches, even for the Spaniards, and for the construction of ships. Experience has now shown at the cost of many lives that in these regions houses of stone are not practical. Due to the severity and frequent earthquakes they are leveled, fall and are destroyed, as the City of Manila —the capital of this Archipelago— has experienced many times. At one time, it had all fine, beautiful and well constructed houses of stone, but saw itself leveled to the ground and obliged to return, as in the beginning, to rebuilding in wood. This was abandoned before because of the danger of fire and conflagrations. By avoiding both fire and being reduced to ashes, it was leveled to the ground and the houses crushed by very frequent earthquakes. Although these go back to ancient times these Islands are more exposed, as we shall see, to the danger of earthquakes than the continent.

Whether these calamities are from natural causes or whether our sins and the inordinate concern for looking more to the increase of fortune and pleasures than of the faith and grace, all riches of the soul, make them supernatural, God knows! The frequent destruction points to it.

I omit to mention of a great many other timbers famous for their excellence, for all kinds of construction work, buildings and temples, in which a great amount is used. Yet, this cutting of trees is not even noticed in the forest; there is always an abundance of trees there and in distant ones, many more.

We shall treat of another tree, among the most renowned in these Islands, called *naga*. I pass over the one that the Spaniards call cedar and here *lanipga*. It does not have the qualities here that it does in other places. However, in size, spread and usefulness it does not yield anything to the rest; it does not have the celebrated resistance to decay that results from the excessive dampness of the soil in these Islands. I

dictated to the amanuensis who wrote by the ear, not paying much attention to the meaning of the text.

estas islas no especifica. Y así remítome a lo que de él tratan nuestro Acosta y otros escritores de las Indias Occidentales.

Es la *naga*,¹⁵ que corruptamente llaman *narra* algunos no tan neticibosos, uno de los mayores y más proficuos árboles de esta tierra por lo grande, por lo fuerte, por lo colorido, por lo medicinal, y por ser uno de los más abundantes pastos de las abejas. Deslindémoslo. Es tan grande, a veces, como el mayor de los árboles que por acá hay, y, aunque el tronco no es comúnmente muy alto, es empero muy grueso y extiende sus ramas mucho, y no menos sus raíces, de las cuales le previno la naturaleza (como en casi todos los árboles que se extienden mucho) tan anchas y largas que hacen alrededor del tronco unos como estribos, que, siendo más anchos por abajo, suben unidos siempre con el tronco, y son parte de él muy altos, que le sirven de puntales, rodrigones y estribos para no caerse; que, como acá las raíces no entran mucho en la tierra, pues, cuando mucho, ahondarán una vara, los que más, fuera muy fácil caerse con los vientos recios que acá hay tan ordinarios, a no haber la provida naturaleza prevenidoles esta defensa.

Suele haber de estos como estribos, que los Indios llaman *dalir*,¹⁶ muy grandes, y en la *naga* lo son. Yo he visto un bufete redondo de una de estas raíces de más de diez palmos de ancho que, por ir siempre disminuyendo arriba dicha raíz era fuerza tuviese, para que saliese tan redondo igual, más de doce y abajo mucho más; y se hacen también bufetes cuadrados que a veces pasan de braza y media de largo y cerca de una de ancho, que, no siendo muy grande el *dalir*, o raíz dicha, no fuera posible.

Consejo tan grande dicha *naga*, es muy fuerte y compite casi con el *baratong*, y alguna especie de *naga* dura aún más en el suelo (que suele servir para *harigues*, o pilares) que el *baratong*, en especial la que nace en lugares pedregosos.

Yo hice una vez un campanario, y hallé acaso para en medio un tronco de *naga* que, aunque no era muy grueso (sería de una braza y

¹⁵ If we are to believe Alcina, the real name of this hard tree is *naga*. *Narra* is a corruption of *naga*. It is still today a most common tree in the boulevards and parks of Metro Manila. The blooming season for the *narra* is from March to late May. The yellow flowers of the tree last for a few days.

