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**The cultural significance of thuya (*Tetraclinis articulata*):
An ethnographic study of the thuya woodworking craft and
its implications for sustainable management in southern
Morocco**

Thesis submitted for the degree of PhD in Ethnobiology

By

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Department of Anthropology

University of Kent

June 2008

Abstract

This thesis concerns the socio-cultural importance of the thuya tree (*Tetraclinis articulata*) in southern Morocco, and issues relating to its sustainable management. It focuses on the thuya woodworking craft in the town of Essaouira. Thuya is a multi-use species, with a long history of traditional utilisation, however, the thuya craft is a recently invented tradition that has been strongly influenced by outside forces. Despite this, it has been locally appropriated as an integral part of the identity of Essaouira.

Although artisans are reliant on thuya for their livelihoods, and hold a strong repertoire of knowledge regarding its use, thuya holds a primarily economic value for them. Artisans are embedded in a complex web of stakeholders, and through this are disconnected from the natural resource. Consequently, they have little or no influence over its management. Also, the instantiation of knowledge through their practice of the craft is restricted by a range of socio-cultural, economic, and political factors limiting their ability to ameliorate damaging aspects of their craft.

Thuya harvesters are also dependant upon thuya for a variety of household needs, and have an extensive understanding of its sustainable management. However, they have a utilitarian perception of thuya (*Tetraclinis articulata*), which they consider a 'tree to use', as opposed to argan (*Argania spinosa*) which they consider as a 'tree of life'. Sustainable management of thuya is therefore dependant upon an incentive for the harvesters rather than sanctions for its artisans.

Sustainability models were found to be inadequate to explain the complexity of the thuya trade. Artisans, forest dwellers and thuya forests have many resilient features, and in order to effectively manage thuya populations and the thuya craft, artisan and forest dweller knowledge and practices must be incorporated into adaptive management strategies.

Acknowledgements

This thesis would not have been possible without the knowledge, assistance and friendship of the thuya artisans of Essaouira. Those who assisted me are too many to mention, *barakalafikum*. In particular I want to thank my friends and teachers, Abdullah, Mohamed and Abdelazak.

This thesis is also the product of my excellent research assistants, Abderahim Ouarghidi, Hasna Bourm, Asma Bourm and Ouaffa. Thank you also to the many people who assisted with my research, or provided much valued friendship in Essaouira, not least Fatouma and her amazing family.

I would like to acknowledge and thank Caravanserai and La Caverne de Mogador for sharing their knowledge and allowing me to take photos of their products.

The research was funded through an ESRC-CASE award to the University of Kent and the Eden Project in Cornwall, for a project originally devised by Gary Martin and Roy Ellen. I am grateful to the ESRC and the Eden Project for providing me with this opportunity to tell the thuya artisans' story.

The Université Cadi Ayyad and the Muséum d'Histoire Naturelle de Marrakech kindly provided me with an affiliation, and lent support and assistance throughout my fieldwork, especially Abdelaziz Abbad and Mohamed Alifriqui. In the UK, thank you to all in the Department of Anthropology who have provided assistance, and especially to my supervisors Roy Ellen, and Ian Martin at the Eden Project.

And finally, thank you to Redely, without whom this thesis would not exist.

Prologue

This thesis is the outcome of an ESRC-CASE funded PhD, the industrial partner being the Eden Project in Cornwall. The original project proposal was designed jointly by researchers at the Eden Project and the University of Kent in December 2002, and was entitled “Arar woodcarving: the socio-economic status, sustainable use and conservation of *Tetraclinis articulata*, a ‘cultural keystone species’ in southern Morocco”. It’s objectives were tri-fold:

- To examine the sustainability of thuya woodcarving, from ethnobotanical, ethnographic and socio-economic perspectives.
- To examine the concept of ‘cultural keystone species’, using the thuya tree in Morocco as a case study.
- To develop the thuya case study as an appropriate model for the educational goals of the Eden Project, with a particular focus on the dry tropics biome.

It became apparent early on in the research process that it would not be possible to pursue these original aims, in part due to the limitations of fieldwork, and in part due to the limitations of their theoretical presumptions. The primary focus of the project was on the thuya woodworkers of Essaouira. However, the woodworkers are part of a socio-ecological system incorporating harvesters, forestry officials, wood merchants, shop vendors and consumers, to name a few. It was therefore necessary to expand the study outwards in order to fully understand the woodworkers role within the system, and therefore their role in the sustainability, or otherwise, of the utilisation of thuya. Further, the cultural keystone concept assumes that if a species is of socio-cultural value to a particular group of people then they are likely to use it in a sustainable manner. This human-nature relation can subsequently be harnessed for the purposes of conservation of that species, hence its inclusion in the project proposal as a heuristic tool. However, significance of thuya varies widely between the many stakeholders involved in its utilisation, and so, again, it was necessary to broaden the study in order to gain a more complete understanding of thuya. The result is a more diffuse, but more inclusive thesis, which considers sustainability a product of the entire socio-ecological system.

That said, it was not possible to explore the ecological sustainability of thuya in Morocco. This was due to the illegality (and consequent corruption involved) of harvesting, which left forestry officials and local harvesters alike suspicious and generally unwilling to assist in close examination of forestry management practices. However, I was lucky to study local harvesting practices and use, as described in Chapter Seven. Even so, I have left descriptions of places, people and events purposefully vague in order to protect the illegal activities of the people I worked with.

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Abbreviations

AEF	Administration des Eaux et Forets
AEFCS	Administration des Eaux et Forets et de la Conservation des Sols
APAT	Association Professionnelle des Amis du Thuya
CEB	Centre for Economic Botany
CIA	Central Intelligence Agency
CKS	Cultural keystone species
Dh	Moroccan Dhirham
ENDA	Environnement Developpement et Action au Maghreb
FSC	Forest Stewardship Council
ICS	Index of cultural significance
NGO	Non-governmental organisation
RBGK	Royal Botanic Gardens at Kew, London
UNDP	United Nations Development Programme
UNODI	Office des nations Unies pour le Developpement Industriel
WWF	World Wide Fund for Nature

Glossary

The dialect of Arabic spoken in Morocco is Darija. This is primarily a spoken language (Classical Arabic and French are used for written communication) which has taken many words from French and Spanish, and varies in vocabulary, grammar and pronunciation between regions. For these reasons, there is no Darija transcription standard. Likewise, it was not possible to use the Modern Standard Arabic transcription standard. I have therefore attempted to best transliterate words used in this thesis as the words are pronounced in English.

Notes:

The letter “â” denotes the Arabic sound ‘ayn’

A capital ‘H’ denotes the Arabic aspirated ‘h’ sound

A capital ‘S’ denotes the letter ‘Sud’

The diphthong ‘kh’ is like ‘ch’ in ‘loch

The diphthong ‘gh’ is produced in the back of the mouth

Darija transliteration

English translation

adsa	Full stop – term given to small round <i>tureq</i> shape
amin	Head of the guild
ârâar	Darija term for thuya
arabesque	Floral patterns
âshaba/t	Herb seller/s
aspero	Aspirin – term given to small round <i>tureq</i> shape
âzakut	thyme (<i>Thymus spp.</i>)
bakhor	A mixture of minerals, herbs, spices and animal parts used for medicine, magic and incense.
banquete	Traditional Moroccan bench sofa
bazaariste	Shop trader
bildi	From the country / old-fashioned or backwards
burl	Lignotuber found at the base of the trunk
caid	Functionary, with administrative and judicial roles.
camione	Truck
caracol	<i>Tureq</i> shape similar to the <i>wow</i>
caroser	Hand cart used for transportation in Essaouira
citron	Roman name for <i>Tetraclinis articulata</i>
citron	Yellow wood from <i>Citrus spp.</i> Used for inlay work
commander	Commission work
dar (douar pl.)	House / houses, village
Darija	Arabic dialect of Morocco
dfer	Finger nail – term given to <i>tureq</i> shape resembling a nail.

Dhirham (Dh)	Moroccan unit of currency. During the fieldwork period 2005-2006) the exchange rate was 15.8 Dhirham to £1 Sterling.
fateha	The first chapter of the Quran
gaiza	Trunk wood
gattran	Vegetable tar made by heating tree trunks and roots
ghelid	Thick / fat
guenbri	Musical instrument
hammam	Public bath-house
hanout	Shop
Hashia	Two-toned design on the corner of products (cp. <i>t'reefat</i>)
incrustation	Inlay work using metal filament for the inlay material
intarsia	Roman style of marquetry which was a combination of inlay and veneer
laâlouj	A Christian convert to Islam
laaroug	Medicinal plant mixture used in post-partum recovery.
leben	Semi-fermented milk
lebik	Medicinal mixture used to treat menstrual and gynaecological problems
louisa	<i>Lippia citriodora</i> – term given to leaf-shaped <i>tureq</i>
jdra	Burl
khalifa	Superior of the <i>amin</i>
kutsheeya	Cabinet scraper
mâalem/maâlmīne (pl.)	Master craftsman/men
mâalem chakara	Owner of a thuya workshop who does little or no woodworking himself
madrier	Beam of trunk wood
marabout	Tomb of a saint
marqueterie	Inlay work
massive	Blocks, referring to wood
mdina	Old walled town
mdrja	Long nodular <i>tureq</i> shape
mellah	Old Jewish quarter in a <i>mdina</i>
mHabara	Designs that can continue infinitely
mkhenza	<i>Chenopodium ambrosioides</i> - medicinal plant
mssakhen	Medicinal plant mixture
mohtassab	Market provost
monaqeeya	Pad made of sheep wool used for applying varnish
mreesha	Long nodular <i>tureq</i> shape
mtâalem / mtâalmīne	Apprentice/s
mHensha	Snake – <i>tureq</i> shape
mul	Shopkeeper
mulet âshoos	Geometric design
najar (najara pl.)	Carpenter or woodworker, either of thuya, or other woods.
najar diel ârâar	Thuya woodworker
nisba	'Origin'. Can refer to ethnicity, settlement or region of origin, or family ancestry.
nshara	A mix of wood glue and sawdust, used to conceal blemishes
oued	River
pasha	Governor of a provincial territory
placage	Veneer work

qatran	Vegetable tar made by heating tree trunks and roots
qelb	Heart – <i>tureq</i> shape
rabaaia	Four-lobed <i>tureq</i> shape
rabose	Three-lobed and pointed <i>tureq</i> shape
rbab	Traditional Arabic musical instrument, similar to a violin
rekik	Thin
romi	Urban / modern
Sadaasi	Six-point geometric design
saHar	Magician
sandarac	Resin from the thuya tree used in the production of varnish
s'boula	Ear of grass – <i>tureq</i> shape
sharafa	<i>Tureq</i> shape resembling castellated walls
sinaâ	Craft / profession
simsar	A middle man / trader
skala	Name of part of <i>mdina</i> walls in Essaouira originally used for ammunition storage, but now houses small shops and workshops
Souiri/a	An inhabitant of Essaouira (masc/fem)
souq	Market / market place
souq	When an artisan produces an item, then seeks out a buyer amongst shop traders and wholesalers
tmaja	Three-lobed <i>tureq</i> shape with 'legs'
t'reefat	Two-toned design found on the flat surface of products (cp. <i>Hashia</i>)
tumaani	Eight-point geometric design
tureq (tureqa pl.)	Small shape used in inlay work. Also term given to long nodular <i>tureq</i> shape
vrai maâlem	A 'true' master craftsman – one who is highly skilled
wow	Letter of the Arabic alphabet – term given to <i>tureq</i> shape
zâtaar	<i>Oreganum spp.</i>

Chapter One

Introduction

"The mountaine Atlas ... hath a wood in it of peculiar trees that elsewhere grow not..."

(Pliny, speaking of the thuya tree, Book 13, The History of the World, translation 1601)

1.1 Introduction

A widespread assumption in the current literature and popular discourse is that the thuya tree, *Tetraclinis articulata*, is an over exploited resource in southern Morocco. This received wisdom, which is manifest in both governmental and non-governmental organisation reports, as well as local dialogue, lays the blame on the thuya woodworking craft in Essaouira. More specifically, it is the thuya artisans who are blamed, as they are said to produce large quantities of poor quality objects with much wastage of wood during production. All attempts to date to alleviate the situation and engage in the conservation of thuya have failed. The reality is that the situation has worsened since these projects commenced, and illegal harvesting of thuya has increased and spread to far regions of the country. The artisans themselves are also suffering, with a decline in their social and economic status.

This thesis attempts to unpack this conundrum and demonstrate that an explanation that blames the thuya craftsmen is an oversimplification. Rather, the current conservation status of this species is the outcome of a complex web of interacting forces spreading out in time and space from Essaouira. These forces include: historical and current (local and state) perceptions of thuya forests and their subsequent management practices; social organisation of the chain of supply, production, and sale of thuya and its products; locally available technology and materials, and forms of woodworking knowledge transmission. This thesis will attempt to make sense of this socio-ecological system, and in so doing, identify some of the main issues in understanding its current management and conservation.

The specific objectives of this thesis are to examine how the organization of a community of artisans, the knowledge practices that they use, transmit and modify, and the changing social circumstances in which they are embedded, is critical to understanding the management of those natural resources upon which they depend. I shall argue that unless we understand how human actors dependent on a particular resource seek to reproduce their livelihoods, then other more general un-embedded conservation measures are unlikely to succeed. The argument is addressed through an ethnographic study of woodworkers in Essaouira, Morocco, who utilize thuya wood as their main medium. I show how this impinges on the valuation of the resource and thus has implications for understanding its effective sustainability.

However, it is not sufficient to focus on thuya artisans at the exclusion of the other stakeholders involved in the harvesting, trade, and utilisation of the tree; or to focus exclusively on the present. It is, rather, necessary to provide an ethnographic and ethnobotanical description of the historical and present situation of thuya in southern Morocco, from mountain forest to mantelpiece. I will explore some of the issues surrounding the perceptions and utilisation of thuya wood and their implications for sustainable resource management. Through this discussion, I will demonstrate how many of the current approaches to conservation and management are flawed, and how, in this case study, the use of these approaches without a deeper understanding of the socio-cultural situation has been misleading.

1.2 The thuya woodworking craft

This thesis takes the example of the thuya woodworking craft in the town of Essaouira in southern Morocco as its focus. In 2003, there were 6740 registered thuya artisans in Essaouira (Ministère de l'Artisanat et de l'Economie Sociale 2003), representing over 8% of the towns' total population. If traders, vendors, sawmill workers, and wood transporters, as well as their dependent families are considered, it is apparent that an extremely high proportion of Essaouiras' population is dependant upon this one species.

Thuya is a small Mediterranean tree closely related to the junipers (*Juniperus* spp.). It has a narrow geographical range, stretching from Morocco to Tunisia, with small populations in Malta and Spain. Thuya forests have long been subjected to the anthropogenic pressures of grazing, fire, and harvesting, and these are regarded as the primary cause of forest loss and degradation throughout its range (Benabid 2000). As a result of this pressure, thuya is listed on the global Red List of conifers as vulnerable in Morocco, with a 20% probability that it could become extinct within 100 years (Farjon and Page 1999). The largest remaining area (78%) of thuya forest is in Morocco, and has been estimated at 607,900 ha.¹ (Administration des Eaux et Forêts et de la Conservation des Sols 1994).

Traditional historic domestic uses of thuya in Morocco and Algeria include: construction (doors, ceilings, supporting pillars, and balconies), domestic implements (bowls, looms), and furniture (beds, storage chests). Thuya was also an important fuel, although it produces a thick smoke and black residue when burnt. It was heated under pressure to produce *qatran*, a vegetable tar used as an insect repellent and medicine, and painted around the rims of water vessels to keep the water fresh. Finally, the leaves and fruit were used as an important animal fodder and medicine.

Most of these uses still exist today in Morocco, although many have declined. In the late 19th century, the domestic utilisation of thuya evolved into what is now known as the thuya woodworking craft. The centre of this craft is Essaouira, and thuya woodwork has become an important part of the identity of its inhabitants. The craft of thuya woodworking produces a wide range of objects, and remains distinct from the other local uses of the thuya tree. The artisans comprising this craft are carpenters, termed *najara* (*najar* sg.), which is the same term used for carpenters who work with other woods in construction and joinery. However, thuya carpenters consider themselves, and are considered by others, as professionals in their own distinct craft.

Following its birth at the end of the nineteenth century, the thuya woodworking profession remained small for several decades, specialising in luxury items aimed

¹ However, estimations of population size vary widely: see Chapter Two for further discussion.

primarily at the European market, but also wealthy Moroccans and the Moroccan royal family. The craft boomed in the 1980s as Morocco opened up to tourism, with a shift in production to satisfy tourist demand for souvenirs. Very quickly, thuya production became geared towards the foreign tourist market. The success of the thuya craft, and a poor economic situation throughout the country, led to an increase of people moving into the industry, and a corresponding decline in skills and high quality products. Essaouira, previously a thriving international port, experienced massive economic decline during the 1980s and 1990s with the closure of its wheat export and tannery industries and a down-sizing of the fishing fleet, whilst several years of drought has seriously affected the agricultural sector throughout the country. As a result, by 2003, it was estimated that thuya woodworking contributed 75% of all artisanal activity in Essaouira (Ministère de l'Artisanat et de l'Economie Sociale 2003).

The thuya craft uses trunk wood and burl from the thuya tree. Although thuya can regenerate through coppicing (assuming good felling practices and the protection of the tree stools from grazing), the harvesting of burl (which forms directly beneath the soil surface) kills the tree. The rapid increase in thuya harvesting for the woodworking craft, particularly of burl, led in 1989 to a state ban on the harvesting of all green wood. However, this attempt to control harvesting led to an increase in black market activity, with extraction moving to areas further away from Essaouira. The majority of thuya harvesting is now illegal, and it is currently estimated that 35% of timber, and 90% of burl is illegally harvested (ibid 2003).

1.3 Location of research

Morocco is a geographically diverse country. In 2007 the population of 33.8 million was divided approximately equally between Berbers and Arabs (CIA 2008). There are three Berber dialects spoken in the country: Tarifit in the north, Tamazight in central regions, and Tachelhit, or Chleuh, towards the south. The official language of the country is Classical Arabic although the Arabic commonly spoken (but rarely written) is a distinct dialect called *Darija* (meaning 'dialect'). However, French remains the main administrative and economic language, and Spanish is still used in the north of the

country. In the Western Sahara the main language is Hassaniya Arabic. Although the official religion is Islam, with 99% of the population, the Jewish and Christian populations have always played a significant role in trade and commerce.

Essaouira is a small port situated on the Atlantic coast, 170km west of the city of Marrakech (see figure 1.1). The *mdina*, old walled town, was built in the eighteenth century as a political and economic base, and populated by craftsmen, traders, and other settlers from across Morocco, and has since played a vital role in the trade history of Morocco. It has a population of around 82,000 people (Driouchi et al. 2002:19), around 19% of the total population (441,000) of Essaouira Province. The *mdina* was originally built on a rocky outcrop, once small islets, but now joined to the mainland by an extensive sandy spit. The new town is built on this sandy dune area, which is surrounded by *Juniperus phoenicea* dominated forest. The town lies at the edge of a wide bay, fed by the Oued Qsob (Qsob river) and sheltered by the Islands of Mogador.

Essaouira has been strongly influenced by outside forces since antiquity and is now a rapidly expanding tourist town. In contrast, Essaouira province is rural, little developed, and has received relatively little impact from outside the region. The province is divided into Chiadma region in the north, and Haha in the south; the town of Essaouira being the largest settlement in the province. Essaouira is the second most important province in Morocco for thuya forests, which covers 15% of its absolute area and 35% of its total forest area (Ministère de l'Agriculture et al. 1991:1). The remaining forest consists mainly of argan (*Argania spinosa*), an economically and culturally important tree from which is derived fuelwood, animal fodder, and cooking oil. Argan is particularly important in Haha, where its culture is intimately linked with goat husbandry. Throughout the Province the other main agricultural products are wheat, olives, and almonds and honey (Ben Driss Ottmani 1997:20).

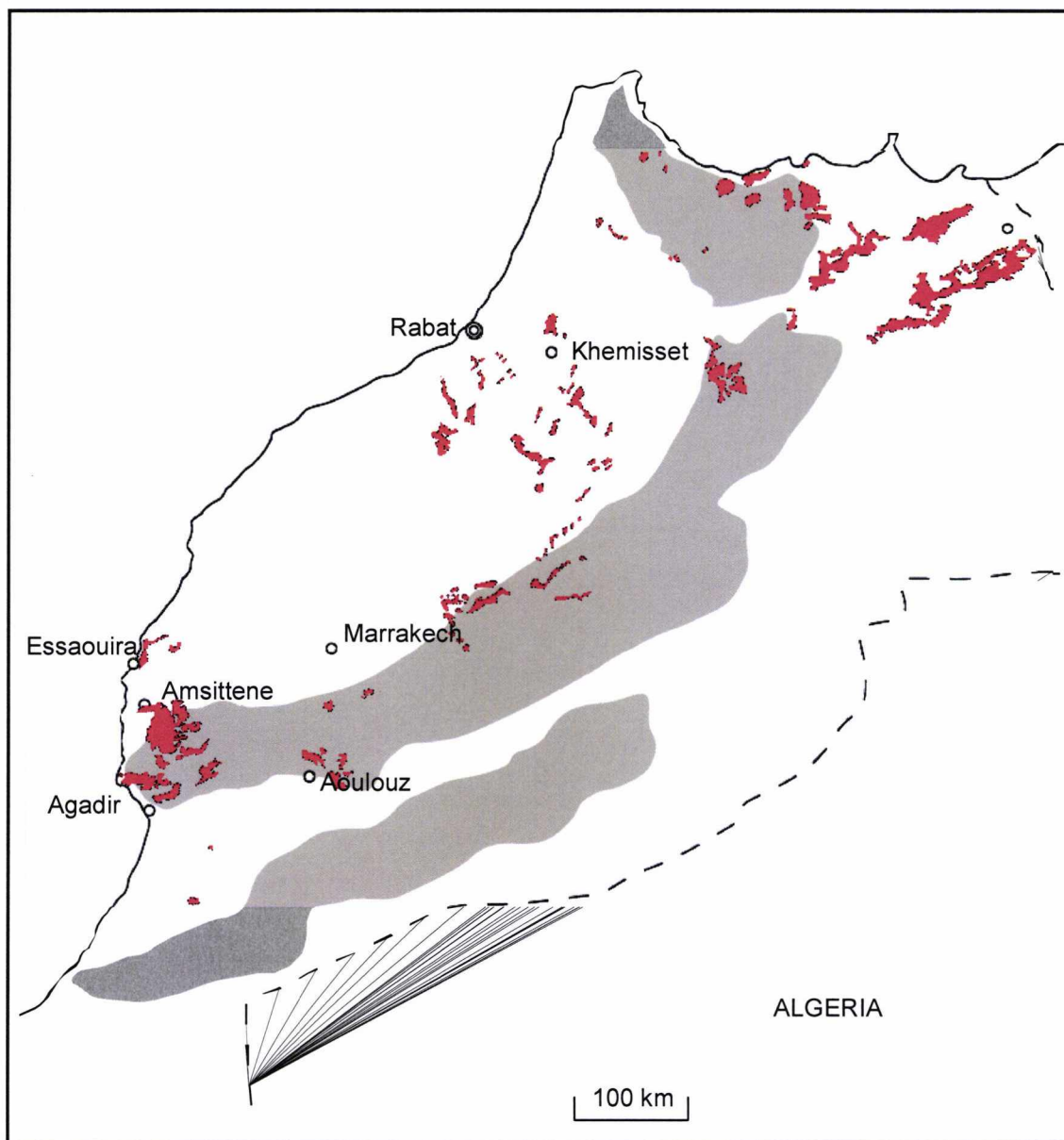


Figure 1.1: Map showing the northern part of Morocco and location of field sites. The three grey areas denote mountain ranges; the Rif Mountains in the north, the High Atlas in the centre, and the Anti Atlas to the south. The red areas denote thuya forest areas (Division de la Cartographie 1994).

1.4 Theoretical and thematic perspectives

I shall briefly summarise the main theoretical and thematic perspectives relevant to this thesis. These are:

- 1) the social organisation of craft knowledge and practice;
- 2) technical knowledge and its transmission; and
- 3) the valuation of ecological resources.

It is necessary to address each of these in order to fully understand the role of thuya in the lives of those who use it. In doing so, it will be possible to gain a more holistic view of thuya utilisation, and how this affects exploitation of forests.

1.4.1 Social organisation of crafts

A craft can be described as "a homogenous body of autonomous or self-employed producers, who possess a high degree of skill based upon years of specialized training under some formally organized and highly structured system of apprenticeship, and who are able to produce a wide range of ... [products] ... within a system of production which allows each producer to exert major control over what, how and for whom ... [those products] ... are produced" (Pokrant 1982:97). However, craftspeople are often more varied than this definition suggests. For example, Hausa tailors in northern Nigeria are highly differentiated in terms of skill, type of production unit, products they make, markets they serve, and the degree of control over the production process (ibid).

The dichotomy between craft and industry is paralleled by that between artisan and market-orientated workers. Artisans sell their products directly to consumers, as opposed to market-orientated workers who sell their products to intermediaries, who consequently market the goods to the consumers (Goody 1982:50, Pokrant 1982:117). The implication here is that artisans are more concerned with the perpetuation of their skills rather than economic gain. Again, this definition is not always explicit, for example, the Hausa tailors of Nigeria are involved in both craft and industry style production processes, yet they form a collective body of craftspeople who define their activities as a craft (Pokrant 1982:97).

The thuya artisans of Essaouira closely follow the example of Hausa weavers in that they are also a highly differentiated group of men, as will be seen in later chapters. Like the weavers, they also define themselves as practicing a craft or profession (*sinaâ*) and regard themselves as thuya artisans (*najara*). Likewise, in terms of production, there are both artisans, and market-orientated *najara* within the thuya craft. To avoid confusion I shall use the terms artisan and craft throughout this thesis.

The social organisation of the thuya craft, from harvester to consumer has important consequences for the choices available to individual harvesters and artisans. One approach to the study of craft organisation is that of social network analysis; a relational approach to data collection and analysis, as opposed to the attribute approach that attempts to explain human behaviour or social processes solely in terms of the categorical attributes of actors. Network analysis recognises that the behaviour and status of an individual depends in part on their relationships to others (Scott 2004), and “seeks to describe social structure in terms of networks and to interpret the behaviour of actors in light of their varying positions within social structure” (Marsden 1990). Network analysis is particularly relevant to the study and analysis of flows of information and knowledge. The Moroccan *souq* (market) has been described as a structure built on the “search for information” (Geertz 1979:125), so the distribution and flow of this information will have an important impact on the thuya trade. Likewise, the distribution and transmission of knowledge regarding thuya utilisation will also have a significant influence so also needs to be addressed.

The networks connecting the various persons and groups in the thuya production and distribution process are not between socio-economic equals, but are rather skewed by various asymmetric relations, some of which might be characterised as patron-clientage. Thus, patronage has been described as a key characteristic of Moroccan society (Brown 1977, Geertz 1979:315), and Waterbury goes as far as to describe the entire Moroccan society as one of patronage, with the King at the top of a pyramid of patrons and clients (Waterbury 1970:42). It is therefore likely that patron-client relationships will occur in the thuya craft and trade network. Patronage is usually understood as an unequal, dyadic,

relationship of power between an inferior client and superior patron. It is a long-term relationship existing outside of the official system and has a distinct ethos of its own (Boissevain 1966, Gellner 1977). In the words of Rassam (1977:158), "two individuals of different socio-economic status enter into a relationship in which the individual of higher economic status uses his influence and resources to provide protection and benefits for the person of lower status, the latter reciprocating by offering his personal services, loyalty and general support."

Incompletely centralised states, defective markets, and defective bureaucracies are said to favour patron-client relations (Gellner 1977:4), which serve as a means by which peasants gain access to resources outside their village. The client reciprocates by giving the patron 'deference, loyalty, support in village politics and, perhaps, presents...' (Delamont 1995:130). Each case is highly specific though, leading to an inability to generalise all patron-client relationships (Gellner 1977:1). Waterbury suggests that "it is tempting to see patronage everywhere", and that patronage is often used as a residual category in which to place all unequal power relationships that do not follow other criteria (Waterbury 1977:334). It will therefore be important to identify if relations are actually ones of patronage, or something else, and what the implications of these relationships might be.

The free flow of economic information, produce and political power through social networks in the thuya economy was strongly influenced, at least until the 1950s, by the craft guild. A guild is an "association... of persons with common professional interests" (Brown 1976:136). The majority of documentation on guilds describes the system in medieval Europe (Thrupp 1971). For several centuries the guilds system dominated, effectively controlling production and sale of commodities within their respective trade or craft, and the entry of new artisans into the trade (Goody 1989:251). Epstein (1998) argues that the essential function of guilds in Europe was the transfer of knowledge and skills through apprenticeship, rather than control of the market.

Brown (1976:139), in his description of artisan organisation during the nineteenth century in Salé, Morocco, states that the guild system was never strong. However, he also describes how the majority of master craftsmen, workers, and apprentices, were affiliated in some way to a guild, suggesting that they were nevertheless important institutions. The head of the guild for each craft or trade was the *amin*, who was aided by his assistant, the *khalifa*. The *amin* was chosen by the guild members and approved by the market provost, the *mohtasseb*. The primary roles of the guilds were to maintain product quality and to control access of artisans into the trade (ibid).

Geertz, in his study of the bazaar economy in Sefrou in north Morocco (1979), found that certain trade roles and crafts were closely linked to *nisba*, origin (See Geertz 1979:142 for further discussion of the concept of *nisba*). Thus, around one half of all blacksmiths came from one single family, in contrast to grocers who came from all backgrounds. Carpenters were found to be the second most ‘*nisba* compact’ after blacksmiths, coming from only three different *nisbas* (ibid:145).

1.4.2 Knowledge and its transmission

An understanding of knowledge, who holds it, and its transmission may have implications for species use and management (Berkes and Folke 1998). It is therefore necessary to identify the extent of knowledge held about thuya and its utilisation. Not all members of a community hold the same level and kind of knowledge, so it is therefore important to determine who holds what kind of, and how much, knowledge. Knowledge has been described as a resource, possession of which constitutes cultural capital, and social restrictions often limit access of individuals to this resource.

Knowledge transmission has been defined as “the process of transferring cultural items, such as skill, from one individual to another” (Ohmagari and Berkes 1997:199). In this mechanistic model knowledge transmission is represented as occurring in three directions: vertical (parent to child), horizontal (between peers), or oblique (non-parent older generation to younger generation). New knowledge may also be generated through innovation (Cavalli-Sforza and Feldman 1981).

The importance of horizontal versus vertical knowledge transmission has been explored using computer simulations by Acerbi and Parisi (2006). They argue that for evolution (innovation) to occur, variability (which they call 'noise') is required during the knowledge transmission process. That is, variability occurs if a learner and her teacher do not hold an identical body of knowledge. They suggest that intra-generational transmission introduces more variability than inter-generational transmission, and the former is therefore essential for evolution to occur (ibid 2006).

Bloch argues that most of knowledge is gained through imitation rather than linguistic means (Bloch 1991). Dilley (1999) argues that although we learn through mimesis, it is not the hollow blank as early negative views of mimesis suggest. Ruddle and Chesterfield (1977) describe eight stages or processes in the learning complex: familiarisation, observation, helping with simple steps, helping with entire task, performing entire task under supervision, becoming an assistant or apprentice, independent performance, becoming an equal to the instructor. A more informative description of the learning process, and one that is more applicable to the learning of thuya woodworking (see Chapter Six) is that described for Daboya weavers in Northern Ghana (Goody 1982:69). Goody describes seven 'stages of skill', starting with infants and ending in elderhood;

- 1) Young boys - Play and run errands.
- 2) Boys aged 5-10 - Run errands and make toy looms.
- 3) Apprentice – Formal learning of weaving tasks.
- 4) Dependent weavers – young men who have completed their training yet lack the equipment and capital to set up production on their own. They continue working for their teacher or father to amass capital.
- 5) Independent weavers - Carries out all stages of weaving, from buying, dying, to weaving. Can take on apprentices, which marks transition to master weaver.
- 6) Specialisation – Tailors often specialise in one part of the production process such as managing looms, dying, or trading.

7) Elderhood – Position of authority marked by death of father. May or may not continue practicing his craft.

The learning of crafts through the process of apprenticeship has been widely documented, including weaving, pottery, blacksmithing, stonemasonry and ship building (Dilley 1999, Marchand 2002, Simpson 1997, Singleton 1989, Verdon 1979). Apprenticeship is a 'system of transmission of technical knowledge' (Verdon 1979), or more generally "the means by which individuals are recruited into the ranks of specialists" (Coy 1989:4). Apprenticeship involves a learner (the apprentice) attaching himself to a teacher (the master) for a period of time in order to learn a skill or trade. Verdon (1979) differentiates between apprentice workshops and enterprises, arguing that unlike an enterprise whose primary aim is economic, apprentice workshops are equally, if not more interested in knowledge, status and honour. Apprenticeship is a way of controlling access to specialist knowledge and the power it brings to the keeper (Dilley 1999). The system of apprenticeship has been recorded as maintaining an important role in Moroccan society (Hoffman 1967), but no extensive studies have hitherto been carried out on this institution in Morocco.

Apprenticeship learning is described as similar to the eight simple stages outlined by Ruddle and Chesterfield (1977). For example, in his description of apprenticeship on commercial trawlers, Gatewood (1985) explains how novices first learn tasks through serial memorisation with no clear idea of how each action relates to others. Later, they learn to 'string' tasks together into larger complexes of action. However, although Gatewood describes the actions learnt as sequential, they are not, as Ruddle and Chesterfields' model suggests.

Ingold differentiates between what he terms 'local' and 'modern' knowledge, and argues a more processual approach to local knowledge and its transmission. He says that, rather than knowledge being transmitted between generations, it is "continually generated and regenerated within the contexts of people's skilled, practical involvement with significant components of the environment" (Ingold 2004:307). There is therefore no distinct body

of knowledge that is learnt and stored in the mind until needed, but rather that “knowledge subsists in practical activities themselves” (ibid). Keller and Keller (1996) also differentiate between knowledge and practice and argue that that knowledge does not necessarily determine the second, and that practice can transform knowledge.

The relationship between knowledge and practice has been explored through the concept of ‘communities of practice’ by Lave and Wenger (2005, Wenger 2005). Wenger (2005) argues that the act of learning does not have a beginning and an end, but rather is an ongoing, social process, that occurs through participation in a particular community. Lave and Wenger (2005:29) describe the ‘process by which newcomers become part of a community of practice as ‘legitimate peripheral participation’. Novices, or apprentices, first enter a community at its edge, and as they learn they move inwards towards its centre. By watching and copying from his master, an apprentice creates a link of identity between the two, and allows the apprentice to see the world through his masters’ eyes (Dilley 1999).

Lave and Wenger argue that apprenticeship is not a one-way didactic relationship between a master and his apprentice (as was once widely thought), but provides a context in which much of learning occurs through “benign community neglect” (2005:93). That is, the majority of learning occurs between peers or near peers (between apprentices) or between apprentices and other adult workers. When Dilley (1999) trained as a Senegalese Tukolor weaver, he and the other apprentices were left under the guidance of an elderly weaver and fully trained young adult weaver, whilst the master went out to sell the cloth.

1.4.3 Valuation of natural resources

The cultural significance of a plant taxon has been defined as the importance of the utilitarian role it plays within a particular culture (Hunn 1982). This broad and rather vague definition indicates the inability of studies to date to adequately determine the cultural importance of plant species for a particular group of people. Identification of cultural importance makes the assumption that if a species has such value to a group of people, then they are likely to extract and manage wild populations of that species in a

sustainable manner. This has important implications for the conservation of natural resources, especially those upon which local communities are dependant.

A number of analytical tools have been developed in attempts to quantify cultural importance. At the simplest level these include: freelisting, the index of saliency, and preference ranking (Cotton 1997:95). The first attempts to quantify natural resources focused on their economic value, the assumption being that if natural resources are economically important then this would encourage conservation of those resources (Balick and Mendelsohn 1992, Godoy, Lubowski and Markandaya 1993, Peters, Gentry and Mendelsohn 1989). These studies with their restricted focus on economic use, failed to address other types of value, for example non-monetary values such as spiritual or medicinal value.

In response to this problem, several studies have attempted to group plant species into hierarchical, broad, subjective categories of importance (see Hunn 1982 for a review of these). For example, Turner (1974) used a three point scale: high, moderate, and low, cultural significance. This classification was still over simplistic and subjective, leading to a study by Turner (1988) in which she developed an index of cultural significance (ICS) for plant species utilised by two Salish groups in British Columbia. Turner argued that the more intensively a plant is used, the more important it is to the people using it. She quotes the example of a tree sought specifically for its fuel properties that has a greater significance than a tree that is used as fuel, 'simply because its there'. She determined three factors that contribute to cultural significance: quality, intensity and exclusivity, of use, which she used to construct the index.

Turners's index of cultural significance was adapted by Stoffle, Halmo, Evans and Olmsted (1990) into a 'weighted triage model' that they applied to Indian groups in Nevada. Reyes-Garcia et al. (2006) also developed quantitative indices of cultural significance in their study of plant use by the Tsimane of the Bolivian Amazon. They argued that it was necessary to determine individual indices for cultural, practical and

economic value in order to gain a full insight into the relationship between these dimensions.

These indices did not achieve their aim to objectively quantify cultural importance, as values were subjectively given to plant species, and the plant species themselves were selected for their perceived (by informants or researcher) usefulness. Turner herself admits the inability of her index to identify bitterroot (*Lewisia rediviva*) and Indian-hemp (*Apocynum cannabinum*) as culturally important, two species she otherwise perceived as locally important (Turner 1988). Stoffle et al. (1990) hint at a more fundamental problem with these indices when they say that the Indian groups they worked with had problems in understanding what was expected of them in ranking the importance of plant species. Considering their study was part of a mitigation project, one would expect that political values would be at the forefront of any importance attributed to the plants in question.

It has since been admitted that “an absolute quantification of the significance of a particular species... is not possible” (Garibaldi and Turner 2004a). This view mirrors a wider move in recent years towards a more holistic view of ecosystems, seen in ecosystem resilience theory, whose focus is the complete ecosystem and its capacity to absorb perturbations (Berkes and Folke 1998). Ecosystem resilience theory allowed for the recognition of a human social component in ecosystem management, and the view that ecological and social systems are closely linked. Once the inter-relation between social and ecological systems had been accepted, it became clear that there are plants and animals that hold an important role in cultures, in a similar way that ecological keystone species hold an important role in the structure and function of ecosystems (Cristancho and Vining 2004).

The cultural keystone species (CKS) concept was proposed as a metaphorical parallel with the concept of ecological keystone species, with the replacement of ‘ecosystem’ by ‘culture’ (Cristancho and Vining 2004, Garibaldi and Turner 2004a). A cultural keystone species refers to “those plants and animal species whose existence and symbolic value are essential to the stability of a cultural group over time” (Cristancho and Vining 2004). A

species is judged to be a cultural keystone if it fulfils a set of criteria, two of which have been proposed by Cristancho and Vining (2004) and Garibaldi and Turner (2004a) (see tables 1.1 and 1.2 below). Garibaldi and Turner propose a simple five-point scale on which to calculate a value for each species, thus showing a return to quantitative ideals. However, it is agreed that rather than having absolute values, species are better perceived as lying on a continuum with unimportant species at one end of the scale, and CKSs at the other end (Cristancho and Vining 2004, Garibaldi and Turner 2004a).

Is the species used intensively (routinely and/or high quantities)?
Does the species have multiple uses?
Does the language incorporate names and specialised vocabulary relating to the species?
Is it prominently featured in narratives and/or ceremonies and songs, or as a symbol?
Is the species ubiquitous in the collective cultural consciousness and frequently discussed?
Would it be hard to replace this species with another available native species?
Is this species used as a trade item for other groups?

Table 1.1: Index of the identified cultural influence of cultural keystone species, from Garibaldi and Turner (2004a).

The story of the species' origin is tied to the myths, the ancestors, or the origin of the culture.
The species is central to the transmission of cultural knowledge.
The species is indispensable in major rituals.
The species is either related to or used in activities intended to supply the basic needs of the community.
The species has significant spiritual or religious value.
The species exists physically within the territory that the cultural group inhabit or use.
The cultural group refers to the species as one of the most important species.

Table 1.2: Indicators suggesting cultural keystone status of a species, from Cristancho and Vining (2004).

The cultural keystone concept has successfully identified species that are undoubtedly central to the cultures that use them. For example, *Thuja plicata* (western red cedar) for Northwest Coast cultures of North America, *Theobroma cacao* (coca) in Amazon communities and *Daucus carota* (carrot) in Rurukan, Minahasa (Garibaldi and Turner 2004, Cristancho and Vining 2004, Platten 2005). However, the cultural keystone concept has been hotly debated with criticism focusing (among other arguments) on its

misuse of the ecological keystone species concept, its failure to adequately distinguish between cultural keystone species and culturally important species, and its narrow focus on subsistence communities (see Davic 2004, Garibaldi and Turner 2004b, and Nuñez and Simberloff 2005). Platten and Henfrey (in progress) address the second point by redefining cultural keystones as species that have a non-redundant contribution to system structure, but they make no solid attempt to suggest how cultural keystone species can be identified. However, they suggest a more systemic definition of cultural keystones, and argue that a cultural keystone, although it may centre upon one particular species, is actually a complex of many system elements, which is essential for maintaining community structure.

The identification and implications of culturally important species is clearly an ongoing debate. Despite the many flaws and unresolved issues, these studies have highlighted some important aspects of cultural significance that may be useful in this thesis, especially in the criteria of cultural importance given by Cristancho and Vining (2004), and Garibaldi and Turner (2004, 2004a). Two further points highlighted by the latter will also have important consequences. The first is that cultural importance varies over time, so it is vital to distinguish between current and historical perceptions of a species. Secondly, perception of a species value varies between individuals. So not only is it necessary to determine the cultural group to whom a species is important, but also to be aware of the potential variation within that group, no matter how large or small it may be.

1.5 Methodology

Prior to fieldwork in Morocco I spent three months studying French in the UK. I attended a two-month language course in Fes in spring 2005 in order to learn Darija, the Moroccan dialect of Arabic, and I continued both Darija and French classes throughout my fieldwork period in Morocco. I obtained an affiliation with the Université Cadi Ayyad and the Muséum d'Histoire Naturelle de Marrakech. I sought research permission from the Governor of Essaouira town and province to carry out research in the region, and collaborated with the Service des Eaux et Forêts in Marrakech and Essaouira.

Fieldwork was carried out from September 2006 to December 2007 in Morocco where I was based in the town of Essaouira (see figure 1.1). Short visits were made to the surrounding region to visit thuya forests, rural villages and markets. I made several visits to the Aoulouz region east of Agadir where I met thuya harvesters, woodworkers and merchants, and visited thuya extraction areas. I visited several public museums in Marrakech and the Essaouira Museum in order to research historical thuya artefacts, as well as private homes, hotels, galleries, and shops selling thuya antiques. I also utilised local public access and private library collections in Essaouira and Marrakech. In 2007 I visited the Centre for Economic Botany collection at the Royal Botanic Gardens, Kew, London, to study their thuya artefacts.

I utilised a mix of semi-informal and formal interviews throughout my research. I attempted to interview actors from all sectors of the thuya industry, including harvesters, wood merchants, depot owners, thuya artisans, shop traders, hotel owners, foreign expatriates and tourists (both Moroccan and foreign). In addition I interviewed villagers in thuya forest areas who are traditional users of thuya, and carried out a small survey of medicinal plant healers and magicians in Essaouira with the assistance of a research assistant. The former were approached in the *mdina* at their stalls as they sold herbs to the public, and the latter in their home or clinic. I also interviewed representatives from government departments and NGOs involved in the thuya industry in Essaouira. I visited a Forestry Service tree nursery near Essaouira, and several forestry posts in thuya forest areas.

In August 2006, I administered a tourist questionnaire with the assistance of three local research assistants. The focus was on Moroccan and foreign tourists visiting Essaouira and their perceptions of thuya products. Tourists were approached in cafes and in public areas such as the main square in the *mdina*, the promenade and the beach. The questionnaire was administered orally by the interviewee in the informants' own language. Where this was not possible, a secondary language was used (see Appendix Two). In total, 27 Moroccans, and 29 foreigners representing eight nationalities were interviewed.

I quickly discovered that the Souiri (inhabitants of Essaouira) people are naturally suspicious towards outsiders who they perceive as a potential threat to their livelihoods. There is a long history of Europeans visiting Essaouira and exploiting the local people, leading locals to assume that every foreigner is there to do the same. In addition, traders, whether of raw thuya wood or thuya products, are very protective of their trade secrets, and therefore reluctant to divulge them to outsiders. The entire thuya industry is highly competitive, and although people did not want to divulge information, they still wanted to be associated with me if they could see any potential future benefits. Even after more than a year of living and working with artisans and traders, many still thought I was going to start my own carpentry business or international export of thuya products.

There is also the more specific fear of thuya artisans, harvesters, and traders resulting from the illegality of the thuya wood trade. It was therefore extremely difficult to make contact with, and communicate with, people involved in the harvesting and trade of thuya timber and burl. This suspicion, fear and distrust permeated all levels. For example when I attempted to register for the government diploma training programme in thuya woodworking at the Artisanal Complex in Essaouira, it was made clear that they did not want a foreigner on their course. Likewise, although Forestry Service officials were friendly, requests for specific information and assistance were met with continuous excuses and delays. I was extremely lucky to be able to create links with thuya harvesters in the Aoulouz region. However, I still lack photographic data regarding harvesting and management practices.

My original aim was to use participant observation in order to gain a deeper insight into the lives of people involved in the thuya trade, and in particular into the skills, knowledge, and social relations of artisans. This involved befriending local artisans and traders and spending extensive periods of time hanging-out in their workshops and shops. In reality, as the result of the widespread distrust, participant observation became central to my field research methods. One example of this is a survey of thuya artisans that I attempted to carry out five months into fieldwork. I thought that after several months of participant observation in the Skala (the old ammunitions section of the *mdina* seawall

where many thuya artisans have workshops) I would have gained the trust of the artisans working there. However, as soon as I appeared with a piece of paper containing a list of questions and a pen to record answers, the artisans refused to talk to me at all. I had to resort to my previous fieldnotes to fill in the blanks.

I successfully attended a ten-day carpentry workshop organised by UNODI at their pilot workshop in the Artisanal Complex. The workshop demonstrated and explored veneer techniques that reduce the amount of thuya wood used in production of furniture. Attending the workshop gave me the chance to meet the artisans who attended, and discover their attitudes towards thuya use and new techniques.

I attempted to undergo an apprenticeship with a master craftsman in order to understand what it meant to be a carpenter, their skills and knowledge and its transmission, and the organisation and social relations within and beyond the workshop. This was fraught with difficulties. Coy (1989:119) describes the ease of acceptance of foreigners into apprenticeships, using his own example of working with blacksmiths in East Africa. He describes how by creating a formal known relationship between anthropologist (now apprentice) and master, the status of the former can be understood and accepted by the latter. My experience was more true to that of Cooper (1989:137) working in a Chinese carved wood factory. He was faced with a variety of reasons why a particular artisan could not take him on as an apprentice, reasons that Cooper interpreted to be excuses invented to hide a general unwillingness to accept him as an apprentice.

One reason for this unwillingness may have been the absence of a formal agreement and payment between master and apprentice in thuya woodworking. It is usually the master who pays the apprentice for his work, and the idea of a (low status, poor) thuya artisan paying a (high status, wealthy) foreigner may have been too difficult for an artisan to accept. Comments were often made regarding payment, or absence of payment when I carried out work. When I spent several months working for free with a master, comments were made by other artisans that I was being exploited and should receive a wage. Likewise, when I worked for several days with a carpenter polishing boxes, for which he

paid me the tiny wages of a young apprentice (5 Dhirham² - 32p for an hour or two of work) I was scolded again for accepting so little.

Many (all European) people have commented on my in-ability as a female to penetrate a male domain. I was treated differently because I was female, but I feel I was largely accepted as an 'honorary' male in their world. I, and other women have felt their status to be similar to this in other aspects of Moroccan culture and society. At no time did an artisan ever point out to me that I was incapable of being a carpenter because of my sex. I was more likely to be told proudly that I was the first woman to learn the trade (proud because it was the artisan who had the honour of working with me). However, I do feel that my development as an apprentice was slower than if I had been male. Firstly, because it took longer for me to convince artisans that I did want to learn this (locally) male trade. Secondly, I felt that at times the artisans took greater care of me than they would a male. For example, often when I picked up a sharp or potentially dangerous tool it would be gently taken from me, with comments on how dangerous they are. Protecting me from injury may have shown a more general fear of the artisan of not wanting the responsibility of a foreigner injuring themselves whilst in their care.

The fact that I was a foreigner, I believe, was the predominant reason for my difficulties. Unlike Coy (1989:119), who thought that being an outsider was a benefit, I think that the precedent of foreign visitors to Essaouira prevented me from establishing a new kind of relationship. One indication of this were the numerous comments I received when I asked to be treated like a new apprentice and carry out apprentice tasks. In response, I was told that they were 'below' me.

Occasionally I experienced the same distrust that Cooper encountered (1989:139). These comments were again based on a precedent with other foreigners who had come to Essaouira to learn carpentry. In all the accounts I heard, all of these foreigners were already woodworkers of some sort, and their aims were to continue doing similar work

² The Dhirham (Dh) is the unit of currency in Morocco. Its' international value has been very stable and remained unchanged for several years. Throughout the fieldwork period (2006 to 2007), there were 15.8 Dhirham to £1 sterling.

after they returned to their home countries. The comments directed at me accused me of taking advantage of the artisans by taking their knowledge and using it to make lots of money in the UK. Even after sixteen months in Essaouira there were many who were still convinced that I was going to return to the UK to open a thuya workshop. One artisan used this argument to demand that I pay him lots of money to teach me.

Despite these difficulties I underwent apprenticeships with two different carpenters, Mohamed and Abdellah. Interestingly, both artisans were men who do not have much contact with tourists, so were willing to accept me as something other than a source of money. Likewise, I came into contact with them through female friends of mine, who were family members of theirs. One man was educated to degree level, and the other, although of low education, had previous contact with foreigners through a *maison d'hotes* in the small street where his workshop was located. Both were informal apprenticeships, and no arrangements for payment were made in either direction. However, I have repaid both men in kind with gifts (mostly in the form of materials and tools). Attendance at their workshops was irregular, due to my and their other commitments, and spaced out over a twelve-month period. My apprenticeship with Abdellah has developed into a longer-term relationship, therefore showing close parallels with artisan master-apprentice relationships (see Chapter Six). This relationship did not terminate when I completed fieldwork in December 2006, but continues each time I return to Morocco. Consequently, on both of my return trips to Essaouira in June and December 2007, I spent time in Abdellahs' workshop assisting him with his work and gaining new skills.

1.6 Organisation of the thesis

Chapter Two is divided into three sections. The first of these outlines the trade history of Morocco, and in particular the port of Essaouira. Morocco has a long history of regional and international trade, and has influenced, and been influenced in turn by its relations with countries across north and west Africa, and Mediterranean Europe. Unlike most Moroccan towns, Essaouira did not develop from agricultural origins, but was created by the Sultan Sidi Mohammed Ben Abdellah in 1764 as a political and trade centre. The second section gives an overview of the present socio-economic background of

Essaouira. It describes how the main trades of the town are fishing and thuya woodworking, and how tourism has become a major influence in the town. The final section describes the ecology, distribution, and historical utilisation of thuya (*Tetraclinis articulata*). Thuya is a monotypic genus restricted to Morocco, Algeria and Tunisia, with small relict populations in southern Spain and Malta. There are records of its utilisation in North Africa dating back to the first century AD. These early accounts indicate the economic importance of thuya in trade. The earliest accounts of domestic utilisation of thuya come from nineteenth century travellers to Morocco and Algeria, who recorded its use in construction. Domestic utilisation remains important in rural areas in the form of fuel, medicine, construction, forage, and *qatran* production.

Chapter Three details the origins and history of the thuya woodworking craft in Essaouira. The craft was largely created and influenced by the French protectorate as a development initiative for the country. This invented tradition, despite its foreign origins, has become incorporated into local society and culture and is considered a local tradition. In tracing the history of the craft it is apparent that there has never been a particular era that can be regarded as representing the 'traditional'. Rather, the craft has constantly evolved and changed since its beginnings. Chapter Three also outlines the long history of extraction of thuya forests. Harvesting was intensified by the protectorate, which initiated a period of state mismanagement that continues today. State control of the wood trade was lost as the result of the expansion of the black market following the state ban on harvesting, leaving a chaotic, unmonitored thuya supply chain.

Chapter Four describes the contemporary organisation of the industry from harvesting to commercialisation. It illustrates how thuya artisans are bound-up in a complex network in which social relations are very important. Unlike other crafts people who utilise natural resources, thuya artisans are spatially and socially cut off from thuya forests, and they therefore have no method of control over their management. Artisans feel that they are the iron between 'hammer and anvil', a phrase which appropriately describes the powerless position artisans hold in the thuya network. In one direction they have no

control over resource acquisition, and in the other they have no control over the marketing of their products.

Chapter Five focuses on the technical knowledge regarding thuya woodworking, and how artisans possess and instantiate different repertoires of technical knowledge in the production of different thuya products and designs. It outlines the techniques practiced by thuya artisans, as well as the materials and tools available and utilised. The spatial organisation of tools and equipment with the workshop is then explored with respect to how this organisation is influenced by, and influences, the knowledge and aspirations and goals of the individual artisan.