¹⁶ In Sánchez, (*op. cit.*, 104) *dalid*, with the same meaning.

shall not go into detail and simply refer to the description of it by our Acosta and other writers of the West Indies.

The *naga*,¹⁷ which some not so well informed call *narra*, is one of the largest and most useful trees in this land because of its size, strength, color, medicinal use and because it is one of the most abundant sources of food for bees. Let us describe it. It is as large sometimes as the biggest of the trees here. Although the trunk is ordinarily not very tall it is nevertheless very thick and extends its branches widely and its root as well — as nature has provided in almost all the trees that have a large spread. The latter are very broad and long forming something like stirrups around the trunk. Being spread farther out below they ascend united always with the trunk and are part of it higher up. They serve as supports, props and buttresses so that the tree does not fall. Since here the roots do not enter very deep into the soil (the deepest any of them go is a *vara*) it would be very easy for the tree to be felled by the violent winds which are very commonplace here if nature had not provided them with this defense beforehand.

These buttress-like roots, which the natives call *dalir*, are apt to be very large and in the *naga* they are. I have seen a round writing desk from one of these roots more than ten *palmos* wide and, since the said root always gets smaller at the top, it must have been more than twelve — and in its lower part much more — in order to come out so round. They also make rectangular desks which are sometimes more than a *braza* and half in length and about one in width. If the *dalir* or the root would not be large, this would not be possible.

Since the mentioned *naga* above is so large, it is very strong and almost rivals the *barayong*. Some kinds of *naga* will serve even better than the *barayong* in soils where *haligi* or posts are usually set. Especially those which have grown in rocky places.

Once I built a belfry and found by chance a log of *naga* for the center which, although it was not very thick (about a *braza* and a half

¹⁷ Blancas de San José, in his excellent *Vocabulario de la lengua tagala*, a prizeless manuscript of the University of Santo Tomas (AUST, Folletos 215, letter N) says: "*Naga*: la cabeza de caimán que ponen en las proas", that is, "the head of an alligator placed on the prow of the boat." The natives placed an image of an alligator to preside over the boat. We read in another author: "*Naga*, cabeza de sierpe o cayman que ponen en las proas de las bancas", that is, "the head of snake or alligator, placed on the prow of the bancas." (Santos, *op. cit.*, p. 194).

cerca de media de ruedo) era, empero, muy largo, que es poco ordinario en este palo, pues tendría más de siete brazas. Era *rubas*, que llaman los indios, que quiere decir "que era solo el corazón", que Dios sabe cuántos años había que estaba caído en el monte; y, pasando después de más de veinticinco años por el pueblo donde lo había hecho, fui por curiosidad a verlo. Y hallé que no le había aún comenzado a comer la humedad lo inmediato a la superficie de la tierra, que es lo más presto siente sus efectos de calor y humedad que, reciprocándose tan a menudo como acá suelen, los corrompen y pudren.

En lo colorido hay diferencia: la mejor es tan colorada casi como el *paraiong*, y los *dalires*, o raíces, que decíamos, lo suelen ser más y tienen unas aguas o hebras más coloradas que otras, que hacen muy hermosa perspectiva, y se hacen de ellas lindísimos escritorios y arcas que duran mucho, porque no le entra a la *naga* colorada jamás la carcoma.

Hay *nagas* algo blanquizas, como decíamos del *baraiong*, y éstas son medicinales, aún más estas coloradas. Hácense de ellas vasos en que, puesta el agua, se vuelve azul, y es remedio según dicen, para la orina, y se bebe dicha agua para el efecto.

La resina, o goma, de este árbol en que hiriéndole, la despide como gotas de sangre, es la que llaman "sangre de drago" (aunque otra pienso yo que es la mejor, de que después diré) y es droga que se lleva a España para muchos efectos.