Chapter Six explores how thuya woodworking knowledge is transmitted, and argues that knowledge is the sum of technical knowledge, design knowledge, practical skills, and experience. How the artisan chooses to practice thuya woodworking is also dependant on socio-cultural, economic, and political factors. Despite being an invented tradition, a thuya craft community of practice has developed with a distinct body of knowledge and skills. This community of practice has diverged into two branches since the 1980s, one more modern in its attitude towards the craft, and one remaining more traditional. This chapter also traces the evolution of knowledge since the start of the craft, using the example of inlay designs. Data supports the argument of Chapter Three that there was no 'golden era' of the craft, but rather designs have constantly changed and developed throughout the decades. Despite claims that the craft has experienced a loss of knowledge skills over recent decades, there remain today artisans who are capable of producing complex, high quality, inlay work. I suggest that although the total number of thuya artisans has increased over the past century, resulting in a shift of the craft towards cheap, simple, souvenirs, there remains a strong core of highly skilled generalist artisans.

Chapter Seven attempts to determine the cultural significance of thuya for three different groups of stakeholders: rural domestic users and harvesters, artisans, and tourist consumers. As an heuristic tool I use the cultural significance criteria set out by Cristancho and Vining (2004) and Garibaldi and Turner (2004a). Data suggest that the

main value of thuya to artisans is economic. Tourists generally have little or no knowledge of thuya before arriving in Essaouira, and, despite their appreciation of high quality products, their purchases are rather determined by cost and size. Like artisans, thuya harvesters are dependant upon this tree for their livelihoods. However, thuya harvesting for trade is just one of a variety of activities contributing to household survival. Thuya has an additional high utilitarian value to rural inhabitants, providing essential household needs such as forage, construction materials and medicine. Locals contrast thuya the 'tree to use', with argan the 'tree to live by', and this dichotomy is reflected in landscape management practices.

Chapter Eight explores the implications of the case study of the thuya craft for the sustainability of thuya harvesting. Three types of sustainability are addressed: socio-cultural sustainability of craftsman livelihoods, socio-cultural sustainability of forest dwellers, and ecological sustainability of thuya forests. The discussion concerning artisan livelihoods addresses several common assumptions in conservation and development discourse which tend to romanticise traditional crafts and subsequently blame them for over-exploitation of the resources they use. In contrast to these assumptions, due to their structural position in the thuya nexus, thuya artisans have no control over harvesting practices. In addition, they currently have no incentives to attempt to demand sustainably harvested wood, or to reduce wastage. Rather, their livelihood options are restricted by social and economic factors. I suggest that the craft is contracting as economics and a decline in wood force artisans to leave the craft. It is possible that the remaining artisans will be those who are most dedicated to the craft, resulting in an increase in quality of products, and consequently better social conditions for artisans. I argue that local forest users have a range of sustainable management practices, and their acceptance of their dependence on forest resources currently gives them a strong incentive to implement them. Finally, I argue that the received perception of Morocco as a degraded environment is over-simplistic, and that local natural resource users are currently wrongly blamed as over-exploiters of the environment. Rather, it is poor state management of forests that have caused decline. I suggest that due to the long history of utilisation, and the

regenerative characteristics of thuya, there is a good potential for sustainable management.

Chapter Two

Setting the Scene

“Tetraclinis: A single species, distributed in the Atlas Mountains of North Africa and two relict localities... It occurs mostly in open stands associated with sclerophyllous angiosperms... and has a well developed capacity to coppice from extremely long lived stools”

(Farjon 2001:100)

2.1 Introduction

This chapter is in three sections. The first section describes how the strategic position of Morocco has contributed to the regions' long history of international trade between West Africa, the Mediterranean, northern Europe and America. The second section continues this theme by describing the history of Essaouira, a town whose creation was a political move concerned with creating a centre for trade between West Africa and Europe. This section will also outline the current socio-economic situation of Essaouira, and how tourism has replaced trade as its major function. The third section introduces the botany and ecology of the thuya tree, *Tetraclinis articulata*, and explores its utilisation and importance from ancient times to the present.

2.2 The history of trade in Morocco

Morocco is situated at the far west of the current Islamic world, perched on the north west corner of the African continent, a mere 13km from Spain. This position has made Morocco the crossroads between empires, cultures and continents, a position that in turn has greatly influenced its culture. The earliest records indicating relations of the indigenous population with outsiders are also the first records of trade, and come from the Phoenicians in the first millennium BC. These seafaring people founded many ports along the Mediterranean and Atlantic coasts of Morocco, as well as the inland town of Volubilis, and were key players in trade networks between West Africa and Europe.

In the first century BC the northerly regions of Morocco and Algeria, known as Mauretania, came under the control of the Romans. Despite its geographical distance from Rome, Mauretania was close with respect to its relations, trade, and culture. The first Roman aligned king, Juba 2nd (son of the Mauretanian King Juba 1st) grew up in Rome and married Cleopatra Selene, the daughter of Cleopatra and Mark Anthony. His reign commenced in 25BC, and he was very successful, developing extensive trade routes between Mauretania and Europe. The main trading towns were Tangier in Morocco, and Cadiz and Cartagena in southern Spain. The commodities flowing out of Mauretania included fruit, grain, wooden furniture and the purple dye of Essaouira. Trade continued to flourish until the 5th century when the Empire declined and North Africa returned to local Berber rule (Ben Driss Ottmani 1997:40, Bovill 1968).

Morocco came into being following the Arab invasion in the 7th century, who brought with them the new religion of Islam. The fusion of animist Berber and Islamic Arabic cultures resulted in several centuries of successive dynasties, starting with Moulay Idriss, descendant of Ali, the fourth caliph and husband of the Prophet Mohameds' daughter Fatima, in the 8th century. This period marked the start of the great trans-Saharan caravan trade, which dominated trade patterns in North and West Africa between the 8th and 16th centuries, and only ceased in the beginning of the twentieth century when it was replaced by motorised transport. These routes linked West Africa with North Africa, Europe, and later America, bringing slaves, gold, ivory, spices and salt northwards.

Trade relations between Morocco and Europe remained amicable until the start of the 16th century, and the rise of piracy. The catalyst for this was the expulsion of Muslims from Spain, and many of these angry refugees settled in Algiers in Algeria and Salé in Morocco, where they took to piracy as a method of guerrilla warfare against Spain (Lane-Poole 1890:8). With the colonisation of the new world by Europe, the Barbary pirates took a heavy toll on the ships bringing commodities back to Europe. During the 18th century, the pirates expanded into slavery, and raids along the coast of Europe reached as far as the west coast of Britain and Iceland. The Barbary pirates continued to instill fear into the hearts of sailors and coastal communities until well into the 18th century, when

treaties were signed between Morocco and European countries and the United States to put an end to piracy and the slave trade.

By the 19th century European markets were starting to have a serious impact upon the Moroccan economy. European trade was regarded as a way of developing the economy in a society where taxes were limited by Islamic law, and in the 1830s the Sultan Moulay Abderrahman opened-up Moroccan ports to foreign trade. Both imports and exports increased dramatically as a consequence, with two important results. Firstly, Morocco became unable to compete with mass-produced European goods that undermined local artisanal industries, and secondly, Morocco rapidly became dependant upon many European supplied goods, for example tea and sugar. Both of these led to an increasing dependence upon Europe for trade and finance (Pennell 2003:118-120).

As trade increased between Morocco and Europe, so did the numbers of Europeans settling in Morocco, especially in the major trade port of Tangier. These settlers were predominantly merchants and consulates, although by the turn of the 19th century they were joined by wealthy tourists (Pennell 2003:123,129). The increased trade and financial interaction with Europe, and the arrival of large numbers of Europeans in the country was not welcomed by many, and was the cause of discord and repeated rebellion.

The decline of Moroccan independence began in the last decade of the 19th century. The death of the sultan Moulay Hassan in 1894 brought his 12-year-old son Abdul Aziz to the throne, although until 1900 his grand vizier Bou Ahmed effectively ruled the country. Throughout his reign he was strongly influenced by his European advisors, who sought to sabotage the country. The sultan became obsessed with new products on which he spent great amounts of money shipping to his palaces from Europe. By the time Bou Ahmed died and Abdul Aziz took control, the country was in serious financial difficulties. Abdul Aziz attempted expensive reform, and this, coupled with his taste for expensive European novelty products, sent the country into bankruptcy (Pennell 2003:130). Abdul Aziz was replaced by Abdelhafid in 1910, but with no effect, and in 1912, Morocco became the Protectorate of France.

French involvement in Morocco was almost short-lived, when General Lyautey, the first Resident General of Morocco, was ordered to withdraw from Morocco at the outbreak of the First World War. Lyautey refused to retreat, and ventured on a mission to maintain France's control over Morocco through economic development. Two thirds of his troops returned to France to fight, and the remainder were sent by Lyautey to hold the borders of the pacified territories. Lyautey then set about maintaining peace in the already pacified regions of the country through 'public works and general development' (de Tarde 1919:3).

Lyautey was strongly influenced by British indirect rule in India and Nigeria (Pennell 2003:141), and he worked to maintain, and encourage local Moroccan culture. As part of his development process, Lyautey organised several exhibitions at Fes, Casablanca and Rabat, the most successful of which took place in Casablanca in 1915 (Wharton 1920, Oqba unpublished). The purpose was to bring the industrial and artisanal produce of Europe to Morocco, and that of Morocco to the attention of France and other European powers. Lyautey encouraged the revival and development of Morocco's artisanal professions, which were considered in serious decline (de Tarde 1919) and these were given much attention at the exhibitions. It could be argued that these events marked the transition of Moroccan products to 'traditional craft' status.

The French also sought to exploit Morocco's natural resources, including its forests. They appropriated all uncultivated land, and restricted or banned most traditional resource use practices. They were particularly interested in the Mamora oak (*Quercus suber*) forests near Rabat and the cedar (*Cedrus atlantica*) forests of the Middle Atlas, which they exploited for cork and timber respectively (Davis 2005).

Morocco gained its independence on November 18th, 1956, and King Mohamed V returned to the throne. Economic crisis followed the departure of the French, who left a country where 89% of the population were uneducated, and most of the productive agricultural land lay in the hands of a few, mostly Europeans (Pennell 2003:163). The King initiated the development of the agricultural market for export, but this could not

stem the rush of people to the cities, and Europe, to seek employment. Towns and cities grew rapidly, as did the informal sector. This trend has continued until today, and each drought year sees another movement towards urban areas. The informal sector, in the form of trade, services, and handicraft production, also remains important: in 2004 two estimates stated that it contributed to 24% and 40% of Morocco's GDP (arabicnews.com 2004).

2.3 History of Essaouira

Essaouira has been known since ancient times by mariners, who have used the islands lying across the entrance to the broad bay, and the river (Oued Qsob), emptying into the bay as navigation points (Lakhdar 2006). The first archaeological records of settlement in the area are from the 6th and 7th centuries BC, on the islands. These early settlers were traders, and may have been Phoenicians, Carthaginians, or Gaditans (ibid:23). The first, but disputed, written accounts of Essaouira are by the Carthaginian Hannon who visited the area in 450BC, and began a settlement on the islands (Ben Driss Ottmani 1997:28, Lakhdar 2006:14). It was Hannon who may have ordered the construction of tower at the mouth of the Oued Qsob, the ruins of which are mistakenly referred to as the 'Portuguese Fort' (Ben Driss Ottmani 1997:34).

Two rare but locally abundant resources are thought to have drawn these early settlers, namely iron and shellfish (*Murex brandaris*, *Murex trunculus* and *Purpura hemastoma*). The first was located on Jbel Hdid (Iron Mountain) north east of Essaouira, and the latter were used to produce a purple dye much sought after by the Romans. This production was centred on the islands, hence their French name of 'Les iles Purpurares'. In the first century BC the dye was an important commodity, and traded throughout the Mediterranean, and archaeological remains, including coins, found on the islands date to this period (Ben Driss Ottmani 1997:38).

The decline of the Roman Empire saw a return to local rule. In the region of Essaouira the Berber Masmouda family took control. When Islam arrived this family gave rise to the Regraga religious brotherhood, which blended pre-Islamic beliefs (probably

Christian) with Islam, and is still in existence today (Ben Driss Ottmani 1997:41). The Regraga venerate seven saints and the many saints who have descended from them. Among their descendents was Sidi Mogdoul whose tomb is located on the outskirts of the present town of Essaouira. Before this time, Essaouira had been known by many different names, which has contributed to the debates over early settlement of the area. However, from this time, Essaouira became known as Mogador, an adaptation of the name of its patron saint (ibid:47, Lakhdar 2006:148).

The Arabs also brought sugar cane to Morocco, and between the 9th and the 12th century there was a flourishing sugar cane industry located 30km inland from Mogador. There were extensive plantations and processing factories, requiring an estimated 120 slaves to function. The concessionaries for sugar production were issued and controlled by the Sultan, and are thought to have been Jews or Europeans (Ben Driss Ottmani 1997:86). The sugar industry provided a significant revenue, and the processed sugar was most probably traded out through Mogador. It declined around 1620, through a mix of local political unrest, new competitive South American markets, and a drying of the local climate (ibid:89).

In 1505/6 the Portuguese built a castle called 'Castello Real' on a small rocky island offshore of Mogador, which was attached to the mainland by a bridge. Mogador served as an important port between the Portuguese occupied towns of Safi to the north, and Agadir to the south, but its life was short lived; and was abandoned only a few years later in 1510/1512 due to attacks by local tribes. Although the Portuguese fort was repaired and re-inhabited in 1626, three years later it was reported to be once again abandoned (Ben Driss Ottmani 1997:69, Lakhdar 2006:52). The French chevalier De Razilly was given permission to establish a military and trading base at the fort. The French aim was to sever the Saadians maritime trade routes through Safi, a port to the north, but once again, Mogador was abandoned, this time only after several days of occupation (Lakhdar 2006:60). Throughout the 16th, 17th and 18th centuries Mogador was the domain of pirates, who patrolled the trade routes and attacked merchant ships (Ben Driss Ottmani 1997:91, Lakhdar 2006:60).

Permanent settlement only began with the official founding of the town of Essaouira (called Mogador by foreigners) in 1764 by the Alawite Sultan Sidi Mohammed Ben Abdellah. The Sultan had three aims in constructing the port: to increase state revenues through customs duties, to maintain control of foreign traders, and to gain control of the southern regions of the country (Schroeter 1988:12). The town was geographically isolated, immediately bordered by expansive shifting sand dunes. Beyond these the land was relatively unproductive, supporting only a low population located in scattered households. This isolation, coupled with limited travel rights, enabled the Sultan to restrict foreign traders to the new town, and forced them to work through local merchants. Likewise, the absence of a powerful local population reduced the probability of political unrest.

Popular belief and written accounts state that the Sultan invited the French architect François Théodore Cournut to Morocco to design the new town, which was consequently based on Roussillon (Lakhdar 2006:76). However, Schroeter (1988:9) identified no mention of Cournut in historical records, although his name may have been purposefully excluded. Work commenced in 1760, using French and Spanish prisoner labour, and was swiftly completed. European trade commenced in the same year as the towns' official opening.

Mogador was a cosmopolitan town from its birth, comprising a mix of Arabic, Berber, Jewish, and European cultures. The first settlers were soldiers, who were brought primarily from Agadir and the western Atlas Mountains, with a few elite regiments from Fes. Immigrants flooded into the new town from the Anti Atlas, Souss and Marrakech regions, attracted by the prospect of new opportunities. Most of these immigrants arrived from the neighbouring regions of Haha and Chiadma, and there remain strong family links between town and countryside today. These latter two groups dominated the town's political and cultural life (Schroeter 1988:13).

Not all of the new immigrants arrived in Essaouira voluntarily. The Sultan at first attempted to encourage merchants, who were predominantly Jewish, to settle in the town

by building, or letting them build, houses, and offering them extended credit and reductions in customs duties. But the merchants were reluctant, leading the Sultan to order ten wealthy Jewish merchant families to each send one family member to live and trade in Essaouira. This encouraged further settlement by Jewish families, from across Morocco, Algeria, and even Europe (Ben Driss Ottmani 1997:121. Schroeter 1988:18). Many merchants from Agadir were likewise ordered to move to the new town. Agadir immigrants, Moroccan, Jewish and foreign traders, increased after the closure in 1773 of the port of Agadir (Ben Driss Ottmani 1997:124). Europeans were immediately attracted to Mogador, including ambassadors, missionaries and traders, many arriving the year the town was founded. But again, the Sultan was not content with the rate of settlement, and a few years later he ordered the European population of Rabat-Salé to come and settle in Essaouira, and eventually restricted all foreign trade to Essaouira (Lakhdar 2006:199, Schroeter 1988:19). As with the Jews, the Sultan offered trade tax exemptions to European traders. Essaouira also had a substantial number of European renegades; ex-prisoners who had converted to Islam. One written account tells how in 1784 a renegade battalion of 250 Frenchmen was based at Mogador. In addition, there were 800 Spanish and Portuguese renegades brought to the town to be put into the service of the Governor (Saugnier 1792 in Lakhdar 2006:223).

Essaouira was built as, and swiftly became, the major trading port on the Atlantic coast; "international trade was at the centre of Essaouira's economic life and the most influential men of the town were the merchants who were the Sultan's traders." (Schroeter 1988:21). A survey carried out by Farouk (in Ben Driss Ottmani 1997:155) found that at the end of the 18th century Mogador had trading relations with six European ports: Cadiz, Amsterdam, Marseille, London, Livorno and Lisbon (in descending order of value of exports to each). The range of products exported was vast and included wheat, olive oil, ivory, gum Arabic, ostrich feathers, leather, almonds, dates and honey. At this time imports into Essaouira were of higher value than exports, and included iron goods, spices and woollen cloth from Amsterdam, textiles from London, and sulphur, gold filament, silks, sugar and common utensils from Marseille (ibid). Essaouira lay at the end of the trans-Saharan caravan routes, which brought African goods overland from Timbuctou

and beyond, and returned with their camels loaded with European goods. This journey was dangerous, and entire caravan trains were often lost in the desert. In the second half of the 19th century there was an annual caravan visiting Mogador, with up to 10,000 camels each carrying 150kg of goods (Ben Driss Ottmani 1997:164, Schroeter 1988:95).

Essaouira was at its heyday in the first half of the 19th century, when over one half of the entire trade of the country passed through its port (Ben Driss Ottmani 1997:153, Schroeter 1988:1). Trade was strictly controlled by the State, and you could only become a trader through connections with the Palace. Trade was dominated by the Jewish merchants, for example in 1841, of 19 merchant houses, three were European, and the rest were Jewish. Local Muslim traders struggled to compete with these two wealthier, and therefore more powerful, groups. Essaouira was therefore strongly influenced by European culture, with the rich elites consisting of wealthy European and Jewish merchants. However, little of this wealth trickled down to the poorer inhabitants of the town, who remained largely seasonal migrant workers from neighbouring rural regions. The European products, including clocks, pianos, and furniture, which poured into the town from early in the 19th century would have remained in the hands of the rich merchants. European dress was also commonplace among rich foreigners and Jews alike, despite the fact that European dress was illegal for non-Europeans in the rest of Morocco (Schroeter 1988:58).

Strong trade relations continued until the French invasion and occupation of Mogador in 1844. The French bombarded the town for two days, causing most of the population to flee into the countryside. The Europeans had mostly already left town, and the wealthy Jews sought refuge with friends inland. The town was ransacked by tribes from Haha and Chiadma, and by the time the French withdrew 40 days later, the ports' commercial activities and foreign relations had been severely damaged (Ben Driss Ottmani 1997:169, Schroeter 1988:119). This conflict was instrumental in not just the history of the town, but the entire country, and although trading in Essaouira re-commenced, it never achieved its' previous glory, and slowly declined from then on. Although the Sultan attempted to maintain control of the following economic crisis by imposing protective

tariffs, establishing monopolies on certain goods, and prohibiting export of certain goods, European pressure increased, leading to a series of treaties starting in 1856 liberalising trade with European countries. The end for Essaouira as a major port came in the 1870s when trade slumped and the traders went out of business or emigrated (Schroeter 1988:122).

As Casablanca and other modern Moroccan ports were developed by the French Protectorate, the importance of Essaouira declined further. There is little written about the town for much of the 20th century. Essaouira attracted European attention once again in the 1970s, when it became a fashionable destination for travellers on the 'hippie trail'. This prompted the development of the tourism trade (see section 2.5).

2.4 Essaouira since the 1980s

The situation of Essaouira today little resembles the bustling trade port of former centuries; in fact there is currently no international trade through the port. There has been little industry in the town following the closure of the majority of the town's tanning, flour milling and sardine packing factories in the 1990s. In 1994, 36% of the working population of Essaouira were in industry, 26% in fisheries, 21% in handcraft activities, 13% in commerce, 3% in public administration and 1% tourism. A small proportion, 1.4%, were working abroad, and unemployment was high at 25% (Driouchi et al. 2002:127). These statistics have changed over the past decade, with a rapid increase in tourism and further decline in industry and fisheries. The fisheries, craft (especially the thuya craft), and tourism sectors are currently the highest employers in the town.

The informal economy forms a significant proportion of the overall economy of Morocco, up to 40% of national GDP in 2004 (Arabic News 2004), and in Essaouira it dominates the tourism, craft and service sectors. In 1994 20% of employees received 2500-3500Dh/month, and up to 35% receive less than 2000DH/month (Driouchi et al. 2002:27). In the same year, although there was a 98% registration rate for primary level education, 45% of the urban population, and 86% of the rural population, was illiterate.

The absence of education and employment opportunities resulted in a high level of emigration from Essaouira, with 87% going to Agadir (ibid:20).

In Essaouira Province, 82% of the rural population work in agriculture, livestock, forest and rural fisheries. The Province therefore relies heavily on its natural resources, namely forests and fisheries. These two sectors occupy a major economic and social role in people's livelihoods. However, revenues from both have declined since 1990, with a halving of revenues from forests and a 60% decline in fishery revenues. The greatest forest revenues are from argan oil, followed by firewood, thuya wood, livestock, carob, honey, and hunting (Driouchi et al. 2002:23, 34-4).

2.5 The role of tourism in Essaouira

Tourism in Essaouira arguably began in the early years of the 20th century with the arrival of the colonial French and other European visitors. These first tourists were few, and from the rich bourgeoisie. Tourism steadily increased, gaining speed in the 1960s when Essaouira became an important destination for travellers and musicians on the 'hippy trail'. The town was visited by the Rolling Stones and Jimi Hendrix, among others, and the latter is said to have based the song "Castles in the Sand" on the Borj El Oued, the remains of Phoenician fortress on Essaouira beach. This period had a great influence on the town and its inhabitants, initiating an art scene and laid back attitude that remains fundamental to the town's identity today.

Mass tourism discovered Morocco in the 1970s and has been promoted and developed ever since. Tourism in Essaouira expanded in the 1980s and 1990s, corresponding to a decline in the towns' other sectors of fishing, agriculture, and industry. Essaouira's economy is now heavily dependant on tourism, largely as the result of government planning. Locals believe that the aim of government closure of many of the towns' industries (tanneries, flour mills, canning factories) in the 1990s was to encourage tourism by maintaining the traditional charm of the town and forcing people to seek employment in the tourism industry. Between 1996 and 2000, the total number of new jobs created in tourism quadrupled from 200 to nearly 800 (Driouchi et al. 2002:73). This

figure does not include the informal economy, and the real figure is likely to be far higher.

In 1999 the King furthered his national tourism plans by declaring an aim to increase the number of tourists visiting Morocco to 10 million by 2010 (in 1999 the figure was 2.4 million). Essaouira has been targeted for development, and a 2.4 million euro World Bank loan is currently funding a massive tourist complex just outside of Essaouira. This project foresees the annual number of tourists visiting Essaouira increasing by a factor of six between 2000 and 2013, to almost 350,000 (Driouchi et al. 2002:104). Other near future plans include upgrading the coast road between Agadir and Essaouira, and expanding Essaouira airport, both geared to increasing the number of visitors to the town and surrounding region.

Tourists are currently drawn to Essaouira for the sandy beaches, windsurfing, the picturesque *mdina* and handicrafts, specifically the jewellery, fabrics, and thuya products. The Gnaouia religious music festival also draws tens of thousands of visitors every year to Essaouira. Recent trends have seen many foreigners buying houses in Essaouira, especially in the old town. This has resulted in Moroccan families moving out into the new town, and a sharp increase in house prices.

2.6 The natural history of thuya

2.6.1 Botany

Tetraclinis articulata (Vahl) Masters, is a monotypic genus within the Cupressaceae family (see figure 2.1). It is a relic species that has Afro-Australasian links to the *Callitris* genus of Australia and New Caledonia and the *Widdringtonia* genus of southern and central Africa (Emberger 1938, Farjon, 2001, Gardner and Jury 1993). Its name refers to the fruit that has four segments (Dallimore and Jackson 1948). Thuya has been variously named and classified in the past, including, *Callitris articulata* (Vahl) Mirb., *Callitris quadrivalvis* Rich. & Rich., *Cupressus articulata* (Vahl) J.Forbes, and *Thuja articulata* (Vahl) J.Forbes, (Emberger 1938, Farjon 2001, Nauroy 1954).

Common names for *Tetraclinis* are even more varied. In French *Tetraclinis* is known as thuya or le thuya de barbarie. In Spanish it is called sabina mora. In English it has been known as alerce and the sandarac gum tree (Dallimore and Jackson 1948), but is currently known by its French name thuya. Thuya is commonly known as *ârâar* in Darija. This causes some confusion, as this is also the name given to *Juniper phoenicea* in classical Arabic, and often in Darija (Nauroy 1954). Thuya and juniper species are sometimes confused in market places in Morocco. For example, during interviews I carried out in Fes in 2005, herb sellers and locals referred to the leaves of both *Juniperus* spp. and *Tetraclinis articulata* as *ârâar*. Several names have been recorded in the three Moroccan Berber dialects, including *âzuka*, *imijjed*, *irz*, *taout*, *tifizza* and *amkouk* (Bellakhdar 1997, Nauroy 1954). During fieldwork, I came across only one Berber name for thuya, *âzuka*. This was used in the Essaouira, Chiadma, Agadir and Aoulouz regions.

Problems in nomenclature result in difficulties in tracing the historic distribution and utilisation of thuya. In the Middle East in ancient times there was much reference to thion and thuja. The root of the word 'thuya' is 'thuo' which means 'to sacrifice' in Greek, and this term has been used to describe any resinous tree species that produces pleasant odours when burnt, and for this reason were used as incense in early temples. These species include species of cypress and cedar. The Romans are thought to have referred to thuya as citron.

The plant is well described by Emberger (1938) and Gardner and Jury (1993). Thuya is generally described as a tree rarely exceeding 15m in height and 1m in girth at head height (Emberger 1938, Farjon 2001). However, Benabid (2000:5) states that thuya grows to a height of between 15m and 25m. Good examples of old large trees can be seen at the marabout of Sidi-Ali-Cherif south of Essaouira where several 150-year-old trees stand at over 17.5m tall (Ministère de l'Agriculture et al. 1991:7). Few trees reach the diameter of 1m, for example the Sidi-Ali-Cherif trees measure between 48cm and 53cm. Younger trees between 60 and 100 years old have an average diameter of between 20cm and 30cm (Chakir 1999:14, Ministère de l'Agriculture et al. 1991:7). There are no data on the rate of growth of the burl (see below), but it is thought that several decades are

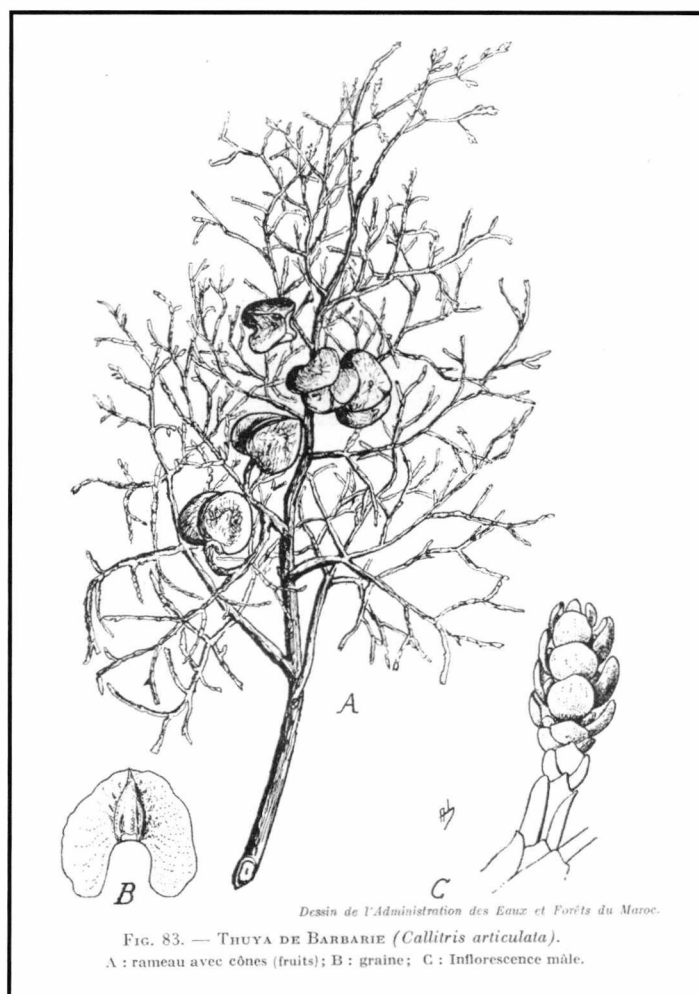


Figure 2.1: Sketch of thuya showing: A; a thuya frond with cones, B; a thuya seed, and C; the male flower (Boudy 1951:23).

required to produce a burl of around 100kg, and 200 to 300 years are needed to produce a large burl of 300kg (Chakir 1999:14).

Thuya is normally conical when young, but its shape is affected by fire, grazing and human disturbance. It is a resilient tree, being resistant to fire, grazing and cutting, and it readily regenerates from the base when cut or burnt (Emberger 1938, Farjon 2001, see plate 2.1). The trunk of thuya is resinous, highly aromatic, fine-grained and very hard (Ministère de et al. 1991:8, Gardner and Jury 1993). The colour of wood is variable, but is generally red-brown. The durability of the wood and its resistance to decomposition have led to claims that it is imperishable (Ministère de l'Agriculture et al. 1991:8).



Plate 2.1: Mature, coppiced thuya tree in the Agoundis valley¹.

Regeneration of thuya occurs through seeds and through direct regeneration from the stump (coppicing). Despite a high success rate in germinating seeds in plant nurseries (field notes December 2006), reproduction by seed in the wild has been recorded as only occasional (Boudy 1951:266). It is commonly thought that reproduction from seed is unsuccessful due to grazing pressure, leading to death of young seedlings. However, reproduction from seed does appear to be relatively common in certain areas, and evidence suggests that climatic and edaphic factors, rather than grazing, determine the extent of regeneration (Boudy 1950:266, Culmsee 2004).

¹ All photos, unless otherwise stated, were taken by Rachel Kaleta during or following the fieldwork period (September 2005 to December 2007).

Since its first use in woodworking in Essaouira in the 1920s, thuya burl has been highly regarded in the craft (see plate 2.2). Burl is a lignotuber² which occurs in many tree species, and in thuya forms at the base of the tree at, and immediately below, ground level. Burl wood is highly contorted and full of knots which are locally known as ‘eyes’. The amount of contortion and knots varies widely, as does the colour, and it is due to this patterning that burl wood is much sought after in the woodworking craft. Little is known regarding the formation of thuya burl, but it is thought to be the result of insect infection or repeated coppicing of the tree (Chakir 1999:6, Gardner and Jury 1993, Ministère de l’Agriculture et al. 1994:3). Burl does not occur in all populations, and will not be equally distributed within a particular population. For example, thuya from the Khemisset forests (see figure 1.1) does not form burl, unlike the populations in the High Atlas that have a much higher occurrence of burl formation.



Plate 2.2: Large thuya burl, 150kg in weight, in a wood depot in Essaouira.

² A lignotuber is “a large woody swelling... usually found just below the soil surface. The lignotuber contains numerous dormant buds that develop new shoots if the original shoot is burnt or grazed” (Attiwill and Wilson 2007).

2.6.2 Ecology

The natural range of thuya is characterised by long, hot summers reaching 40°C and mild winters that rarely reach below 0°C (Gardener and Jury 1993). It occurs on a wide range of soils, and only appears to be selective in its Spanish range where it only occurs on Triassic limestone (Ministère de l'Agriculture et al. 1991:11, Templado 1975). Thuya is found as high as 1800m in the High Atlas (Emberger 1938), in Essaouira Province it extends from sea level on the Atlantic coast to 1614m on Jbel Talezza (Ballis 1992:1).

In Morocco thuya occurs in a range of single or mixed forest, from dense stands to scrub, to scattered trees on otherwise bare rocky ground (plate 2.3). High Atlas populations of thuya tend to occur in the submontane or alerce zone, the altitudinal zone between 850m and 1200m, for example in the Marrakech region (Williams 1995:50). In this region the thuya is often associated with *Juniperus phoenicea* and *Juniperus oxycedrus* (ibid). Around 40% of thuya populations are found in the argan region which stretches north and east of Agadir. Here thuya is associated with *Argania spinosa* in variable proportions (Ministère de l'Agriculture, Direction provinciale, Service forestier d'Essaouira 1991:4). I discuss the historical ecology and socio-cultural significance of this association in some detail in Chapter Seven.

2.6.3 Global geographical distribution

Thuya is a Mediterranean and semi-arid species (Boudy 1948) whose natural distribution spans North Africa, from Morocco, through Algeria, to Tunisia (figure 2.2). Morocco is the country with the greatest proportion of the global population (79%), followed by Algeria (18%) and then Tunisia (3%). There is one small remnant population in south-east Spain near Cartagena, and another in Malta (Gardner and Jury 1993). Farjon has also recorded thuya in north-east Libya, although no specimens have been collected from this area (2005).



Plate 2.3: Previously coppiced thuya tree in mixed thuya-*Juniperus phoenicea* forest, with pure thuya forest in the background (Agoudis valley).

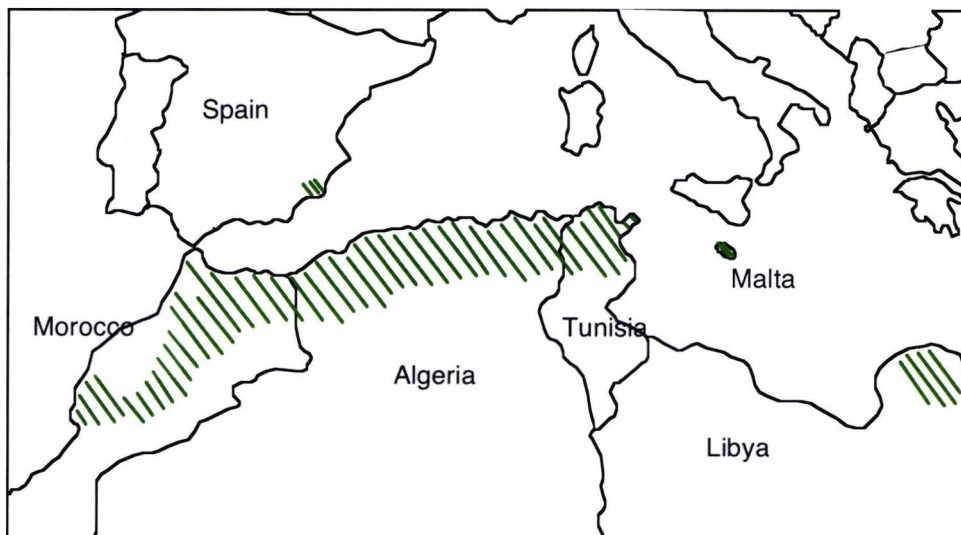


Figure 2.2: The global distribution of *Tetractylis articulata*. Green dashed area indicates thuya forest regions.

Thuya is on the global red list of conifers, and ranges from 'vulnerable' (Morocco) and 'lower risk' (Algeria), to 'endangered' (Spain) and 'critically endangered' (Malta) (Farjon and Page 1999:16). The 'vulnerable' category, stated for Morocco, is based on the observed, estimated, inferred or suspected reduction in populations of at least 20% over the last 10 years or three generations (ibid:119). A further estimate states that there is a 10% probability of thuya going extinct in the next 100 years (ibid:120). In Essaouira, government officials, NGO employees, and artisans all commonly say (but with varying degrees of belief!) that thuya will become extinct in Morocco in the next 10 years.

The Spanish population was only 'discovered' in 1904, and covers a small area of 325 to 350ha. A survey carried out in 1952 by Rigual and Esteve recorded only 13 plants, none of which measured more than 4.7m in height (Gardner and Jury 1993). A further study undertaken in 1973 by the Instituto Nacional para la Conservacion de la Naturaleza (ICONA) recorded a substantially larger population of between 200 and 300 trees (Templado 1975 in Gardner and Jury 1993). The area is now protected by the Parque Regional Calblanque and there has been much work in managing the thuya population and planting new trees.

Thuya was once widespread across Malta, but the population is now reduced to a few small populations and individual specimens scattered across the islands (Tabone in press). Maltas' vegetation has been under high anthropogenic pressure for several thousand years, and now boasts the highest human population density in Europe (Lanfranco 1995). Thuya is now the national tree of Malta and is protected under the 1993 Flora and Fauna Protection Regulations.

2.6.4 Geographical distribution in Morocco

Thuya is found throughout the Rif, the Middle and High Atlas, and the Anti Atlas Mountains (see figure 1.1). There are also populations in the central plateau in the Rabat and Khemisset regions (Benabid 2000:50). Although thuya makes up just 8% of Moroccan forest, it represents 19% of the coniferous forest of the country, and is the most abundant tree species after holm oak (*Quercus ilex*) and argan (*Argania spinosa*)

(Ministère de l'Agriculture et al. 1991). The most recent estimates identify the province of Oujda as having the greatest area of forest at 140,000ha, followed by Essaouira with 96,521 ha, then Taza with 59,974 ha (Administration des Eaux et Forêts et de la Conservation des Sols 1994 in Chakir 1999).

It is difficult to determine exactly the historical or current areas of thuya forest in Morocco, and therefore impossible to accurately assess how forest cover has changed over the last century (this is discussed further in Chapter Eight). Despite the absence of accurate statistics, the commonly held belief by the state Forestry Service, non-governmental organisations and others since the early days of French colonisation is that thuya forests are in decline. There are two reasons contributing to the difficulty of determining the exact area of thuya forest. The first is the wide variation in the density of trees in a forest, which may range from dense mono-specific stands, to scattered trees between other species of trees, or in an open savannah-like landscape. The second is the tendency of thuya to coppice so that a tree may be of erect habit with a single trunk, or a spreading shrubby habit with multiple stems. Data on forest area do not provide information on these two important variables.

The figures quoted in recent reports vary widely, despite several of them claiming to have taken their data from the same source. Many quote figures that are over 50 years old. The oldest figure given for the area covered by thuya forest in Morocco is 650,000ha, with the most important regions being Agadir/Essaouira, and Khemisset (Emberger 1938). This is actually a lower figure than that later given by Boudy (1950), indicating an increase in forest area, not a decline, as both Boudy and Emberger believed. A Government report first asserts a decline in thuya in 1991, to 588,400 ha (Ministère de l'Agriculture et al. 1991). However, a report the following year provides a significantly higher figure of 700,000 ha (Ballis 1992).

The most recent statistics come from the 'Inventaire National des Forêts' which was carried out by the state Forestry Service, the Administration des Eaux et Forêts et de la Conservation des Sols (AEFCS) in 1994. However, even these figures are prone to

variation, with the area of thuya forest in Morocco varying between 560,670 ha and 607,900 ha (Chakir 1999 and AEFCS 1994). The oscillating statistics are summarised in table 2.1, and demonstrate the difficulty in confirming or disproving the received wisdom that thuya forests have declined significantly over the past century. If Emberger is taken to be a base line figure, and the AEFCS the most reliable and most recent figure, then there has been a decline in thuya forest of 42,100 ha, equating to an annual loss of 750 ha.

Author	Date	Area of thuya in Morocco (ha)
Emberger	1938	650,000
Boudy	1950	725,000
Benabid	1985	950,000
Ministère de l'Agriculture et al.	1991	588,000
Ballis	1992	700,000
AEFCS	1994	607,900
Chakir (quoting AEFCS 1994)	1999	560,670

Table 2.1: Summary of the different statistics and their sources for the area of thuya forest in Morocco.

2.7 Utilisation of thuya from 2000BC to 100AD

To fully appreciate the social, cultural and economic importance of thuya wood it is necessary to trace the history of utilisation of this species. This is difficult due to conflicting and changing nomenclature, and it is therefore necessary to exercise caution when discussing the early utilisation especially. There are many old accounts of the use of 'thua', 'thuja', or 'thyon' that have been interpreted as *Tetraclinis articulata*, but it is more likely that they refer to other species. One example is the claim that thuya was utilised in the building of Solomon's Temple around the tenth century BC (Leon de Rosny 1856). However, these trees were most probably cedars, brought from the Lebanon by King Hiram of Tyre (Bible, 1 Kings 5).

A reference to a precious wood called 'oviov' in Homers' Odyssey, written between 800 to 600BC is also taken to refer to thuya (Leon de Rosny 1856:2 and Saxton 1913), and a third reference to 'thyine' wood in St Johns' Apocalypse has also been identified as

thuya³ (Leon de Rosny 1856:6, Worcester 1930:95). No verification can be made of any of these accounts. What is apparent though, is the placing of resinous woods in the highest class of luxury and religious goods. These woods were therefore culturally, socially and economically important during this epoch.

The first convincing accounts of the utilisation of thuya come from the 'Enquiry into Plants', written by Theophrastus in the 3rd or 4th century BC. He terms the tree *thyon*, thylene wood, and he mentions its occurrence in Cyrene, Libya. He says little more, other than commenting on the durability of the wood, and its use in carving, and in previous times for roofs (Theophrastus 1916:431/437).

Pliny the Second also describes a tree called 'citron' in his 'The Historie of the World' written in the first century AD (1601). This tree grows in the High Atlas Mountains of North Africa, and Pliny differentiates between this species and other coniferous species and *Citrus* trees, implying that he has not confused citron with other species. Pliny describes how citron wood is used to make beautiful and extremely expensive tables, mentioning one purchased by Cicero. Indeed, Pliny refers to a letter of Cicero's in which there is a mention of a very expensive inlaid citron table he had imported, the cost of which had caused arguments with his wife, and to two others owned by King Juba and King Ptolemy, both of Mauretania (at that time encompassing the northern regions of Morocco). The Roman Emperor Tiberius also owned a citron table, which was made by one of his slaves. This slave also made a table from the 'knot or knur in the root of the tree', which can be taken to be thuya burl. Different types of burl pattern were named and rose and fell with the fickleness of fashion, 'tigre' referred to waving lines, 'apiatae' to dense spots resembling bees or flies. The wood was valued firstly according to the colour of the wood, then according to the size of the blocks used in fabrication, the larger the pieces of wood, the finer the finished item.

³ "The merchandise of gold, and silver, and precious stones, and of pearls, and fine linen, and purple, and silk, and scarlet, and all thylene wood, and all manner vessels of ivory, and all manner vessels of most precious wood, and of brass, and iron, and marble," (Bible, Rev. 18:12).

Pliny points out that Theophrastus does not make any references to citron tables, so he concludes that the fabrication of tables is a relatively recent occurrence. Despite the recent trend in utilising thuya, Pliny notes that there was already evidence of deforestation, as in his description of how one 'Anchorarius Mountain' in Mauretania (the northern region of present day Algeria) yielded 'the best and fairest citron trees', but was now 'naked and despoiled of them'.

This last mention of a mountain in Algeria suggests that much of the supply of thuya wood was taken from Algeria and the north of Morocco, and not from the central or southern regions of Morocco as it is now. This would also explain the absence of any records in southern Morocco of the production of thuya tables. It is also interesting to note that the major Roman ports in the region were in southern Spain and along the Mediterranean coast of North Africa, implying that any trade in thuya would have gone through these ports, and would therefore more likely have been harvested from the forests closest to the ports. One of these ports was Cartagena, which raises the question of whether thuya populations were originally much more extensive in the region and were reduced to the present relict population by this early trade. However, as argued in Chapter Eight, the environmental history of North Africa has at times been misrepresented and misinterpreted, and so caution is required when analysing accounts of de-forestation in this region.

2.8 Utilisation of thuya since the 19th century

I want to outline here the more recent domestic utilisation of thuya, and how this has changed over recent decades. After the accounts of the Romans in the first century AD, nothing more is heard of thuya until European explorers began to visit and write about North Africa. It can therefore be presumed that the Roman fashion for thuya tables disappeared and that utilisation was reduced once again to the local domestic sphere. The next accounts are from Leon de Rosny (1856) who talks about the potential of thuya wood in Algeria for carpentry, but mentions no local use of this kind, and from Emberger (1938) who describes the importance in Morocco of thuya wood for carpentry, but does not expand on the exact utilisation.

I will briefly outline the literature and my research findings regarding the utilisation of thuya in North Africa. Thuya has been, and still is, utilised in several forms; wood, charcoal, *qatran* (vegetable tar made from tree roots), twigs and leaves, fruit, and *sandarac* (resin).

2.8.1 Sandarac

Sandarac is sticky resin found within the bark of thuya (also known as gum sandarac, gum Arabic, sandarach or gomme sandaraque). When the bark is cut, the resin exudes and hardens from where it can be collected. Tree resins have long been a major export product of Morocco, and especially in the 19th century. Essaouira exported huge quantities of resin, although the respective proportions harvested from thuya, *Acacia gummifera*⁴ and *Euphorbia* spp. are unknown. However, in 1872, in reference to a specimen he has collected, G.P.Hunot stated that thuya “Produces the finest Gum Sandarach shipped from the coast” (Item 40568, Centre for Economic Botany (CEB), Royal Botanic Gardens at Kew (RBGK)).

Sandarac was used primarily to make varnish (French polish), but it was also an ingredient in adhesives, lacquers, and paints (Mantell 1950, Roia 1966). It was a global commodity in the 19th century, and shipped to Europe as well as their colonies. Specimens held in the Centre for Economic Botany at the Royal Botanical gardens at Kew include thuya sandarac exported from Barbary (Morocco) to Bombay, and consequently imported to the UK, and a second specimen of thuya *sandarac* collected at the Colonial and Indian Exhibition in 1886 (Items 28828 and 28830, CEB, RBGK).

With the decline in the trans-Sahara trade, Emberger (1938) notes that the ‘populations pauvres’ (poor people) in the south of the country collected thuya resin, but he does not say how they use it or whether it is traded. Dallimore and Jackson (1948) later explain how the hard resin called sandarac is exported in large quantities from North Africa,

⁴ *Acacia* resin was brought across the Sahara, and in 1887 constituted the second most frequent commodity after ostrich feathers (Schroeter 1988:94).

mostly to Britain, to be used in varnish making, although they do not specify if the resin is from thuya or other species. Nauroy (1953) also quotes this practice, but also says that the locals have no other use for this product. A more recent report claims that 100% of the (thuya) sandarac harvested was exported for use in the production of pharmaceuticals and varnishes (Ministère de l'Agriculture et al. 1994:3). It is unclear when this harvesting of sandarac ceased, although it is likely to have been around 1993/1994, as Gardner and Jury (1993:58) claim that the practice still exists, whereas in 1994 the above mentioned report indicates that due to the destructive harvesting methods often used, sandarac harvesting is now illegal and no longer carried out (Ministère de l'Agriculture et al. 1994:3).

2.8.2 *Qatran*

Vegetable tar, known as *qatran* or *gatrane* in Darija, and *goudron* in French, is made by heating roots or wood under pressure. There are two types, thick (*ghelid*) and thin (*rekik*), which depends upon the tree species used and whether the *qatran* is mixed with other types of tar or water. Emberger (1938) first mentions the production of *goudron* from thuya. Nauroy describes how wood is combusted in a sealed pit of clay, with the *qatran* collecting at the bottom of the pit. In 2006 I witnessed a second method employed by a group of potters located in the Ouirgane region south of Marrakech. Here, very dry roots are placed in an old metal oil drum that is subsequently sealed with clay. The drum has a small hole in the bottom, which feeds into a small pit beneath. A fire is built up around the outside of the drum and lit, and the resulting heat and pressure causes the wood to exude the *qatran*, which drips out into the small pit from where it can be collected.

There are few previously recorded uses for *qatran*, and the current uses as a medicinal or in magic are described in sections 2.8.4 and 2.8.5. *Qatran* is commonly associated with pottery; it is the potters who produce it, and the pottery sellers in the *souq* who sell it.

2.8.3 Construction

When Emberger (1938) talks about the importance of thuya timber, he is probably referring to its use in construction. Thuya has long been used to make door and window

frames, and floor platforms (see below for description). In Algeria doors and door lintels were also made in thuya wood, and in larger town houses the wood was used for posts, balustrades, banisters and other weight-bearing supports (Leon de Rosny 1856). Precise examples of these old artefacts are difficult to find though, and even Moroccan museums have difficulties in identifying old wooden items. One Souiri antiques trader in 2007 had some beautiful examples of carved post lintels from a wealthy house in Taroudant. The original houses in the *mdina* in Essaouira are said to have been constructed using thuya wood, but it is unknown how common it was as other timber species, such as juniper and cedar, were also used.

It is still common to find thuya doors in use in rural *douar* (houses/villages) located in thuya forest areas, some of which are claimed to be several hundred years old. These doors are often carved and painted with the same Berber designs. I did not succeed in finding anyone who could explain the significance of these designs, leading to the conclusion that either there is no significance (as several people told me) or that there has been a loss of knowledge of their importance. The recent increase in demand for antique items, namely from Europeans who have recently settled in Morocco, has led to a commoditisation of old thuya doors. Traders approach households and offer to buy their front door that they then sell on in larger towns. On one occasion I accompanied a French expatriate living in Essaouira, and his builder who was acting as go-between on a trip into the mountains to visit a household who had already been approached by the carpenter. The door had been removed and was on display outside the house. It was inspected by the Frenchman and a price agreed upon. Arrangements were made for a truck to be sent to collect the door and deliver it to Essaouira. Prices paid for these old doors are high in local terms, especially in rural areas where the household may only be partly integrated into the cash economy. For a villager, therefore, the opportunity to sell an old door, which they can replace with a new, and (in their view) better metal one, is an excellent economic opportunity.

Thuya wood is still used for the construction of ceiling platforms. First, supporting beams are placed across the ceiling at regular intervals. Large poles from coppiced trees are then

used as cross-supports at about 1m intervals. Finally smaller poles are laid close together across the larger poles to create a solid surface. The arrangement of the small poles may be varied to create different patterns. The upper surface of the platform is covered in mud and forms the second storey floor or terrace. Since the law banning the harvesting of thuya wood came into effect in 1989 (see Chapter Three) it is more difficult to obtain the wood, but it is still possible, although the black-market situation has pushed the market price up. The result is that only wealthy consumers can afford the wood. These are usually foreign settlers or hotel or restaurant owners, all seeking the 'traditional' aesthetic appearance of a thuya ceiling. Ironically, at the opposite end of the scale, thuya wood is still used in some rural areas where locals harvest the wood themselves, or purchase it at a low cost from friends and family members.

Thuya wood for construction can be purchased from the thuya depots in Essaouira whose main function is to provision the thuya artisans. However, most trade in construction poles is carried out through informal networks. A second source of construction wood is the demolition of buildings in the *mdina* of Essaouira. Many areas of the *mdina* are very degraded, especially in the old *mellah* (Jewish quarter) where a large area of houses was demolished in 2006. The rate of renovation of *mdina* houses has exploded in the last few years due to the European influx to the town. When an old building is demolished or renovated, the builders will usually sell on the rescued wood to whoever wants it, builders, artisans, or artists. If the wood is left *in situ*, it almost instantly disappears, destined for the same interested parties.

The main demand therefore for thuya in urban areas is driven by the desire to create 'traditional' architecture, largely by foreigners who have bought houses in Morocco, or wealthy Moroccans. These two groups of people, although aware that thuya wood is a 'traditional' material to use, have little or no idea of what thuya wood is. This has led to substitution of *Juniperus* spp. for thuya, the buyer being none the wiser, but still content with their 'authentic' Moroccan architecture.

2.8.4 Medicine

There are several recorded uses of thuya as a medicine, mostly from Marrakech, but also Essaouira and other regions of Morocco. The leaves and fruit are crushed and mixed with water to form a paste that is applied to the head as a poultice to treat vertigo, migraines, neck pain and sunstroke, and fever in infants (Bellakhdar 1997, Boulos 1983, Nauroy 1954). The leaves are also added to *leben* (semi-fermented milk) and drunk as an emetic for food poisoning and bad diarrhoea, or applied directly to wounds and to the freshly cut umbilical cord (Bellakhdar 1997, Merzouki 1997). Merzouki (1997) also records the use of thuya leaves to treat the common cold. The leaves, twigs and arils are widely used across Morocco to treat diabetes and hypertension (Eddouks et al. 2002, Jouad et al. 2001, Tahraoui et al. 2007, and Ziyyat et al. 1997). Sandarac is used in Marrakech and Essaouira to fill teeth cavities, and applied to the eyes to treat infection (Bellakhdar 1997). *Qatran* is used to treat dermal disease and in veterinary medicine in both Morocco and Tunisia (Boulos 1983, Nauroy 1954). *Qatran* has also been recorded as used in 'criminal preparations', presumably poisons, but also maybe black magic (Nauroy 1954).

Bellakhdar (1997) mentions the use of sandarac to speed up childbirth, whilst Nauroy (1954, Boulos 1983) describes the powdered leaves as being drunk in a decoction as a 'dangerous' abortive. Thuya has been described in a study carried out in Marrakach and Taroudant as one of the many ingredients that make up two medicinal mixtures (*mssakhen*) which are added to food or made into a decoction (Smith 2004). The first of these mixtures, *lebik*, is used to treat menstrual absence and irregularities, menstrual pain, and vaginal infections. The second, *laaroug*, is used in postpartum recovery, to restore strength and appetite and stimulate breast milk. Bellakhdar et al. (1982) mentions thuya leaves and stems as an ingredient of "herbs for women". This prescription includes *Acacia cyclops* seed, *Rosa* spp. flowers, *Brassica* spp. seeds, *Coriandrum sativum* fruit, and the stem of *Trigonella foenum-graecum*.