Y fuera de esta calidad proficua, sus flores (que son amarillas y olorosas, del modo y hechura de unas violetas amarillas que hay en España) son pasto de las abejas, y, como son tan grandes los árboles cuando florecen, parecen una mata de albahaca, con aquellos postizos cabellos amarillos que les ponen en España, porque las hojas, que tienen muy lindo verde y son casi como las de los almendros de España, con la flor amarilla, parecen famosísimamente, siendo juntamente pasto del olfato por su olor suave.

La miel que de ellas recojen las abejas es de un color casi colorado, por pegárseles el amarillo fino de las flores que, condensado en la cera, lo es más.

Como la *naga* en lo frondoso, corpulento y grande de las raíces, hay otro árbol que llaman *dao*. Sus hojas semejan a los almendros de España. La fruta es del tamaño de las avellanas (aunque sin cáscara). Cuando madura, que es de color amarillo, se come y es gustosa, a modo

around), it was nevertheless very long — not an ordinary occurrence in this timber. It was more than seven *brazas* long. It was a *rubas*, as the natives call it, and which means to say “that it was only the heart.” God knows how many years had passed since it had fallen in the forest. More than twenty-five years later, on passing by the town where it had been made, I went because of curiosity to see it and I found that the humidity had not commenced to rot even the portion that is just above the surface of the earth, which is normally the first to be rotten by the alternating effect of heat and humidity.

In the reddish colored timber there is difference. The best is as red almost as the *barayong*. The *dalires* or the roots, about which we spoke, are ordinarily even more so. Some have a resin or fibers that are more red than others and have a more beautiful appearance. Out of this wood they make very beautiful writing tables and chests, which last a long time, because the wood louse never gets into the colored *naga* either.

There are *nagas* that are somewhat whitish, as we indicated about the *barayong*. These have medicinal value but even more so do the colored ones. The natives make a potion out of this and when they mix water with it, it turns blue. It is a remedy, they say, for urinary diseases and they drink this water for that purpose.

The resin or gum of this tree, which it releases like drops of blood after being lashed, is what they call dragon’s blood. However, there is another which I consider better and about which I shall speak later. It is a drug which is shipped to Spain for many uses.

In addition to this useful quality, its flowers (which are yellow and olorous, like certain yellow violets found in Spain) are food for the bees. Since the trees are so large when they bloom, they appear like a branch of sweet basil covered with those yellow wigs which are worn in Spain. This is because the leaves, which are pretty green and like those of the almond trees of Spain, with their yellow flowers looked most beautiful and thus they are also food for the sense of smell because of their pleasant odor.

The honey which the bees gather from them is almost of a red color because the fine yellow of the flowers is mingled with it; mixed with the wax it is even more so.

There is another tree called *dao*, similar to the *naga* in luxuriance, in size and in corpulence of the roots. Its leaves resemble the almond trees of Spain. The fruit is the size of the hazel nuts, although without the shell. When it becomes ripe it is yellow. It is edible and

de manzanillas. Tiene una pepitilla redonda y, verde aún, en salmuera, sirve acá en lugar de aceitunas, y no hay otra fruta de las que por acá remedan a las aceitunas que sea tan buena y se les parezca tanto como ésta del *dao*. De sus estribos, que llamamos *dalir*, y la grandeza y basta decir que se hacen de ellos cubiertas de una pieza para popas y proas de embarcaciones, tan grandes como los mayores bergantines de España; y, aunque no es tan dura como la *naga*, cortada con sazón, que es en las menguantes, dura muchos años, y más que las embarcaciones en que se suelen poner para el efecto dicho.

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tasty in the manner of chamomile. It has a little round seed and remains green in brine. It is used here in place of olives. There is no other fruit used here to replace the olive that is so good and so much resembles them as this *dao*. Its roots, which are called *dalir*, and their size, it is sufficient to say that deck flooring of one piece is made of them for the sterns and prows of ships as large as the large brigantines of Spain. Although it is not as hard as the *naga*, when cut in season, which is during the waning of the moon, it lasts many years, even longer than the ships in which it is used.

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