Thuya is a relatively common medicinal plant in the markets of Essaouira. The fresh and dried fronds can be bought from most *âshabat* (herb sellers), who may be male or female. There are around four *âshabat* stalls in the auction area off the main street, and several

more who sit on the ground in the main streets and allies of the medina selling their wares. There is a difference in the perception of quality between dry and fresh fronds. Some say they are equivalent in use and efficacy, whilst others claim they are different.

The most common medicinal use of thuya in the Essaouira region is for stomach problems, namely stomach pain or diarrhoea. One *âshaba* explained how thuya 'tightens the stomach'. The leaves are ground and mixed with *leben* and are often left over night before drinking in the morning, ideally before breakfast. Generally the leaves are consumed with the *leben*, but one *âshaba* commented that you never drink the leaves, but strain them off before drinking the *leben*: 'we are not cows' she exclaimed! Many plants were mentioned as potential substitutes for thuya in treating stomach complaints, including *Thymus* spp. (*âzakut*), *Oreganum* spp. (*zâtaar*) and *Chenopodium ambrosioides* (*mkhenza*).

Thuya is regarded as a hot plant that acts in removing heat from the patient. For this reason it is used to treat fever, the second most common medicinal use of thuya mentioned in Essaouira. The leaves are ground and mixed with water, and then applied directly to the head in a poultice. Other hot plants can be used in the place of thuya, including *mkhenza*.

Contrary to Smith (1994), the majority of women I queried, both in Essaouira and the rural areas of Essaouira and Aoulouz, on the use of thuya for menstrual problems and during childbirth claimed that it was not used. Some pointed out that it was actually dangerous to take the plant when pregnant. In childbirth, one *âshaba* said that thuya is not used as it removes heat, and during childbirth plants are required that give heat to the mother. Only one *saHar* (magician) told me that thuya can be drunk in a decoction with cumin to stimulate menstruation in young girls, and as an abortive.

2.8.5 Magic and religion

Thuya leaves are burnt and its smoke used as a fumigant to counteract bad spirits, curses and the evil eye. Likewise, the smoke is used in spells (Bellakhdar 1997, El Hilaly et al. 2003). As mentioned above, *qatran* has also been recorded in 'criminal preparations', which probably means magic.

2.8.6 Leather tanning

The leaves, fruiting cones and twigs have been recorded as being used in the process of animal skin tanning in Essaouira (Bellakhdar 1997).

2.8.7 Fuel

Thuya wood has long been used for fuel, both directly and as charcoal (Emberger 1938, Nauroy 1953). Emberger (1938) describes thuya charcoal as of 'inferior' quality to other woods. It is still used today in thuya forest areas. However, it is often not the preferred wood as, although it burns hot, it produces a thick sticky black smoke.

2.8.8 Furniture and household items

There are no old written accounts of the utilisation of thuya in furniture and household items, and material evidence is difficult to find. Claims have been made that thuya was used in the construction of looms (Anon.) but I found no evidence of this. I discovered only a few antique items in antique shops in Essaouira, and no examples in Marrakech.

One antiques trader in Essaouira has several raised bed frames in thuya wood, complete with ladders, all of which have been carved and painted in bas-relief with Berber patterns (see figure 2.4). He would not disclose their origins, but implied they were all from the rural regions of Essaouira and Taroudant. The same trader had a scoop carved from thuya wood that had been used to remove *qatran* from beneath the furnace in which it is made. The scoop still had evidence of *qatran* on it. I found three bowls in a second antiques shop, which were carved from thuya wood, one of which was of burl (see figures 2.5-2.7). The burl bowl is very basic, in contrast to the trunk wood bowls which have patterns

carved into them. It is important to note that all of these items were carved, not lathed, unlike later thuya craft items.

These items show the difference between rural and urban products, which local people refer to as *bildi*, country style (either denoting backwardness, or a proud tradition, depending on the context), or *romi* (urban, or modern). Rural items were either very simple and utilitarian, as in the example of the scoop, or were decorated with Berber motifs. In contrast, the urban items are more highly decorated and suited for display or for special occasions, rather than everyday use, and were probably made for the wealthy elite.

I have also seen the remains of two old chests that may have been marriage chests (see Chapter Three for history of marriage chests). The remains of one of these consisted solely of one broken plank that was located in a homestead about 20km south east of Essaouira. The owner, a man in his 50s claimed it belonged to his grandparents. He remembers playing on the already old and worn chest when he was a young boy, before it was chopped-up and used for fuel wood.

2.8.9 Pasturage

Thuya forests have always been used for, and remain essential for, the grazing of livestock, predominantly goats, but also sheep, cows and camels. Animal husbandry is an integral part of rural livelihoods in the thuya regions of southern Morocco, linked with argan silviculture, and small-scale arable farming where sufficient water resources are available. In summer the shepherds take the herds out into the forest at dawn and return at dusk. In the wetter parts of winter the herds may be restricted to their barns, and the women go out into the forest to harvest and bring back thuya fronds for the animals to eat.



Plate 2.4: Old carved and painted bed head in thuya wood with Berber motives (25cm at widest point).



Plate 2.5: Scoop carved from thuya wood for collecting and pouring *qatran* (25cm in length).



Plate 2.6: Two carved thuya bowls from Essaouira town (approx. 30cm in diameter).



Plate 2.7: Carved thuya burl bowl from the Essaouira region (25cm in diameter).

2.8.10 The Algerian anomalies

The thuya craft dates back to the 1890s and has its origins in Essaouira. Although thuya was regularly used historically in Algeria, and is still used in small quantities today in construction and for utilitarian household utensils, there has been no development of a distinct thuya craft trade as in Morocco. However, Kew holds three thuya items in its economic botany collection from Algeria. These pre-date the Moroccan thuya craft by over 40 years. The first is a small lathework decanter stand that bears the name 'His Highness the Prince Napoleon, 1858' (item 28819). The second is a lathework bowl on a veneered box stand bearing the name 'Prince Jerome Napoleon, 1858' (item 28835). The last item is a lathework bowl on a lathework stand that bears the name 'Lt.Col.Playfair, 1870' (item 28836) (see plates 2.8-2.10). All the items are made of thuya burl wood.

The absence of any other evidence of thuya craft products in Algeria, suggests that these three items are unique. That the items were the property of Prince Jerome (most likely Jerome Napoleon Bonaparte II who fought in the Algiers war) and Lieutenant Colonel Playfair (the Consul General of Algeria) suggest that they were either gifts to, or commissions by, these distinguished men. There are strong similarities between the marquetry work on one of the vase stands and the general design of the products, and European products, again suggesting that the pieces were individual commissions by Europeans. The workmanship is of a very high quality, especially the veneer, the finesse of which has never been achieved in Moroccan thuya craft.



Plate 2.8: Decanter stand (12cm in diameter). Item 28819, CEB, RBGK. 17/7/07.



Plate 2.9: Lathework bowl and veneered stand in burl (30cm in height). Item 28835, CEB, RBGK. 17/7/07.



Plate 2.10: Lathework bowl and stand in burl. The bowl is shallow with a wavy edge (25cm in height). Item 28836, CEB, RBGK. 17/7/07.

2.9 Thuya utilisation by the woodworking craft

The thuya woodworking craft, based in Essaouira, is distinct from the older, non-craft uses of thuya in Morocco as described in the previous section. As will hopefully become apparent, there is no direct link between non-craft and craft utilisation of thuya wood for several reasons.

Firstly, whereas the previously described uses are nowadays primarily for domestic household consumption, the purpose of the thuya craft is exclusively for trade. Secondly, the source of thuya material for traditional uses, whether wood or its derivatives, leaves and fruit, or resin, are either collected from the wild by the users (if they live in a thuya forest area), or are purchased or exchanged through social networks or at *souqs* (markets). In contrast, artisans purchase thuya wood from specialist wood depots in Essaouira, or through private contacts. Thuya craft products are consequently sold either directly from workshops, or from commercial shops to consumers, who are more likely to be outsiders to Essaouira. Thirdly, the form and design of thuya products, and the techniques used, differ, as do the purpose and function of production (plate 2.11). This is



Plate 2.11: A range of thuya craft products, including chess sets, boxes, vases, sculptures, candle holders and trays.

in contrast to other ‘ethnic arts’, which are adaptations of traditional items, for example drums (Omeja et al. 2005) and masks (Steiner 1994).

Thuya represents over 95% of the total wood used in the thuya craft. The other major woods used are citron (*Citrus* spp.), acacia (*Acacia* spp.), and ebony (*Diospyros* spp.), which are used primarily for decoration (Ministère de l’Agriculture et al. 1994:5). More recently, other woods such as walnut (*Juglans regia*), mahogany and various pine species (*Pinus* spp.) have been used. These and the other tree species used are discussed further in Chapter Five.

Thuya is used in two forms, *gaiza*, trunk wood, and *jdra*, burl. Trunk wood is bought by the artisans in the form of a *madrier* (beam), which consists of a tree trunk roughly

carved into a rectangular shape. Size varies depending on the source and age of the tree, but generally lies between 80cm and 1.5m long, and around 20cm in width and depth. Burl wood is harvested from the base of the tree, resulting in death of the tree. It is purchased by the unit, and the price is per weight in kilograms. The size of burl varies considerably, commonly ranging from 5kg to 200kg. Larger burl are known, but increasingly rare as the average size of burl is decreasing over time with the exhaustion of larger trees.

There are two local classifications of timber wood: *bildi* and *romi*. *Bildi* wood comes from the thuya forests of the High Atlas, Agadir, and Essaouira regions. These are predominantly Chleuh Berber regions, and for that reason *bildi* wood is also called Chleuh wood. Due to the rocky topography that restricts tree growth, *bildi* wood beams tend to be short, narrow and twisted. It is usually highly knotted, and fine grained. The dry climate results in relatively dry wood that is less likely to crack and split during and after being worked. *Romi* wood comes from the region of Khemisset, south east of Rabat, and is also referred to as Khemisset or Rabat wood. The milder growing conditions result in taller, straighter trees, which give longer and wider beams that have a straighter grain with few or no knots. In this region the climate is moister, resulting in moister wood. *Romi* wood is therefore more susceptible to cracking and warping as it dries out. For this reason, it is the *bildi* wood that is rated as superior and is preferred by the thuya carpenters of Essaouira.

2.9.1 Quantities of wood used by artisans

A survey of Souiri sawmills carried out in 1994 (Ministère de l'Agriculture et al. 1994:8) estimated the daily consumption of thuya by the carpentry industry to be around 13.5 tons of burl and 205 beams. These figures only represent publicly sold wood and do not account for wood sold in closed depots and privately (see Chapter Four for more data on wood depots).

A second study looked at the amount of wood consumed by different types of artisans (Chakir 1999). In total, the annual number of beams consumed was calculated as

196,257, whilst 10,370 metric tonnes of burl was consumed, indicating nearly a tripling of burl, and a quadrupling of trunk wood, consumed annually. The study grouped artisans by the main woodworking technique used: inlay, incrustation, veneer, simple, lathe, and sculpture (discussed further in Chapter Five). This classification is an over-simplification, as many artisans use more than one woodworking technique. The annual consumption of trunk wood and burl for each type of artisan is shown in figures 2.3 and 2.4 respectively. Although these are only estimates, based on how much wood a sample of 184 artisans thought they used, they show a clear differentiation of wood use between technique types. The inlay technique tends to use only trunk wood, and no burl, whilst lathe work and sculpture use burl and little or no trunk wood. The veneer and simple techniques use a mix of both types of wood.

These statistics have important consequences in two main ways. Firstly, they have consequences for conservation, as harvesting of trunk wood, carried out correctly, allows regeneration of the tree and is therefore sustainable. However, harvesting of burl results in the death of the tree, and therefore to become sustainable requires a more organised re-forestation strategy, which currently does not exist. Secondly, as discussed further in later chapters, the inlay techniques are locally considered as the most traditional techniques, and artisans who practice them are regarded as the most highly skilled. It is therefore principally the newer technique of lathe work that is responsible for the greatest degradation of forests. The large amount of burl used in lathe work is partly due to the large number of artisans using this technique, but also due to the 50% wastage of wood that it involves.

2.10 Conclusion

Morocco has been a node for trade routes between Africa, Europe and the Mediterranean for at least three thousand years. Its influence reached a peak during the 19th century, when the trans-Saharan trade routes were operating at their highest levels, and European trade flowed in and out of the country. The establishment of the French Protectorate and consequent economic development through trade therefore continued a centuries old tradition.

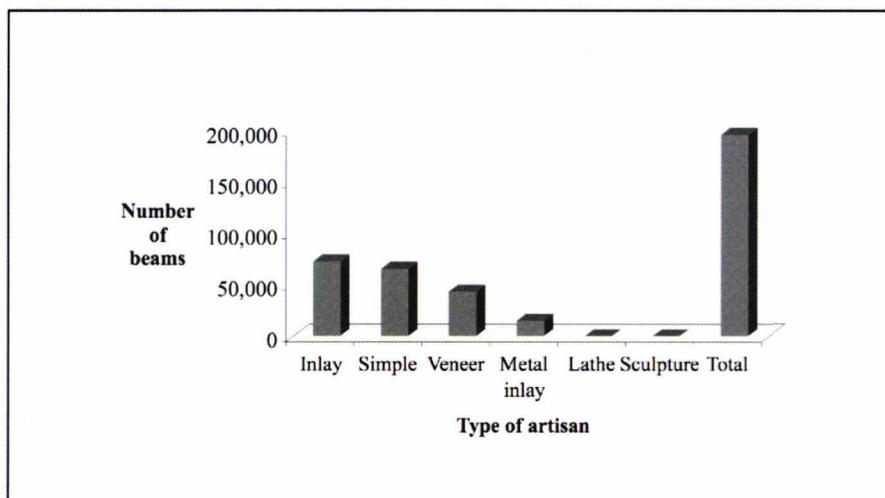


Figure 2.3: Estimated annual consumption of trunk wood beams by artisans specialising in each woodworking technique (Chakir 1999:40, 100).

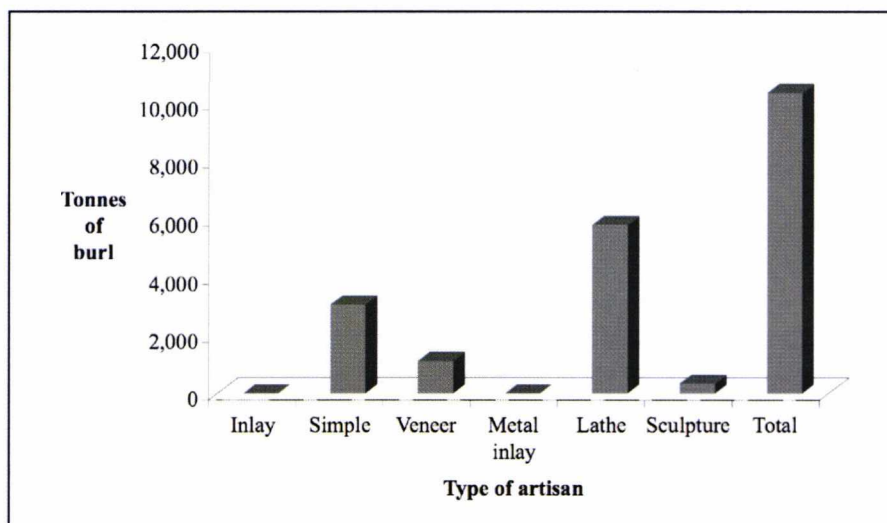


Figure 2.4: Estimated annual consumption of burl by artisans specialising in each woodworking technique (Chakir 1999:40, 100).

Essaouira was founded as a port and trade has always played a crucial role in its history. It was at its peak during the 18th and 19th centuries, when the elite of the town comprised wealthy European and Jewish merchants, as well as European missionaries and ambassadors. These foreigners introduced a European way of life and tastes to the town, resulting in the import of European goods. These European products were later to become models for thuya products, providing ideas for forms and designs as well as techniques. Unlike other major Moroccan cities such as Fes and Marrakech, Essaouira was never rich

in craftsmen. The majority of craftsmen supplied basic needs as opposed to artistic products. Therefore, it is unlikely that the thuya craft was a continuation of a previously existing traditional craft. The thuya craft began in the 1890s and there is a record from 1894 of three Jewish master craftsmen who were defined as 'cabinet makers, European shoe makers, and painters' (Schroeter 1988:70). Due to the difference between these professions, we can assume that only one of these men was a cabinetmaker, possibly using thuya wood.

Evidence suggests that thuya has been utilised since Roman times along the north coast of Morocco and Algeria. However, older claims for its utilisation are probably false. The tracing of thuya utilisation to ancient and religious texts by earlier writers is more likely an attempt to give thuya work greater cultural authenticity. Thuya remains an important multi-use species for both urban and rural livelihoods in southern Morocco. The thuya craft shows a complete break from these older traditions, differing in methods of procurement of wood, designs and products, and commercialisation of products.

Due to its regenerative properties, thuya wood has the potential for sustainable management. However, burl harvesting is destructive as it kills the tree. Despite claims that thuya forests have declined rapidly, and continue to do so, population statistics are ambiguous and therefore difficult to interpret. However, statistics suggest that there are extremely high levels of wood consumption, which vary between the type of woodworking technique used. The more traditional techniques of inlay use little burl wood, whilst the newer lathe work technique use very large quantities. It is probable, therefore, that this latter technique has contributed more to forest loss than the other techniques.

Chapter Three

The History of the Thuya Craft in Southern Morocco

“Before the French the artisans made only simple tables, but after their arrival they began to make tables in the French and Italian styles. So it was the Andalucians who imported the designs, and the Europeans who imported the forms!”

(El-Hemri 2004, the last *amin* of the thuya woodworking profession)

3.1 Introduction

This chapter will describe the origins and history of thuya woodworking in Essaouira. It will demonstrate how this profession, regarded as traditional and an important part of the patrimony of Essaouira and its inhabitants, was created at the end of the 19th century. The profession was developed by the French and other Europeans, and it was they that introduced many of the tools and machinery, and forms and designs of products. Thuya work began as luxury products for high status markets, and the workmanship quickly became highly regarded by wealthy Moroccans, the Moroccan Royalty, and Europeans.

Many locally believe that the decline of the thuya woodworking profession started as early as the 1930s, with a decline in quality and a start in the breakdown of the social structure of the profession. The profession changed rapidly in the 1970s with an explosion of new lesser skilled artisans entering the trade, and a switch from high quality products to small, cheap products aimed at the tourist trade. Although the expansion of the craft can be considered an economic success in general, for many individual artisans the situation has worsened with many problems arising in the profession.

This chapter will also highlight how a relatively recent and largely foreign influenced industry became regarded as a local tradition. It will also show how the profession has been in constant flux from its conception, and how the main forces acting upon the industry have been external, rather than internal.

3.2 Pre-craft thuya carpentry

Thuya was long regarded as a potential resource to be exploited for the benefit of the French Empire. Leon de Rosny (1856:1), writing about Algeria in 1856, talks of the immense unexploited forests of North Africa. Among these “none rival the thuya” for its beauty and solidity, qualities for which he recommends its use in cabinet making.

Thuya was used in the construction of public buildings and wealthy houses in Algeria, and specifically for the overhanging latticework of covered balconies, although by the mid 19th century these buildings were mostly in ruin and thuya no longer used (de Rosny 1856:9). It is also thought that thuya was used in the construction of wealthy houses in Essaouira and Taroudant, a city lying south-east of Essaouira in the Souss Valley, but little evidence remains to suggest that thuya was used in Essaouira. Many of the old houses in the *mdina* appear to use *Juniperus* spp. in their construction. This is more likely than thuya, as the town was constructed using the local surrounding forest, which was originally of *Juniperus* spp. and argan (Ben Driss Ottmani 1997:303). It would therefore appear that before the thuya carpentry industry, the utilisation of thuya in Essaouira was rare and restricted to wealthy buildings and mosques.

3.3 The origin of a craft

Verbal accounts by Souiris (inhabitants of Essaouira) equate the first utilisation of thuya in Essaouira to the end of the 19th century. Abdelkader El-Hemri has his own version of the story. Inaugurated in 1972, El-Hemri was the last *amin* of the thuya artisan guild who remained in his post until his death in March 2006.

The first use of thuya was with the ancients, the caids and rich merchants who used it to make the ceilings in their houses. Why did they use thuya and not ordinary wood? When they had guests, they opened their salons and smelt the pleasant smell of thuya wood.

This happened in Essaouira, and a little in Taroudant which also has thuya forests, before the arrival of the French. They didn't have thuya work like we have today. Carpenters used it exclusively to make ceilings for the rich and the mosques. When the ceilings were finished, the carpenters returned to their workshops to continue their usual work using other woods.

At the time, there were big marriages, both Jewish and Muslim. For the marriage, people made chests in which to place their belongings, one for the bride and one for the groom, but always in ordinary wood. One day a *maâlem* (master craftsman), I don't know his name, bought back some surplus planks to his workshop. One day he made a chest with this wood, the chest was more beautiful than the chests made in ordinary wood. Only the rich could afford these thuya marriage chests, and soon many Muslims and Jews were commissioning the making of them.

The chests were very simple, without decoration. They were made from the trunk of the tree, the carpenters did not know about burl at this time. They made chests by gluing planks together, then planing and varnishing them. Everyone found these chests very beautiful. They shone.

This is where the work of thuya came from. This is its exact origin, I speak in truth.

(El-Hemri 2004:7-8. My translation from the French.)

El-Hemri continues to describe how the artisans slowly developed the use of thuya, at first creating pyramidal lidded tea boxes, then conical cake boxes, and later, cabinets and tables. At this early stage thuya products were undecorated, as inlay and inlay techniques were as yet unknown by the artisans, as was burl.

3.4 The first masters

According to a report carried out in 1949 by Larbi Mejboud, the *mohtasseb* of the thuya carpentry profession, the first artisan to specialise in inlay work was Jilali Ould El-Alja, a descendant of a Spanish *laâlouj* (a Christian who had converted to Islam). However, according to oral histories gathered from several old Souiri artisans (now all deceased), Jilali had himself learnt his profession from a man called Erik Cheikh (Ben Driss Ottmani 1997:275, Oqba, unpub.). A survey carried out by the Alliance Israelite Universelle in 1894 suggests that there was one Jewish master craftsman who made European style furniture, potentially using thuya wood (Schroeter 1988:70). It is possible that this may have been Erik Cheikh.

Some of the earliest artisans can be traced as far back as the period between 1873 and 1908. The *maâlem* (master craftsman) Jilali and his followers, Abdelkader Ould Hmad Ou Mohamad, Jilali Ould El-Baz, Mohammad Kazzabni and Fateh, were all often called to the imperial palaces in Marrakech and Fes by the sultans Moulay El-Hassan 1st and Moulay Abdelaziz (the former ruled between 1873 and 1894, and the latter between 1894 and 1908). The artisans dwelled in the palaces whilst they worked, and Fateh was permanently in the service of Moulay Abdelaziz and never returned to Essaouira. The artisans' roles were to make lutes for the imperial musicians and to restore imported furniture that had been broken in transit from Europe (Oqba, unpub.). Moulay Abdelaziz was renowned for his fascination with European commodities, and his extravagance in buying and importing them in large quantities for his personal entertainment. It is apparent from the imperial interests in the Souiri artisans that they were held in great esteem for their skill and knowledge. However, their roles within the palaces were to make musical instruments, which would involve inlay work but not thuya wood, and as restorers of European furniture. So at this time inlay work had yet to be applied to thuya, and thuya had yet to evolve from marriage chests and tea boxes.

Jilali trained many young artisans, one of whom was the *maâlem* Omar Ould El-Alja. It was Omar who is said to have been the first artisan to use thuya wood to make art objects. He broke away from the other artisans and became the centre of a new 'school' which developed inlay and the use of thuya wood. Out of this group of artisans arose what became known as the 'great masters', which included names such as Sellam Al Alja, Allal Ould Hmad Ou Mohammad, Abdelkader Ould Hmad Ou Mohammad, Boubker Ben Abdelwafi, Hadj Driss Hallouf, Brik Didoune, and Hadj Oummad (Oqba, unpub.). The artisans used mahogany, citron, ebony and walnut in their work. When thuya was introduced, it was brought from Rabat and Sale, and only later harvested from the local forests.

3.5 Birth of a profession

The earliest written accounts of the thuya craft are of the first decade of the 20th century, and describe artisans as members of their own unique guild, separate from other

carpenters. This guild bought together all the *maâlmîne* and their apprentices, who were working with thuya, in a way described for the artisans of the port of Salé, north of Essaouira, in the nineteenth century (Brown 1976). The guild maintained high standards within the craft, by controlling apprenticeship and production, as well as holding an essential disciplinary role within the marketplace.

The guild had a robust structure. At its head was the *mohtasseb*, the market provost, who's role was to maintain discipline within all the guilds and in the market place in general, both when problems arose between artisans, and when disputes arose between artisans and clients. The *mohtasseb* acted as judge, and his decision was deemed fair and final. The *mohtasseb* answered to the *Pasha* and *Caid*, but he only had need to take matters to them in special circumstances, when there was need for damages to be paid, and when the *mohtasseb* judged that a prison sentence was required (Oqba, unpub.).

Below the *mohtasseb* was the *amin*, whose primary role was to maintain a high quality of workmanship within the guild. This was achieved in two ways. Firstly, before an apprentice could become a master craftsman, he had to prove to the *amin* that he had achieved the necessary level of skill and experience for the craft. If an apprentice attempted to establish his own workshop without permission, the guild would shut it down.

When an apprentice thought he was ready to leave his masters' workshop, and become a *maâlem*, he would ask his father or a male relative to approach his master with the request. The master would go to the *amin*, who would make an assessment of the apprentices' skills and knowledge. If the *amin* was in agreement, then the apprentice was free to leave his masters workshop, set up his own workshop, and call himself a *maâlem*. In the words of El-Hemri;

When the [new artisans'] workshop was ready, the young artisans' *maâlem*, other *maâlmîne*, and the *amin* would gather in the workshop to hear the

fateha¹ read and to drink tea. This was all that marked the artisan becoming a *maâlem*, there was no official diploma or paperwork. The young *maâlems*' family helped him financially, with the workshop rent and purchasing of tools and wood.

(El-Hemri 2004:12. My translation.)

This quotation describes the formal, but un-bureaucratic, rite of passage from apprentice to *maâlem*, with the main event being the reading from the Qur'an. It appears that the family was essential for this process to occur, providing the young artisan with the financial means to establish himself in his own workplace. According to El-Hemri, one of the motivations for requesting to become a *maâlem* was because the young man wanted to get married. Apprentices were paid very little, if anything, and so the only way for a young man to amass enough money to get married was to work as a *maâlem*.

3.6 The 1915 exhibition

The hugely successful Casablanca exhibition of 1915 (see section 2.2) was attended by several Souiri artisans who took their products along to be displayed (table 3.1). Their work was greatly admired, and many of these artisans were awarded Gold medals for their work.

<i>Maâlem</i>	Item entered in the exhibition
Abdellah Sakat	Chests inlaid with citron in arabesque patterns
Abdellah Eddnani	A lute
Abdellah Ahmad Ou Mohammad	Shelves incrustated with ebony
Omar Ould El-Alj	A table called ' <i>Chayla</i> '
Sellam El-Alj	A <i>rbab</i> (musical instrument)
Boubker Ben Abdelwafi	A thuya chest entirely incrustated with <i>citron</i> wood
Hadj Driss Hallouf	A polygonal table with pillar legs

Table 3.1: Table of Souiri woodworker entrants to the Casablanca exhibition and the objects they made.

¹ The fateha is the first chapter of the Qur'an.

It is not surprising to see the name of the great master Omar Ould El-Alj in this list, along with Sellam, Boubker and Hadj Driss, three of his followers. The fact that not all of the items were made from thuya (the musical instruments were probably not thuya wood) demonstrates that at this time, the artisans were still generalists, using a range of woods in their work. What is clear though, is that the evident success of these artisans at the exhibition gave a boost to the Souiri thuya woodworking trade, which flourished after this time.

3.7 Marquetry

There are two main techniques that are regarded as central to the thuya craft: inlay work and veneer. These two techniques are commonly referred to as the same technique, and collectively termed 'marquetry'. This makes it difficult to trace the individual histories of each technique. The oldest examples of inlay work have been found on three thousand year old Egyptian mummies and furniture. Later, the Romans developed a style of marquetry called *intarsia* which combined inlay and veneer techniques: the pieces of veneer were inlaid into a cavity carved in the base material so that they were held in place (Ramond 2002:13). This style declined with the Roman Empire, until the 14th century when it flourished again and spread throughout Europe. A new method of veneer was developed, and in contrast with the Roman method, the veneer pieces covered the entire surface of the base material. Marquetry blossomed throughout the Renaissance of the 16th century and the 17th century. The latter saw the centre of marquetry move to France, where it became extremely fashionable under the reign of Louis XIV, when there was a shift from more geometric to floral designs. This period also saw the introduction of exotic woods from the new colonies, which were added to the repertoire of inlay materials which included brass, pewter, ivory, and mother of pearl (ibid).

Thuya artisans distinguish between veneer and inlay work. To avoid confusion, it is important to separate the two techniques commonly referred to as marquetry (figure 3.1). The first, inlay work, is the technique in which holes and grooves are dug out of a base material and subsequently in-filled with different colour woods, ivory, mother of pearl, or other (usually expensive) materials. It is this technique in particular that the Essaouira

thuya craft is famous for. Inlay work is locally known by the French terms *marqueterie* (when the primary inlay material is wood) or *incrustation* (when the primary inlay material is metal) (Gayot 1954). I shall refer to this technique as inlay work (plate 3.1).

The English definition of marquetry, or veneering, is the technique by which pieces of wood or other materials are cut to a design, rather like a mosaic, and consequently glued onto the top of the base material. Locally, this technique is termed *placage*, but I shall use the term veneer in reference to this technique (plate 3.2). It should be noted, however, that thuya veneer differs significantly from standard European veneer work in that the latter uses very thin pieces of wood, between 0.5mm and 4mm in thickness. Thuya carpenters use much thicker pieces of veneer, usually around 6mm in thickness. This method reduces the ability of the craftsman to produce very detailed intricate work.

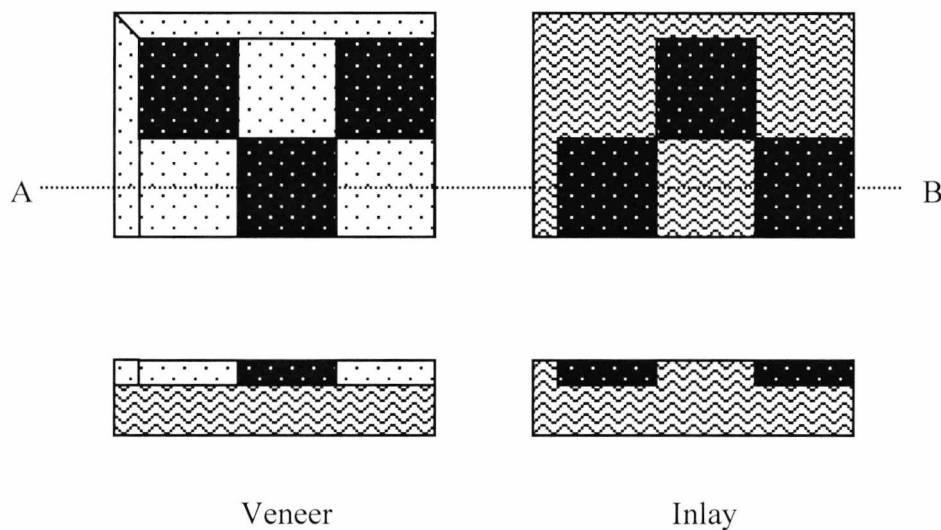


Figure 3.1: The techniques of inlay and veneer work. The top drawings show the two techniques viewed from above. The bottom drawings show the cross section A-B. With inlay the decoration is set into the base wood, whereas in veneer the design pieces cover the base wood.



Plate 3.1: Thuya table made by Abdellah Twll: trunk wood inlaid with *Citrus sp.*, *Acacia* and mother of pearl (central circular design is approx. 50cm in diameter).



Plate 3.2: Old veneer table. The design has been made by cutting pieces of trunk and burl wood, and another unknown wood, then glueing them onto the base surface (table top is 60cm square).

3.8 Development of forms and designs

Stories relating the origins of the thuya craft nearly always refer to the introduction of knowledge and skills from Andalucia. Several of the original artisans are said to have descended from Andalucian *lâalouj* immigrants, bringing their traditional skills with them. However, there is no evidence to show that these craftsmen were recent immigrants to Morocco, so a direct link between Andalucian and thuya craftsman cannot be made.

Essaouira was created as, and functioned predominantly as, a trade port, for much of its history. Although popular accounts describe the arrival in the newly founded town of artisans from across Morocco (and especially from the towns of Marrakech, Taroudant and Demnat), artisanal activity in Essaouira was limited, and certainly not on the scale of other, much older, settlements in Morocco (Ben Driss Ottmani 1997:119, Schroeter 1988:69). Knowledge of new techniques and designs was, therefore, necessary in order for the thuya craft to develop. I suggest that these were predominantly European in origin, brought to Essaouira by European (Jewish and Christian) traders and settlers and through the import of European goods. Persistent descriptions of Andalucian Muslim origins indicate a desire to create an Islamic traditional history for the craft.

Several accounts state that the technique of inlay was first brought to Morocco at the end of the 19th century by *laâlouj* (Christian converts to islam. Oqba, unpub.). Origins of both inlay and veneer are likely to be much older though, as the Moors are thought to have introduced the techniques to Spain, and they are commonly used in typical Moorish architecture in Spain and Morocco. The techniques have long been used in stone and marble work, so the application to woodwork may be a later development.

El-Hemri describes the first application of inlay to thuya work that consisted of the decoration of marriage chests with simple lines in white poplar wood, but he gives no clues as to when this occurred. Later, the same technique was applied to tea and cake boxes, with the use of ivory, common in Essaouira at that time, as the inlay material (El-Hemri 2004). Veneer was only introduced to thuya work later, sometime during the first decades of the twentieth century.

The items entered into the Casablanca exhibition in 1915 give an insight into the early development of the profession. Of the seven Souiri artisans, two entered musical instruments, revealing the artisans' role within the Royal Palaces in making musical instruments. Two artisans entered chests, showing the roots of the trade in marriage chests. Two further artisans entered tables, indicating a move of thuya items away from older forms. The forms of these two tables were inspired by traditional architecture: the *Chayla* table was named after the door in Essaouira (in Place Moulay Hassan) upon which it was based. The legs of this table mirrored mosque or other wealthy establishment doors, with an Arabic arch surrounded by pillars and topped with tiles, all richly decorated. The general form of these tables remains to the present day, albeit in a simpler shape.

There are conflicting accounts of the history of designs. Some say that the earliest inlay was geometric in form, taken from Islamic designs (Sibony 2004:19), whilst others claim the reverse, that the earliest designs were floral, and that it was only later that the geometric patterns were introduced. Safi, only 129km to the north of Essaouira, has a tradition of floral designs, so it is likely that this would have influenced the Souiri artisans. One of the chests submitted to the 1915 Casablanca exhibition is said to have been covered in arabesque designs, but it is not clear whether this implies floral or geometric patterns (Sibony 2004).

According to El-Hemri, it was the Andalucians from Tangier, Fes and Tetouan who brought geometric inlay to Essaouira. The Andalucians were brought to Essaouira after 1925 to work in the port, and among them were artisans skilled in the old traditions of Andalucia (El-Hemri 2004). A second contrasting account tells of an inspector of professional training who was passing through Essaouira. This man spoke with the head of the school of professional training and suggested the introduction of geometric patterns in thuya work. The patterns were very successful, and were swiftly taken up by many artisans, which led to the replacement of floral by geometric patterns (Ben Driss Ottmani 1997:277, Oqba, unpub.). According to Oqba's account, this occurred at some point in or after the second half of the 1920s, which supports the first account.

There may well be some truth in both accounts, with different forms and designs introduced at different periods. However, the majority of designs can be identified in earlier European work (16th to 19th century), suggesting that the majority of ideas came from European sources.

3.9 Burl : A new primary material

Although evidence suggests its use in carpentry by the Romans (Plinius Secundus 1601) *jdra* (burl wood) was not used by the carpenters of Essaouira before the twentieth century. The only examples of the use of burl are the three carved bowls described in Chapter Two. The early thuya artisans used exclusively *gaiza*, wood from the trunk and main branches of the tree. Some artisans claim that it was not possible to utilise the extremely hard burl due to the absence of machinery. The ‘discovery’ of burl is attributed to a French man by the name of Brosse. His name is widely known in Essaouira, but not his forename or any further details about him. It is said that he was a carpenter, and established a workshop in the old *mdina* where he employed several carpenters to work with him. In 1924 Brosse started to use burl and soon his workshop specialised in burl products.

At first, the burl was cut into very thin planks of 3 to 4 mm, and used in veneer. The workshop produced an increasing variety of products, from glove and cigar boxes to chairs, cabinets and desks, to book-ends and game boards. Brosse was also said to have brought the first lathe machine to the town with which he produced bowls and plates in burl (El-Hemri 2004:13). Burl products were highly successful, and Brosse himself was very good at opening up new markets abroad for thuya products. In response to European tastes, the products took on European forms and designs. Soon, other artisans began to work with burl as well.

3.10 Rise and fall

In 1919 there were a total of 20 *maâlmīne* and no *mtaâlmīne* (apprentices) registered with the guild. In 1922 there were 25 *maâlmīne* and 36 *mtaâlmīne*, indicating a sharp increase in the success of the profession that led to parents entrusting their sons to *maâlmīne* as

apprentices. The high number of apprentices may also be attributed to the high incomes enjoyed by *maâlmîne*, resulting in them having excess funds to pay apprentice wages. In addition, at this time, the high interest in thuya products in relation to the small size of the profession would have created a massive gap between supply and demand. Apprentices would have been taken on to assist the artisans in an attempt to close this gap. The profession flourished throughout the 1920s, with artisans enjoying relatively high incomes and a high social status. The simple structure of the trade assisted this: artisans dealt directly with clients, with no intermediates. The result of this structure, and the strong guild, resulted in high product quality.

However, an anonymous letter dated 24th February 1920 complains how the organisation of the guild was starting to fail, and how the powers of the *mohtasseb* had become diminished. The letter indicates how in former times the *mohtassebs*' authority was great, but although his position had not officially altered, in practice, his role had diminished. Artisans were now taking their disputes directly to the *pasha* instead of to the *mohtasseb*, thus undermining his role. Despite this, the guild and the profession remained strong and continued to flourish (Oqba, in Sibony 2004:23).

The next indication of problems came in July 14th 1934 when the artisans approached the *pasha* with a plea for help. They spoke of the young novices leaving their masters to set up business on their own before they had adequately learnt the trade. The resulting decline in quality led to a corresponding decline in artisan profits, putting many into poverty. *Maâlemîne* producing good quality items could no longer sell them. As a result, many *maâlemîne* left the profession, and the inlay technique fell into decline. In the following years the guild also fell into decline, and by 1940 it was said to be guild in name only (Oqba, in Sibony 2004:26).

3.11 Growth of the craft

The number of artisans can be extrapolated from data taken from old guild figures (Oqba, in Sibony 2004:25). In 1919 there were 20 *maâlmîne*. By subtracting the number of new artisans that joined the guild we arrive at a total of 15 artisans in 1912. A similar exercise

can be carried out working back from the figure of 54 *maâlmîne* in 1949. The results are shown in figure 3.2. Although data are missing for the years between 1930 and 1939, a clear pattern emerges, with a sharp increase in the number of *maâlemîne* starting in the early 1940s, then gaining speed in the middle of the decade. Between 1941 and 1944 there was on average 2.5 new *maâlemîne* every year. In the following four-year period, between 1945 and 1948, this average had jumped to 5.5 new *maâlemîne* each year. If the guild was losing power and control over the profession it is likely that not all artisans were joining the guild, making the actual number of artisans practising the trade much higher.

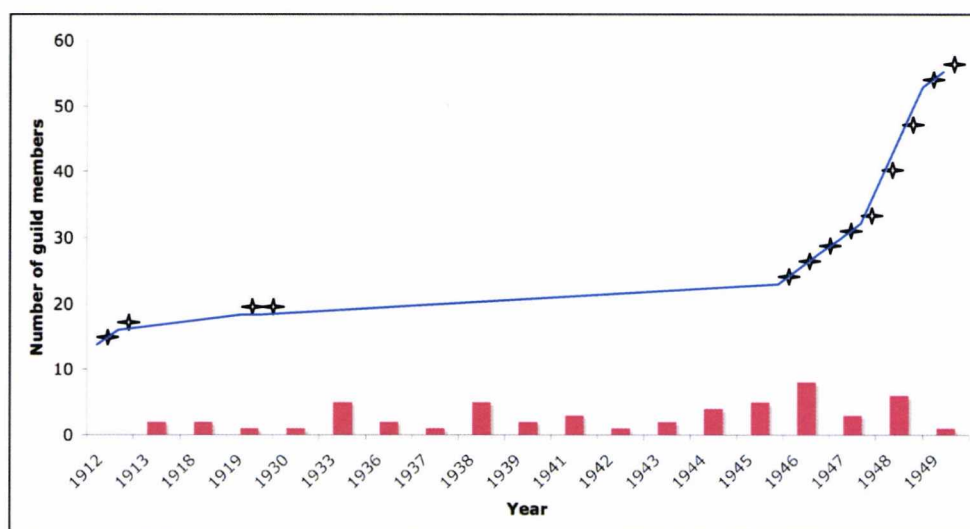


Figure 3.2: The rise in number of *maâlemîne*, master craftsmen in Essaouira between 1912 and 1949. The stars show exact data for the total number of artisans (from Oqba, in Sibony 2004:25), whilst the blue line is an interpolation for the intervening years. The bars show the number of new *maâlemîne* each year.

3.12 Re-organisation of the profession

The organisation of the artisanal professions remained unchanged until 10th October 1949, when it underwent a drastic restructuring. In response to an (unsuccessful) call by Mohamed V for Moroccan independence, the French reformed professional organisation by creating two cooperatives, one for agriculture and one for the artisans. This move aimed to rejuvenate and develop the professions.

The thuya artisans were brought together in the 'Cooperative artisanale des patrons marqueteurs sur le bois de thuya' – the artisanal cooperative for the marqueteurs of thuya wood. The cooperative was provided with premises in the old *mdina* equipped with workshop space, complete with bandsaws and planers. In order to join, an artisan applied to the cooperative following which a vote would be taken. If accepted, the artisan paid a symbolic entrance fee, and became a life member. Membership entitled the artisan to use the workspace and machines at the cooperative for a small cost. This was very important for artisans who could not afford tools, especially electric tools, and a workshop of their own. The second major advantage of the cooperative was the shop, which lay within the same premises. Artisans could sell their products to the cooperative for a fair price and the cooperative would then sell the products on in the shop. Alternatively, the artisan would display their products in the shop, and on sale of each item he would pay the cooperative between 10% and 20% commission. This situation, which continues today, gives the artisans a secure outlet for their products, and ensures fair pricing. The cooperative could also, and still does, reject poor quality items, thus maintaining a high standard of quality.

As an organisation, the cooperative also had the ability to seek out commissions for thuya products, and, for foreigners, it acted as a recognised authority through which they could place orders. The cooperative was, therefore, an important actor in seeking and opening up new markets, mostly for export to European countries. Once received, a commission would be divided-up between the members of the cooperative, according to their specialities. The artisans would receive the wood and other materials necessary for the work, and a small cash advance. When all the products were completed, they would be gathered together for shipping, and the balance due to each artisan settled. In this way, the artisans who joined the cooperative flourished.

3.13 Opening up of the Skala

At first, the workshops of thuya artisans were scattered around the *mdina*. Later, they became clustered around the Grain Souq. During the 1950s an important shift began, starting with the creation of the cooperative, which acted as a nucleus for artisan activity.

At some point the carpenters began to colonise the Skala. The Skala is the sea wall of the *mdina*, but the name is generally more specifically used to describe that part of the wall that originally housed the army and munitions. The Skala can be divided into an outer section, a middle section and inner courtyard. The latter two are separated by defensive doors. Set into the walls are small rooms, used to store munitions, of which there are some 51 in total (plates 3.3 and 3.4).

Artisans give different dates for the establishment of the workshops in the Skala, ranging from the beginning of the 20th century to the 1970s. Old photographs show that in 1910 the Skala shops were closed-up and un-used. It is more likely that the workshops began to open-up in the late 1940s, starting with the outer Skala, and then moving inwards to the middle and inner sections later. One *mâalem*'s story describes how, at first, there were only thuya artisans in the outer Skala, a location they shared with mechanics. At the time, the carpenters still used glue that they made by boiling animal skins. This was the role of the apprentice, and they would sit outside the workshop watching over the open fire. The carpenters worked late into the evening, using candle and firelight to see by, this being before electricity arrived in the *mdina*. The old cinema was located in one of the buildings opposite the Skala, and in those days, often showed two films back to back with a short break in between. The story goes that one day an important French official was at the cinema. During the break, he wandered out into the street. There, he was shocked by the poor working conditions of the carpenters and their apprentices, bent over their fires and candles. He resolved to help the carpenters, by opening-up new workshops in the Skala, and setting a symbolic monthly rent of 10Dh paid yearly to the local authorities. It would appear that this occurred before Independence, perhaps in the first half of the 1950s.

The Skala quickly became the new centre of artisan activity, with all the workshops taken over by carpenters. Today, many artisans proudly tell how they were apprentices in one of the Skala workshops, and almost all of the previous generation of highly esteemed artisans were based there.



Plate 3.3: Number 38, the Skala. Typical thuya workshop/shop with finished and unfinished products displayed on the ground outside.



Plate 3.4: Inside Number 38, the Skala. The front half of the shop is committed to displays of products, note the Aladdin's cave style. The rear of the shop is the workshop, with workbench in the centre, and tools stored on the wall.

3.14 Slow disintegration

The professional guild of thuya carpenters had experienced problems since almost its creation, with a corresponding decline in power. Although during the 1940s and 1950s the guild succeeded in maintaining control over the profession, by the end of the 1960s it succumbed. The title of *amin* continued until 2006, but his role was effectively symbolic. The loss of control by the *amin* led to a decline in the quality of thuya products, and a decline in trade.

As the guild declined, the artisan cooperative flourished, and was at its height during the 1950s and 1960s when it became a school for thuya carpenters, and the courtyard was full of young apprentices. This healthy picture hid deeper problems, which were amplified by Independence. When the French departed Morocco in 1954, they left a vast administrative and knowledge gap. Like 80% of the country's population, the thuya artisans were illiterate, and did not understand the organisation and structure of the previously French-run cooperative. The cooperative was monopolised by the *pasha*, and became little more than a space where carpenters could cut wood and work. It wasn't until the 1980s, following increasing literacy rates, when the constitution was 'rediscovered', that the cooperative members began to understand their rights. A committee was created, but there has been slow progress since.

This trend was not unique to the thuya carpenters, and led to an attempt in 1963 to restore effective organisation of the professions by the creation of the 'Chambre d'artisanale', Chamber of Artisans. The Chamber represented all the artisans of the town, from thuya carpenters to *hammam* (public bath-house) workers, taxi drivers and tailors (see Chapter Four).

3.15 The tourism explosion

The 1980s and 1990s saw a boom in tourism for Essaouira, and for Morocco in general. This had a drastic effect on the thuya industry. Until this date, thuya artisans had been making high quality, high value products. The new tourists flooding into Essaouira created a demand for small, cheap souvenirs. This new demand, along with other factors

(a decline in effective organisation, immigration from the countryside, and an increase in unemployment following the decline and closure of other Essaouira industries), triggered a collapse of the old profession and rise of a new one. The new high demand for lower quality items required fewer skills and allowed the number of artisans to rise. Apprentices no longer waited to be told when they were skilled enough to be termed *maâlem*, but abandoned their masters to set-up their own workshops. High unemployment caused other men, previously uninterested in the trade, to turn towards it. Figure 3.4 shows the change from a steady low number of artisans in the 1940s, to an exponential increase in the 1990s. Although there are no data for the intermediate years, the overall trend is obvious, and by 1998 there were an estimated 6300 artisans. This represents almost 10% of the town's total population, recorded as 70,000 in 1994 (Driouchi et al. 2002:19), and if the artisans' families are taken into consideration, then it could be presumed that a substantial proportion of the town's population was dependant upon the thuya craft.

The risks of dependency on a fickle industry that is tourism became apparent following the 1990 Gulf War and the attack on the World Trade Centre in New York on September 11th 2001. The artisanal cooperative sales figures are a good example of the drastic drop in foreign tourists visiting Essaouira, especially Americans, after the latter event. From a base of 100 in 2001, sales dropped to 60 in 2002, and to 25 in 2003. Sales figures only started to recover in the following year (Sibony 2004:62).

The shift in the focus of the trade, from the luxury to tourist market, resulted in a new set of problems for the artisans and their profession. Thuya products declined in quality due to the rapid input and lack of training of new artisans entering the trade, and the demand for small cheap souvenirs. The consequent flooding of the market with these goods caused prices to plummet. The economic status of artisans fell, and they were forced to reduce quality and prices and increase output even further in order to maintain their incomes.

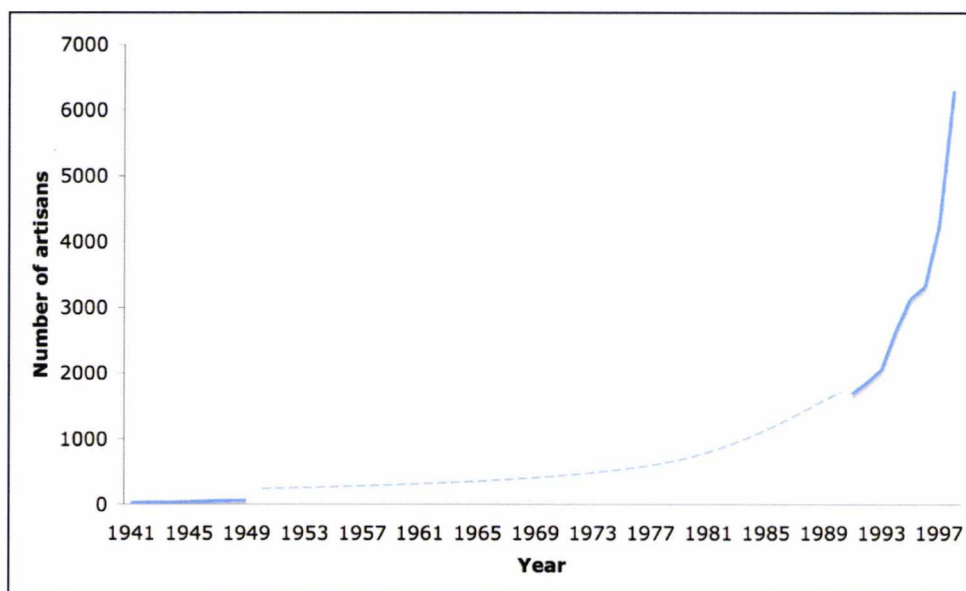


Figure 3.4: The rise in the number of artisans in Essaouira between 1941 and 1998 (from Chakir 1999). The dashed line is an interpolation.

Thuya traders took advantage of the new situation and took control of the market. Where before the carpenters had either dealt directly with their customers, or maintained long term relationships with one trader, now the traders firmly stepped in between the artisan and customer. The number of shops selling thuya products flourished, with the result that carpenters became isolated from the market thus losing control over it. In addition, carpenters were generally lacking in the new skills necessary to access the new markets, knowledge of foreign languages, and marketing and business skills. Once the traders had control they dropped the prices they were willing to pay artisans, and increased sale prices, thus amplifying the artisans' dilemma whilst maximising their own profit. A new group of traders arose, the *maâlem chakara*, which translates as 'satchel master'. These are wealthy men who do not do any carpentry themselves, but establish workshops where they employ a group of artisans to work for them. This turned independent artisans into wage-workers for increasingly wealthy employers.

Thuya products became simpler in form and design, with a decline in complex marquetry designs and a return to the simpler floral designs. Veneer increased, as did the use of burl, which due to its colour and patterning, is regarded by artisans and customers alike as requiring no extra inlay design to increase its value. The increase in machinery improved

productivity, thus increasing the total consumption of thuya wood, and with a corresponding increase in wood wastage. This is most apparent with lathe work, a technique which requires only a few months to master, and produces up to 50% wastage of wood.

3.16 Artisan livelihoods in the 1990s

A study of 184 artisans carried out in 1998 (Chakir 1999) gives a profile of the thuya carpenter at that time. Chakir's study paints a profile of a largely young unmarried population of carpenters, demonstrating not only the recent influx of men to the trade, but also the relatively low status and profits of the job which inhibited marriage. Contrary to the widespread local belief that the problems facing the profession were the result of 'incomers', only 20% of artisans were from the Essaouira region. However, there was a much greater likelihood that incomers would take up the lower skilled technique of lathework. The majority of artisans rented workshop space, sharing costs by working in small groups. The average monthly rent for a workshop was 300Dh, whilst those with Skala workshops still paid the original symbolic 10Dh per month rent. Finally, the number of apprentices was fairly low, with only one third of carpenters training apprentices. Of these, the majority were learning lathework, with very few learning inlay and the full repertoire of carpentry skills (see Chapter Five).

A second survey carried out in 1991 by the Delgation de l'Artisanat d'Essaouira (Chakir 1999:61) calculated the proportions of artisans and their respective incomes (table 3.2). Note that the survey does not classify lathe workers as *maâlmime*, a category that includes all other thuya techniques. This differentiation allows a point to be made concerning skills and their relation to income. According to the data, a *mâalem*, who may have spent ten years or more learning his skills, earns on average only 500Dh a month more than a lathe worker, who can learn his necessary skills in a month or two. For a man entering the trade, it is therefore economically advantageous for him to take up lathework as opposed to learning the entire repertoire of carpentry skills.

Type of thuya worker	Average income (Dh month)	Total number workers
<i>Mâalem</i>	3000	440
Apprentice	900	1000
Lathe worker	2500	250

Table 3.2: The number of thuya artisans and apprentices and their monthly income (Delegation de l'Artisanat d'Essaouira 1991, in Chakir 1999:61).

3.17 Impact of the thuya craft on forests

The next section will outline the pattern of thuya extraction over the twentieth century to the present day, and analyse the impact of the carpentry profession on Moroccan forests. Throughout its distribution, thuya has long been subject to heavy anthropogenic pressure, through cutting, grazing and firing (Achhal et al. 1985, Emberger 1938). This is believed to have resulted in, at best, reduced and weak trees with feeble woody productivity, and at worst, in complete deforestation (Benabid 1976, Chakir 1999). The earliest record that mentions the degradation of thuya forests is Pliny's 'History of Nature', written in the first century AD (1601).

The Moroccan landscape experienced a drastic change in management practices after the French Protectorate was established in 1912. Lyautey ordered the creation of a Forestry Service in 1913 that subsequently appropriated all non-urban lands perceived as uncultivated. This included all forest areas and pasture lands. Traditional landscape management practices, especially grazing and fire setting practices, were perceived as degrading and severely restricted or prohibited (Davis 2005). Further discussion of the perception of forest landscapes and its impact on resource management is discussed in Chapter Eight.

Appropriation of forests was as much an economic move as a conservation move, and between 1915 and 1918 revenue generated from forest resources rose 800% (Davis 2005). Pacification of southern Morocco was slower than in the north, and a forestry post was only created in the Haha region in 1923 (Service Forestier d'Essaouira 1991:12-13). Management of the provinces' thuya forests began two years later in 1925, and consisted of the implementation of a regular controlled clear felling of what were regarded as

degraded forests. Between 1925 and 1935 the annual thuya harvest was low, not exceeding 60ha per year, but following 1937, extraction intensified, with peaks in harvesting occurring during World War Two, the start of Independence, and in the 1970s.

Sixty years of harvesting by the Forestry Service left the forests of Essaouira Province relatively young, and homogenous in age, with the oldest trees² dating to 1925. Despite this long history of extraction, it was only in 1976 when local managers started to worry about the future of thuya that efforts were made to manage for regeneration of forests (Service Forestier d'Essaouira 1991:12-13). Progress was slow, and the first management study was implemented almost ten years later in 1987 in Amsitten forest, a protected area of dense thuya forests south of Essaouira.

Until the early 1990s, the harvesting of thuya timber and burl for construction and the thuya profession was regarded as a secondary activity, and tolerated by the Forestry Service (Ministère de l'Agriculture et al. 1991:23). Harvesters could extract burl and timber as they liked, which they either sold directly to the artisans, or to the forestry posts who took the wood to a market held about once a month in Essaouira. Problems arose slowly, as the coppicing of increasingly larger areas of forest reduced the number of old, large, trees suitable for the carpentry industry. This led to a shift to burl in order to compensate for the dwindling supply of trunk wood, a change in harvesting patterns prominent in the Forestry Service figures for quantities of burl, trunk wood and poles harvested between 1975 and 1989 (figure 3.5). The first figure for burl harvesting is in 1977 of 566 units (a unit is one piece of burl, each tree producing one burl). Within a year, this figure more than tripled to a total of 1839 units. In the same period the number of beams harvested fell from 1338 to 662 units. It is important to note that these figures only represent the quantities of wood extracted with permission of the Forestry Service; they exclude all illegal wood (tolerated prior to 1989).

² The exception to this are the thuya trees at the Sidi-Ali-Cherif Marabout tomb that have been dated to around 150 years old (Service Forestier d'Essaouira 1991:7).

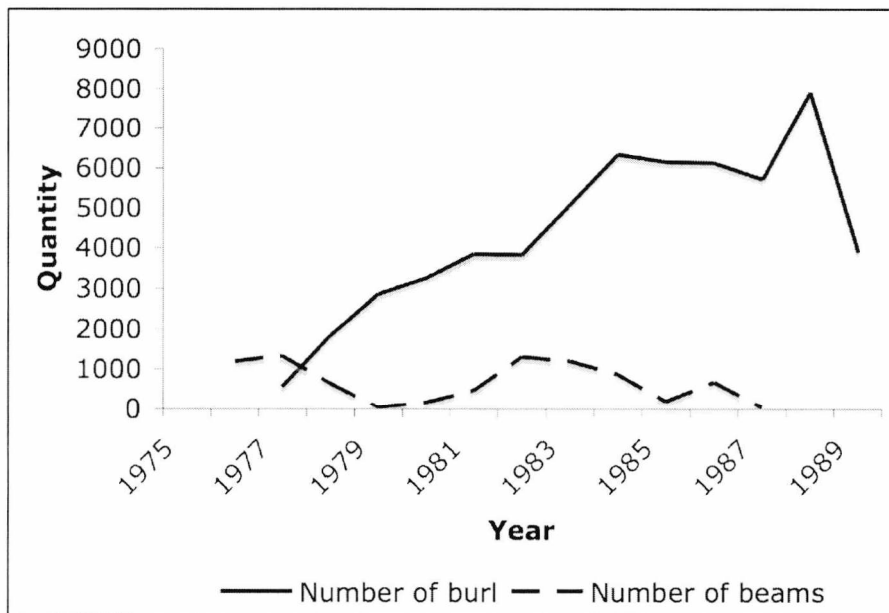


Figure 3.5: Quantity of thuya extracted from Essaouira Province between 1975 and 1989 (Arrondissement des Eaux et Forêts 1998, in Chakir 1999:54).

3.18 The harvesting law

At the end of the 1980s the Provincial forests could no longer sustain the woodworking craft. As a result, the market became disorganised, and neighbouring regional forests also came under threat, as harvesting spread to new areas (Service Forestier d'Essaouira 1993:4). By 1990, 80% of the thuya wood used in Essaouira came from outside the Province, from the forests of Agadir, Taroudant and Khemisset. This prompted the Forestry Service to take action, and in 1989 they suspended all rights to harvest green wood, including thuya wood. This ban included foliage, branches and timber, resin, and burl. Only dead wood and dead burl could be harvested without a permit (Chakir 1999:55).

The consequences of being found by a forestry guard or police officer in possession of illegally harvested wood can be harsh, ranging from small fines to prison sentences. However, in 16 months of fieldwork I did not hear any accounts of the latter, and only second hand accounts of fines. It is far more common to pay a bribe to the official, maybe as little as 5Dh or 10Dh for minor offences. Harvesters of trunk wood or burl, and merchants and transporters face much higher fines, but again, these can be avoided through informal payments to forestry officials and police officers.

Despite the new law, harvesting continued, and even increased. Figure 3.6 shows the quantities of thuya wood that were taken illegally from the forests of Essaouira province between 1980 and 1997. These figures represent only those trees recorded by the Forestry Service, and it is likely that actual levels of poaching were much higher. After the anti-harvesting law of 1989 the quantity of burl extracted increased dramatically, whilst illegal harvesting of trunk wood experienced a less dramatic increase after 1994. Both trunk wood and burl quantities poached decreased slightly following 1996. Throughout the period there has been a steady decline in the amount of thuya taken for fuel wood, although the absence of later data prevents determination of whether this shows a short or long term trend. This pattern could be explained, for example, by the switch from wood stoves to gas burners for domestic cooking.

The anti-harvesting law thus exacerbated the problem of over-harvesting of thuya. Following the ban illegal harvesting proliferated, with organised networks of harvesters and wood merchants becoming established. The chain of supply grew in complexity, which increased market prices in Essaouira for the artisans, and made the supply irregular. An artisan could no longer be guaranteed the necessary quantity and quality of wood he required for a project when he visited a wood merchant. The irregular supply encouraged *maâlem chakara*, the only people who had the resources to do this, to buy up large quantities of wood when it became available on the market. This increased the problem of supply for other carpenters. The ban also made the carpentry profession illegal overnight, with resulting problems and worries for the artisans.

The ban on harvesting live thuya trees has also had an effect on domestic utilisation. The amount of wood used for fuel, as well as the quantity of wood used in construction has declined. However, it is unknown as to how much this decline has been the result of more general changes in practices, with more people using charcoal and gas for cooking, and a shift towards modern building materials. As my own fieldwork in 2006 attests, where thuya is still used in construction, the wood is usually either harvested directly by the house builder, or purchased informally from their local network of family and friends. Green thuya branches are still gathered and brought back to the village for animal forage,

and small branches are also brought back to the village for fuel wood. The harvesting ban has led to the practice of 'random cutting' in the forest, carried out by shepherds and other people passing through the forest. As the person walks along, they cut or break branches and young trunks of trees. These will die, and the next time that person walks along that route they can legitimately gather the dead wood.

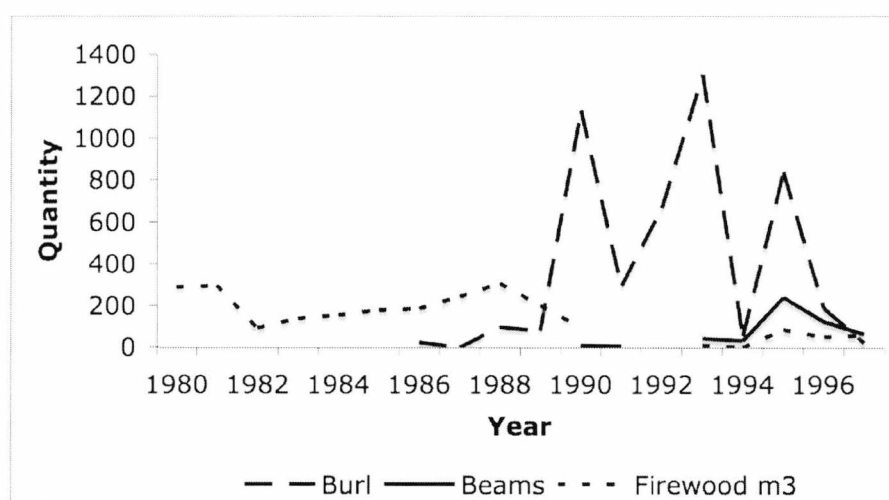


Figure 3.6: Quantities of poached thuya wood for Essaouira Province between 1980 and 1997 (Arrondissement des Eaux et Forêts 1998, in Chakir 1999:54).

3.19 Burl harvesting cooperatives

In an attempt to bring burl extraction under control, and to regulate its supply, two burl harvesting cooperatives were created in 1995 by the Forestry Service in Essaouira Province. The aim was to provide legally and sustainably sourced burl for the artisan cooperative in Essaouira, and also to bring together the men carrying out illegal harvesting in a legal setting (Chakir 1999:68).

In the first two years of production the two cooperatives collectively harvested 606 tonnes of burl, equating to 17,326 individual trees. The average monthly output was 33 tonnes, and although this figure appears high, it represented only 7% of the estimated total burl consumption in the sector (Chakir 1999:72). Very quickly, the cooperatives ran into difficulties, on many levels. Firstly, the low output reflected the relatively low potential for burl harvesting in the Province. Output was further inhibited by inefficient

funding, resulting in lack of training, limited equipment and transport problems. The cooperatives could not compete economically with illegal harvesters who continued to extract and trade in the area. Maybe the final factor in the failing of the cooperatives was an absence of social capital which left them open to exploitation and manipulation. The cooperative members were rural in origin, largely illiterate farmers and forest workers. They lacked the knowledge and experience necessary to successfully organise and maintain the cooperatives. Very quickly the members were exploited by urban wealthy traders and depot owners, who attempted to manipulate the functioning of the cooperatives to serve their own interests. By 2005 the cooperatives had completely ceased to function.

3.20 Conclusion

Thuya carpentry is described in common discourse as a 'traditional' craft of Essaouira, and an essential part of the local culture and identity. This view is strongly promoted by local and central state authorities, the tourism sector, and non-governmental organisations working in the area. However, the thuya carpentry craft as it is today is a relatively new craft, and can be considered an 'invented tradition' (Hobsbawm 2004:1). The thuya craft originated in the last decade of the 19th century, and from early on was strongly influenced by European techniques, forms and designs. The original market for the thuya craft was for luxury products to the wealthy elite, not just in Essaouira, but across Morocco, including the royal palace, and abroad. Following the formation of the Protectorate, the French developed the craft at a time of economic decline, manipulating forms and designs for export markets. In effect it was this French influence that invented the 'traditional' thuya craft.

Hobsbawm (2004:4) writes that tradition is likely to be invented more frequently when there is a breakdown of current social patterns. This is exactly what was occurring in Morocco at the turn of the 20th century, with a breakdown of the traditional Moroccan power structure and opening up of the economy and culture to Europe. Lyautey was instrumental in bringing the Moroccan economy into line with that of Europe. He did this by promoting various crafts as traditional and authentic to Moroccan culture.

The thuya craft has never been static, as suggested in romantic ideas of 'tradition', but has been in constant change and development since its origin. The craft experienced a decline following Independence due to the loss of European markets and French expertise, but was given a new boost following the rise of tourism in the 1980s. The impacts of tourism have been double-edged, enabling the expansion of the craft, but at the same time increasing the demand for small, cheap, low quality items which has turned the market in favour of traders over artisans. Adaptations of artisans to the changing situation are discussed in Chapter Six, whilst the changing nature of tradition is explored further in Chapter Eight.

A decline in quality of craft products can be partly explained by the failure of the craft guild and the consequent struggles of the cooperative. These problems were augmented by the French administration, and the knowledge gap left after the end of the Protectorate. Attempts to re-organise the craft with the creation of the *Chambre d'artisanal* have largely failed due to a distrust of state organisations and perception of corruption on behalf of artisans. There is further discussion of the breakdown of 'traditional' crafts in Chapter Six.

Thuya artisans are currently often blamed for the destruction of thuya forests. However, there is a long history of deliberate extraction of thuya, dating back to the French controlled Forestry Service in the 1920s. The lack of a long-term management strategy delayed identification of any problems in management practices until the 1970s when the resources of Essaouira Province were severely depleted. Attempts to protect forests led to implementation of a ban on harvesting. This only exacerbated the problem allowing a black market to quickly expand and fill demand for thuya wood. This market is characterised by a lack of control and corruption. The current state of thuya forests is therefore largely the result of natural resource mismanagement by the state in the past, and a current inability to control the black market. This is discussed further in Chapter Eight.

Chapter Four

The Organisation of the Woodworking Trade

“Us maâlmîne are like the metal between the hammer and the anvil, we are beaten on one side by the wood suppliers, and on the other by the bazaaristes (shop traders)”.

(Common thuya artisan saying)

4.1 Introduction

This chapter will outline the organisation of the thuya craft. I will start with the supply routes for thuya wood between the forest and the workshop, and continue by describing the paths that thuya commodities take after they leave the workshop. I will outline the different actors involved in the thuya network, including NGOs and state agents. I will then discuss how the structure and dynamics of this network affect supply and demand, quality and costs of thuya wood and products, and the resulting opportunities and choices for artisans.

4.2 Stages of the thuya chain

There are three main stages involved in the life of thuya wood before it reaches the workshop. These can be described according to their geographical location: the forest, intermediary towns, and consumption towns. The initial forest stage involves the selection and harvesting of thuya trees and the storing of timber and burl by local villagers. In the second stage the wood is transported to a nearby intermediary town where thuya wood merchants purchase the wood, arrange collection, seek out buyers, and deliver the wood to its destination. The third stage involves the consumption towns, where the wood is stored and sold to carpenters through wood depots. The carpenters then process the wood before returning to their workshops to utilise it. The actors involved in this supply chain are shown in figure 4.1. I will describe the steps taken within these stages in turn.

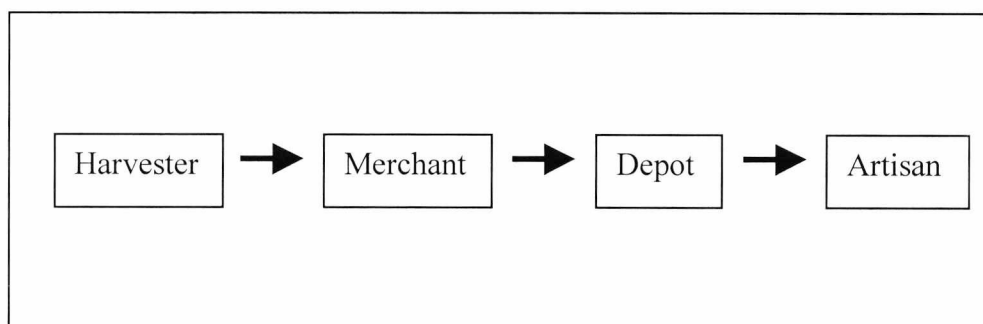


Figure 4.1: Supply chain of thuya wood from forest to workshop.

4.2.1 Harvesting

The majority of *bildi* (see Chapter Two) wood supplied to Essaouira is said to originate from the Ouirgane region (north of Aoulouz) in the High Atlas Mountains (figure 1.1). Other *bildi* wood areas include the Argana region (north and east of Agadir), and the provinces of Essaouira and Oujda. The pattern of origin of burl is similar to that of *bildi* wood. The second type of trunk wood, *romi* originates from the Khemisset region south east of Rabat. During the fieldwork period of this research project (September 2006 to December 2007) all thuya harvesting was illegal, with the exception of a few concessions for extraction which I will discuss later. There was a recent attempt to establish burl harvesting cooperatives, which I will also discuss later, but these were inactive during the fieldwork period. Following harvesting, thuya wood is transported primarily to Essaouira, but also increasingly to Agadir for consumption by thuya artisans. This route usually involves a *simsar*, a merchant acting as a middle-man. An unknown quantity of thuya makes its way to major ports, often Casablanca, where it is smuggled out to Europe. I will use as an example the routes a thuya tree takes between the Ouirgane region and Essaouira.

Ouirgane covers a large area, bordered to the north by the Agoundis Valley, to the west by the Tizi-n-Test road, and to the south by the Agadir to Ouazarzate road. This region of inaccessible mountains merges into the Anti-Atlas mountains to the east. Access to Ouirgane is difficult, and consists of *pistes*, gravel tracks, only a small number of which are accessible by motorised vehicle. Most movement is therefore on foot or with mules and donkeys.

Harvesting is carried out by men living in villages or close to the forest. These men are not specialist harvesters, and there is no term for a man who harvests wood, thuya or otherwise. A harvester may be any man who has a good level of knowledge regarding the forest and its tracks, and of local authorities that could potentially cause problems. Harvesting often occurs several kilometres from the nearest point of vehicle access, usually at night; one or two men will head into the forest with their tools and a donkey. Once they have selected their tree, they begin by chopping off the side branches. Branches suitable for fuelwood are taken back to the village for domestic use. The trunk is then felled and the wood cleaned. First, the bark is removed and then the trunk is hewn into a rectangular beam, at which point it is ready for removal. All of this work is carried out using one of more of three common agricultural tools¹.

If the harvesters want to harvest burl, they first need to locate a tree that has a reasonable sized burl beneath it. To estimate burl size, the soil at the base of the tree is scraped away by hand. Harvesters say that if you find one large burl, then the trees immediately surrounding it will also have large burls. Harvesters will therefore return to the same location over a period of time to extract all the burl from one small area. Once a tree is selected, the branches, followed by the trunk, are removed. The burl is then dug out of the ground, the roots are hacked away, and large stones and debris are removed. The cut wood is hidden *in situ*, or transported by donkey or other pack animal to a safe location close to a road or village where it can be stored out of sight. The wood will remain there until the harvester decides to sell it and secures a buyer and transportation.

4.2.2 Sale to merchants

The main exit point for thuya wood harvested in Ouirgane is the small town of Aoulouz, located on the south of the mountains where they meet the Sous plain. Local wood merchants estimated that at least 30 tonnes of burl a month pass through the town, which is supplied by around 40 harvesting families.

¹ Despite the widespread fear and distrust held by harvesters, I managed to obtain photographs of the thuya harvesting process in December 2006. However, all these photos were lost due to computer failure, and sadly I have not yet been able to return to observe harvesting again.

The harvesters must approach a merchant or local workshop owner in Aoulouz to arrange for the purchase and collection of their wood. These men are well known local figures who have long-term relationships with the harvesters. In December 2006 there were only two merchants and one large workshop owner operating in Aoulouz. A third merchant was closed down by the police in November 2006. The merchants are quite wealthy, and locally powerful. Harvesters usually approach the merchant at the *souq* (market) on market day, where the merchants effectively hold court; one harvester said of a merchant, 'he walks around the *souq* like a king'.

The merchants and harvesters discuss the quantities of wood to be purchased and the practicalities of transportation. Trunk wood is bought by the piece (beam), and burl by the kilo. A merchant will only send transportation for large quantities of wood, usually a truck full, so harvesters combine and amass their wood close to road access. Therefore, a harvester must wait an uncertain amount of time before his wood is collected. This creates problems for the harvester that are solved by the merchant giving the harvester a cash advance for the purchase. This is usually around 100Dh to 200Dh, and enables the harvester to carry out his household shopping in the *souq*. For previously collected wood, bills are settled, although with the use of cash advances there is often little left to pay the harvester. In this way, the harvesters are economically dependant on the merchants.

The merchants are well connected to the authorities, and flaunt this by driving around with officials on Sundays – *souq* day. This display is double-edged: it shows the harvesters that good relations exist between merchant and local officials, and therefore they need not worry about the authorities; but it also shows the harvesters that they should be careful, as at any point the merchant could hand them over to the authorities. In this way the harvesters are under complete control of the merchant, and many harvesters speak of this relationship as one of fear and dependence.

Maintenance of relations between merchants and officials is through 'gifts'. As one Aoulouz carpenter, who sometimes purchases wood directly from harvesters, explained,

“the forestry guards are no problem; we know each other well. Sometimes I go and give them presents, and they don’t bother me”. The fine for possessing thuya wood is 60Dh per kilogram. However, if good relations are maintained with the authorities then this fee may be significantly reduced or completely disregarded. In the first case, the money is retained by the official as a bribe and no further official action taken against the offender.

If the harvester is keen to sell the wood quickly, and/or is selling the wood to a local workshop owner in Aoulouz, he may take the wood into town himself, by motorbike or donkey. This is a risky endeavour due to the possibility of being stopped and searched by forestry guards or at a standard police road-block. There is currently one large thuya workshop in Aoulouz making lathework products, and several smaller carpentry workshops. The smaller workshops are different to Souiri thuya workshops in that the carpenters carry out a mix of thuya and other non-thuya wood work, and that their products are principally furniture items for local private consumption, rather than tourist products as in Essaouira.

The procurement of thuya is therefore dependant on the maintenance of a complex web of social relations, and includes carpenters, harvesters, transporters, merchants, local police, and local forestry guards. Failure of just one of these relations can lead to major disruption of the supply chain. For example, in December 2006 the head forestry guard was replaced by a new, locally unknown man. Therefore, when I visited the town the local merchants, carpenters and harvesters were quietly waiting to find out how this new guard would fit into the situation.

4.2.3 Transport to consumption towns

Merchants sell thuya to consumption town depots and exporters, the former being in Essaouira and Agadir, and the latter in Agadir and Casablanca. They send *camions* (small trucks) into the forest to collect the stockpiled wood and either bring it to Aoulouz for temporary storage, or transport it directly to a consumption town. It is the merchants who organise and pay for transport of wood, although they usually do not travel into the forest themselves. The merchant will wait until enough wood can be procured to fill a truck

(each truck can carry around seven tonnes of wood). Collection points are arranged between the merchant and the harvesters, and a date and time agreed. Collection is done at night, and the trucks will also drive at night to avoid road-blocks. For the same reason a circuitous route is taken between the forest areas and the towns, using minor roads and tracks where possible. Consequently, the route from the Aoulouz region to Essaouira takes around three days as opposed to a six hour drive using the main roads.

4.2.4 Consumption town wood depots

In Essaouira, the wood is taken directly to one of the thuya wood depots where it is unloaded, and from where it is purchased by carpenters. In 1998 there were 15 depots selling thuya trunk wood and burl (Chakir 1999). By Autumn 2006 the number had decreased to around 10 depots. This figure is only an approximation due to the ephemeral nature of several of the depots. Five of the depots are permanent and 'open-door', by which I mean their function as thuya trading establishments is obvious to any passer by, and anyone can enter. The rest of the depots are more difficult to identify as they are 'closed-door' establishments that require knowledge of their location. These latter depots may also be temporary in that they open when a new shipment of wood arrives, trade for a short period of time, then close down when the wood has been sold. Of the open-door depots, one, which only sells trunk wood, is located in the quarter of Bila Rasi where there is a high concentration of thuya artisans. The remaining open-door depots are located in the industrial quarter in large workshops. One of these specialises in selling burl, including legally stamped burl, another has a mix of burl, *bildi* and *romi* trunk wood, and a third specialises in *romi* trunk wood (plate 4.1).

Thuya wood, unless officially stamped, is illegal until it has been processed (see section 4.2.7), so depots are wary of strangers, especially foreigners. This is why some depots remain closed to the general public. Carpenters claim that the depots avoid prosecution through bribes paid to the local authorities. The Forestry Service regularly drive around the wood depots, but throughout my fieldwork I heard of no official action taken against any of the depots.



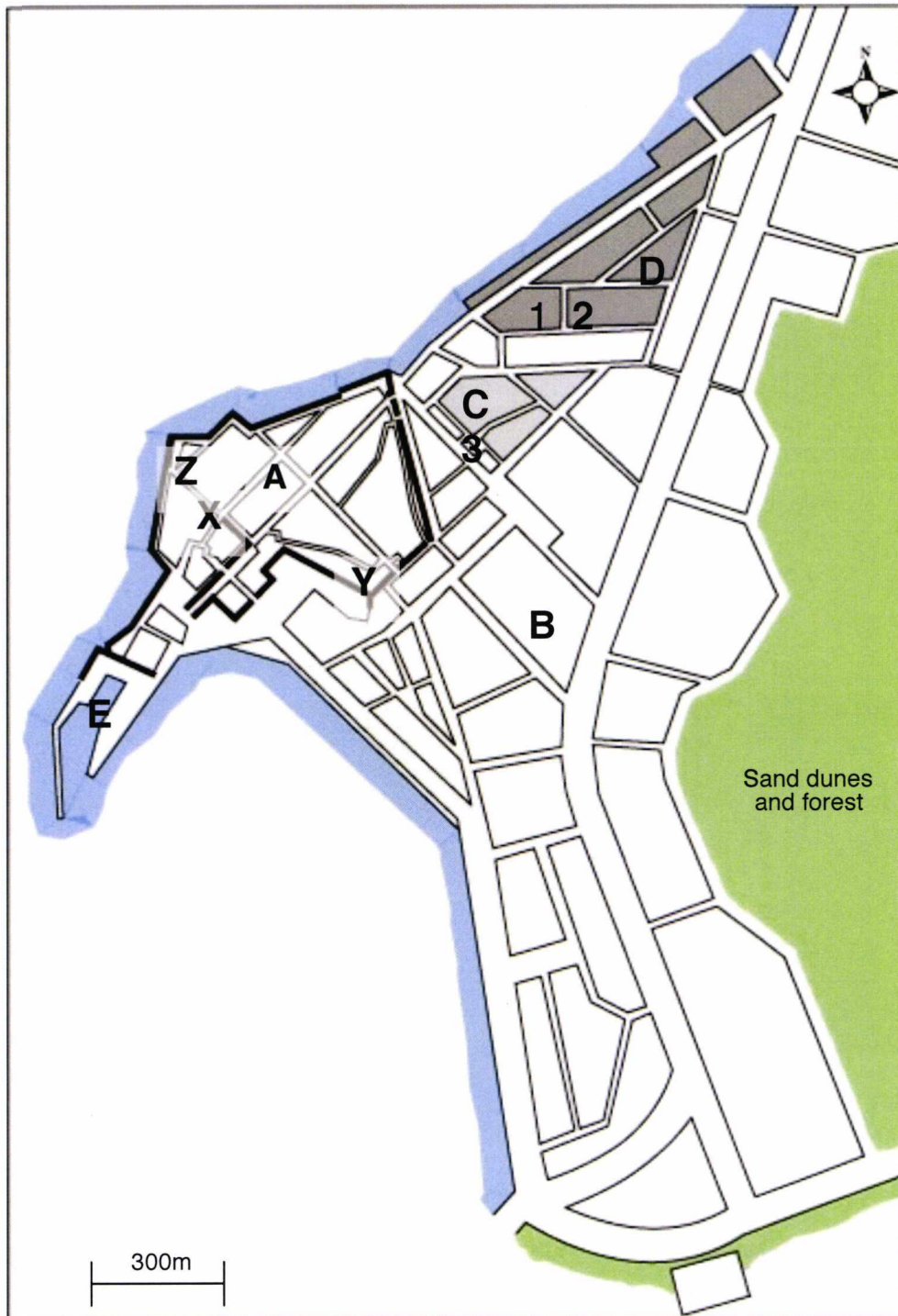


Figure 4.2: Essaouira town plan showing the old *mdina* (in bold lines), new town, and thuya craft locations. Key: A - old walled *mdina*, B - new town, C - Shebeelia (Bila rasi) district, D - industrial district, E - port, X - artisanal complex, Y - artisanal cooperative, Z - Skala, 1 - wood depots, 2 - sawmills, 3 - thuya wholesalers.



Plate 4.1: Open door burl depot in the industrial quarter of Essaouira. The depot is around 7m long and 3m wide. The burl is piled up to a height of almost 2m. In the foreground on the right is a neat stack of *citron* (*Citrus* spp.) wood.

The artisans walk around the depots at their leisure to sort through the piles of wood and select the pieces they need (plates 4.1 to 4.3). Burl is weighed and marked by the merchant before it arrives at the depot, and sold by the kilo, around 5Dh/kg (about 30 UK pence) in December 2006. Conflict can arise if a carpenter thinks that the weight marked on a piece of burl has been inflated to increase its price. He has no means of verification or recourse though, and his only choice is to buy it, or seek a different depot. For example, whilst discussing the large burl in figure 4.2, one of the depot workers claimed that the merchants never lie about burl weights, whilst a second worker complained bitterly that the merchants always lied in order to make more money. Trunk wood is sold

by the piece, between 80Dh and 120Dh (between £5 and £7.50) each, depending on the size and provenance. *Romi* wood from Khemisset is considered lower in quality, and therefore cheaper, despite it being larger in size. On the other hand, *bildi* wood which may come from Essaouira Province, Agadir, Taroudant region or the Aoulouz region, tends to be smaller, but more expensive. A typical *romi* beam might measure 30cm in width and 140cm in length, whilst an average *bildi* beam measures 25cm in width and 90cm in length.

If the carpenter cannot find the wood he requires he will go to another depot. If he is unsure which depots are currently open and what type of wood they are selling he will ask the depot workers or another artisan for advice. The following excerpt from my fieldnotes describes a typical visit with an artisan to the wood depots:

We first went into the burl depot next to the hardware store. Today, there was a neat pile of *citron* wood stacked against the wall by the door. Abdellah picked up a piece of *citron* and asked the *mul*, shop keeper, the price. He wanted 10Dh (70 pence) a piece, each approximately 15cm in diameter and 40cm in length. They didn't barter, Abdellah chose a piece he wanted, paid, and left. Abdellah headed to the sawmill he always visits. The head worker was busy at the bandsaw, so Abdellah left his piece of *citron* (*Citrus* spp.) wood on the floor inside the workshop and we left to find some thuya trunk wood.

Abdellah headed to the depot on the right, but it was shut. He said he knew of another, and a little further down the street we stopped outside an arched doorway. Abdellah hammered on the door until a man answered. He looked at me suspiciously, but let us in as he knew Abdellah. In the sunny courtyard were stacks of thuya trunks and lumps of burl, and a huge pile of assorted non thuya wood. Abdellah looked over the wood, but didn't like any of it. The best quality wood had already been sold, and was stacked into piles ready for the owners to collect.

The depot worker told Abdellah where to find the depot owner of another closed depot, but there was no answer when we knocked on his door. Abdellah went into the workshop next door to ask after the owner, but the workers were suspicious of me and we had no luck. Abdellah shrugged his shoulders – he wouldn't find any wood today.



Plate 4.2: A large burl in a closed wood depot in Essaouira weighing 150kg (note the mark written on the burl by the merchant indicating the weight).



Plate 4.3: *Bildi* beams in a stack waiting to be sold in a closed depot in Essaouira. The beams are around 90cm in length. Note the rich red colour characteristic of *bildi* wood, and the twists and knots within the wood that make it difficult to work.

We returned to the sawmill and waited until it was our turn. Whilst we were waiting Abdellah planed one edge of the *citron* trunk on the table planer. The head worker then used the bandsaw to cut 4mm planks. Abdellah paid him 5Dh (30 pence). Abdellah chatted to another waiting *maâlem*. I realised how much of a central place the sawmills and depots are. It's the carpenters 'market place' where they exchange news concerning prices, sources of wood, clients and selling strategies. (June 2007).

4.2.5 Private Sale

A second means by which thuya reaches artisans is through private sale. This route is more likely to be taken with wood originating closer to Essaouira or Agadir. The harvester arranges for the transport to town, often only one burl. Transport consists of a car or maybe a taxi. The wood is stored in a private house, and an artisan buyer is found through word of mouth. The artisan will visit the house to view the wood, and following a purchase, remove the wood to his workshop or sawmill. It was extremely difficult to find out further information about this process, due to the secrecy necessary in order to avoid the authorities.

4.2.6 Legal logging concessions

The Forestry Service issues permits for legal extraction of both trunk and burl wood. There is a standard procedure that starts when a merchant approaches the Forestry Service to make a request for a permit to harvest a particular area. The Forestry Service carry out an assessment of the area, and if they deem the logging to be sustainable, they grant the merchant permission to harvest. Local experts admit that these assessments are largely arbitrary, and there remains no accurate method of assessing the quantity of burl wood before the trees are felled. When burl is extracted, there are no requirements for re-forestation of the area. Likewise, following coppicing for trunk wood, there is no consequent protection from grazing animals, thus preventing regeneration. The harvested wood is inspected by forestry officials who stamp each beam or burl to mark it as legal (plate 4.4). The merchant is then given new papers allowing the transportation of the wood to Essaouira or Agadir and its sale to a depot.



Plate 4.4: A beam of thuya wood displaying a Forestry Service stamp signifying that the wood is legal. Artisan cooperative, Essaouira.

Legal extraction is erratic and very variable. Forestry Service figures show that in the 10 year period between 1988 and 1997, there was no extraction in three of the years, and in the remaining years extraction varied between 41ha and 193ha (AEFCS 1998, in Chakir 1999:51). These figures are vague, and do not appear to correlate with the stamped burl and timber that often shows up in Essaouira, implying that the real situation is quite different. Conversations with workshop owners, harvesters and artisans (one of whom was himself granted an extraction permit five years ago) described the legal extraction process as corrupt and easily avoided. Permits are often issued (on payment of bribes) by local forestry officials without higher authorisation, and therefore do not appear in official statistics. A similar situation has also been noted by researchers studying the harvesting of wild medicinal plants in the High Atlas Mountains. Even when permits are issued according to regulations, the harvesters and merchants admit to hiding illegal unstamped timber and burl beneath stamped wood. Depot owners in Essaouira and merchants also revealed how attempts have been made to fake the Forestry Service stamps, although no-one would confess to the success of these attempts. The exact

situation regarding legal (and faked legal) extraction remains unknown, and difficult, if not impossible, to verify.

4.2.7 Processing

Initial processing of thuya occurs in the forest immediately after harvesting. The roots and debris around burl are removed, and the trunk wood is stripped of bark and hewn into a rough beam. The next stage of processing is carried out after sale to artisans, in the sawmills of Essaouira. There are five sawmills that deal exclusively or predominantly with thuya, a decline from nine in 1998 (Chakir 1999). One sawmill is located in the *mdina* in the artisan cooperative, and the remaining four are located very close to the thuya wood depots in the industrial quarter and Bila Rasi district. The obvious reason for this clustering of supplier and processor is that wood is heavy and therefore difficult to transport. However, there is a second, less obvious reason: unstamped thuya wood is officially illegal until it has been sawn into planks or pieces, at which point it becomes legal. This transformation from illegal to legal status is based on the Forestry Service stamp; before processing the stamp is readily visible, but after sawing and planing the stamp is lost and it becomes impossible to identify the legal status of the wood. Artisans are therefore nervous until they have processed the wood, and often take it immediately to the sawmill after purchase.

Occasionally an artisan needs to transport un-processed thuya, for example if they purchase the wood in the industrial quarter, but want to process it in the artisan cooperative located in the heart of the *mdina*. A common scene is played out: first the artisan hires a *caroser* (a large handcart) and its driver, to carry the wood (plate 4.5). Many *caroser* men hang out outside the sawmills and depots for this purpose. The *caroser* man is informed of the destination and sets out, and the artisan follows behind at a distance of ten or twenty metres. If stopped by an inquisitive policeman, the *caroser* man can argue that he is merely transporting the thuya wood, and is generally allowed to continue on his way. Meanwhile, the artisan wanders off in a different direction or stands at a distance watching nervously. Officially the *caroser* man can be fined for carrying thuya wood, but in sixteen months of fieldwork I was not aware of this happening.



Plate 4.5: *Caroser* loaded with burl in a closed depot, ready for transport to the sawmill.

The artisan has a clear idea of how he wants the wood processed when he sets out for the depot to purchase it. On arrival at the sawmill, the carpenter may plane and saw the wood himself, or a sawmill worker will do this for him (plates 4.6 to 4.8). The artisan pays a small fee for the use of machines and labour, usually between 5Dh and 10Dh depending on the quantity of work. The sawmills each have on average two band saws for sawing the wood, and one or more planing machines and table routers. With the exception of lathe work and sculpture, most thuya work requires the wood, whether trunk or burl, to be sliced into planks, which is carried out with the band saw. Lathework generally requires the wood to be cut into thick, round chunks, whilst sculptors usually work the wood in its natural form.

The sawmill stage is blamed for much wastage of wood, which is collected and taken to local *hammams* and public ovens for use as fuelwood. Artisans also complain that the sawmill workers do not cut the wood straight, so the artisan must re-cut and plane the wood in his workshop, which takes extra time and produces more waste.

Once cut, the artisan takes the wood back to his workshop, usually by *caroser*, but also by bicycle, car, or on foot. On one successful visit I made to a wood depot with an artisan, the artisan commandeered a bicycle from a young boy in the street to carry the beam to the nearby sawmill. Artisans who live outside of the town will use a taxi or bus.

4.2.8 Storing and seasoning of wood

In the workshop the wood is generally used immediately. In past times it is said that artisans stored wood in their workshop for several years before use. This allowed the wood to fully season, and was therefore less likely to warp and crack. For most artisans nowadays, the need to produce quickly in order to sustain an income prevents them from storing wood; only wealthier workshop owners can afford to buy large stocks of thuya wood and store it. Artisans will try to dry out the wood if necessary by placing the planks outside the workshop in the street to dry, either in or out of direct sunlight depending on each individual's opinion as to best practice. Wood will be left this way for as long as possible before it is needed, generally between a few hours and a few days.

The use of green and inadequately seasoned wood has increased the problem of warping and cracking of thuya products, a problem which is amplified by the incredibly damp local climate. A few efforts have been made to introduce artificial methods of wood drying. The Office des Nations Unies pour le Developpement Industriel (UNODI) pilot workshop (see section 4.4) and a private Italian owned workshop, both in Essaouira now each have drying kilns. The first is open to any artisan who wants to use it, but artisans cannot generally afford to leave their wood stocks to dry for two weeks.



Plate 4.6: Sawmill, showing three table planing machines. The piles of beams and burl on the floor belong to different artisans and are waiting to be cut. 18/11/05.

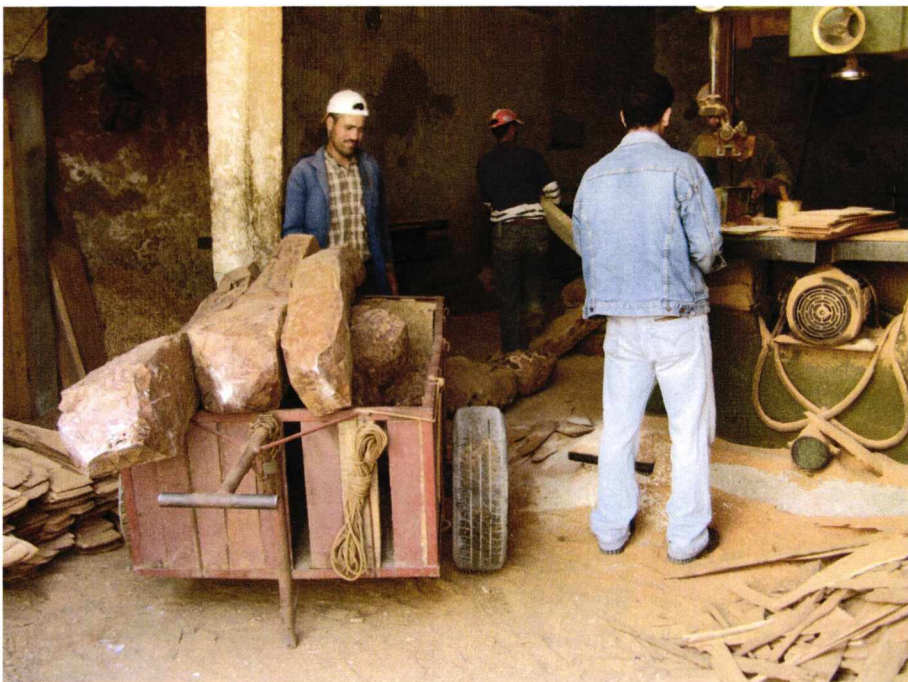


Plate 4.7: Wood arriving at the sawmill by *caroser*. The beams will join the 'queue' of wood on the floor. The bandsaw can be seen on the right, in front of which is the edge of the scrap wood heap. Beams that have been cut into planks await collection in the left of the photo.



Plate 4.8: Sawmill worker cutting a beam into planks with the bandsaw. Note the blemishes on the photo caused by the high levels of wood dust in the air. There is no health and safety equipment.

In Aoulouz, one workshop owner claimed he used an old biogas kiln to dry thuya wood. He explained how the thuya wood is placed inside the kiln and a fire built next to it (also inside the kiln). The entrance to the kiln is closed, leaving an opening at the top, and fire is left to burn for two to three days until the wood is dry. However, when I was shown the kiln it did not look like it had been used recently.

4.3 From workshop to consumer

The network of artisans, traders and consumers of thuya products is complex and wide-reaching (figure 4.3). I shall first consider the traders, before describing the different consumers. How artisans sell their products, and to whom, is discussed later in the chapter.

4.3.1 Thuya traders

There are five categories of thuya trader: shopkeepers, wholesalers, foreign traders, part-time peddlers, and artisans. The last few years have seen a sharp increase in the numbers in most of these categories. The last group of traders are the artisans who sell their products directly to customers in what I term retail workshops. This group crosses category boundaries by being both site of production and of sale.

Wholesalers

The wholesalers form a cluster of shops in the quarter of Bila Rasi outside the *mdina* walls. This area lies outside the tourist areas, and the main customers are shop traders and foreign traders, and a small number of Moroccan customers searching for bargain prices. The wholesalers consist of small shops, stacked from floor to ceiling with thuya products, which they buy directly from artisans. Wholesalers may commission particular products from artisans, or, an artisan may approach a wholesaler and ask if he wants to buy from the artisan.

Shopkeepers

Shops purchase thuya items directly from artisans, or from wholesalers. They can be divided into three main types; shops that sell predominantly some other kind of product, but also sell a small quantity of thuya products (usually cheap tourist souvenirs); shops that sell a roughly equal mix of thuya and other product/s; and shops specialising exclusively in thuya (figure 4.9). In addition, in 2006 there were two seasonal street stalls in summer selling thuya products. Some of the big shops also act as wholesalers. A survey I carried out in January and February 2006 recorded 66 shops in the *mdina*; in August of the same year there were 151. This shows the strong seasonal nature of the industry, which matches that of the tourist season. These figures could also show a rapid increase in the number of thuya shops in general, but further research is needed to confirm this trend.

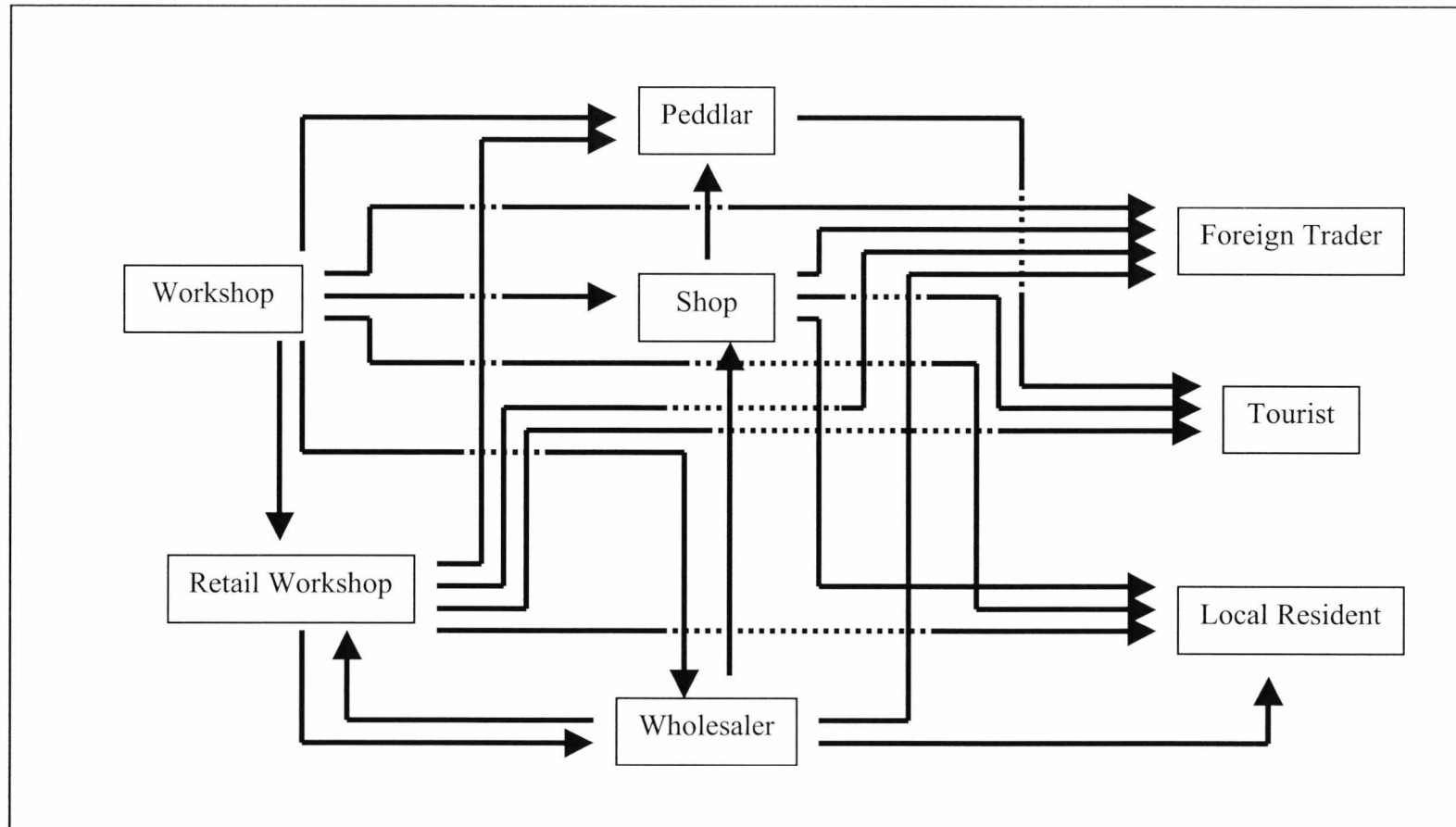


Figure 4.3: Network of actors involved in the production and consumption of thuya woodwork.



Figure 4.9: Typical Souiri shop selling predominantly thuya products. Note the 'sale' type baskets with fixed prices in the street to draw in customers.

Foreign traders

These are mostly Europeans from the UK, France, Germany and Spain. These traders make visits to Essaouira to purchase thuya products that they take back to their home country to sell. They will buy directly from artisans, from shops, or from wholesalers. These traders are mostly small-scale, their outlets usually being market stalls, car boot sales, and small shops. A particularly important part of this type of trade are Christmas markets, and many traders make purchasing trips to Essaouira in the months leading up to Christmas. As the quantities of thuya products purchased are low, they often transport the products themselves, either by plane, or by car. Alternatively, the traders select the items they want to buy, and the shop traders or wholesalers arrange postage of the products to Europe. Due to transportation practicalities, there is a preference by foreign traders for small, cheaper items such as boxes, office accessories, bowls and games.

Retail workshops

In August 2006 there were 32 retail workshops, almost one half of these (13) were located in the Skala (plates 3.3 and 3.4). Retail workshops conflate the boundary between producer and trader in that both production and trading occurs in the same establishment. They are artisan workshops that have been divided into two sections, one part remains a workshop and the other is converted into a shop. They are distinguished from workshops that have a small display of thuya products for sale in two ways. Firstly, retail workshops have at least 50% of the premises area devoted to permanent shop displays, as opposed to one small display area or cabinet. Secondly, a workshop with a display area will tend only to display and sell products that the artisan himself has made. The display serves as both shop, and as a display of the range of skills that artisan possesses. However, the creation of a retail workshop reduces the work space, thus decreasing the quantity and type of products that an artisan can make. It may even require a decrease in the number of artisans working in the workshop. The decrease in production is counter-balanced by the income from shop sales. With such a large area of the workshop now dedicated to sales, it is impossible for an artisan to produce a big enough quantity, and the necessary range, of items to satisfy demand. Retail workshops therefore usually buy a high proportion of their stock from wholesalers.

Part-time peddlers

There are a small number of men who have created relationships with hotels and guesthouses in the *mdina*. It is very difficult to determine how many part-time peddlers there are as they are not full time workers, instead engaging in this activity when they need money. It is also unknown to what extent these peddlers purchase the products themselves before re-sell, or whether they are acting as traders on behalf of artisans or shops. They visit hotels with one, two or three items of thuya that they want to sell. The patron of the hotel will ask the current guests if they are interested, and if so, the trader is allowed to enter the hotel and approach the guests. Sometimes the trader and guests do not meet face to face, and the transaction is carried out through an interlocutor, either the patron or a hotel worker.

4.3.2 Consumers

Here I shall focus on the consumers who are in direct contact with Essaouira, and exclude large-scale exporters and consumers in European countries who are buying from foreign traders, and who therefore lie outside the scope of this study. I have divided consumers into foreign tourists, Moroccan tourists, foreign residents and Moroccan residents.

Foreign tourists

Tourist numbers have increased rapidly over recent years, doubling between 1998 and 2001. Although there now number over 100,000 visitors a year (based on 2002 figures, Delegation du Tourisme d'Essaouira), Essaouira remains a relatively small tourist destination. In a tourist survey I carried out in August 2006, only 27% of foreign tourists were aware of thuya artisanry before arriving in Essaouira, whilst a few had read about thuya in their guide books since arriving in Morocco. The buying patterns and perceptions of both foreign and Moroccan tourists are explored further in Chapter Seven.

A substantial number of visitors to Essaouira are day tour groups from Marrakech, and increasingly, from Agadir (between May and November 2006 there was an average of eight coaches a day visiting Essaouira). These tourists arrive by coach, and are herded around the *mdina* by their guides, who are keen to ensure that the tourists do not stray. The guides take the tourists to one of the few thuya 'supermarkets', where the prices are high to allow for the guides' commission, which varies between 30% and 50%. The guides often encourage the tourists to purchase their souvenirs in these shops by warning them of the high quantity of poor quality products in the smaller shops, and assuring them that the shop the guide has brought them to only sells high quality goods. Due to the short and strictly controlled visit, tourists are under the control of these guides whose words are taken as the truth. The tourists are given very little free time to explore the town on their own, and therefore do not have the opportunity to discover the smaller shops and artisan workshops.

Individual tourists are more likely to visit the smaller shops and artisan workshops. They are generally keen to meet and interact directly with artisans, creating personal

experiences, and thus giving the items they buy more authenticity. The artisans are usually very welcoming and friendly, as they are aware that these relationships could result in future trade and commissions.

Moroccan tourists

Due to the difficulties of obtaining travel visas, there is a strong internal tourism market within Morocco. This peaks during the school summer holidays, when Essaouira is regarded as a popular seaside destination, with visitors mainly from the large cities of Fes, Casablanca, Rabat and Marrakech. The main demand is for small, very cheap thuya souvenirs for friends and family, often for children. There is also a growing demand for smaller decorative items such as tissue and jewellery boxes. Moroccans are generally unable and unwilling to pay high prices for souvenirs. In contrast, this category also contains Moroccans who visit Essaouira to purchase larger items of furniture, maybe through commissions (see section 4.6.3). This type of purchase is increasing as the Moroccan middle class expands.

Foreign residents

Since its foundation, there have always been many foreigners living in Essaouira. This figure has increased in recent years with the trend of buying property overseas for the purpose of extended vacations, retirement, or conversion to hotels and restaurants. Moroccan Souiri residents do not make a distinction between tourists and long-term foreign residents. As far as they are concerned, if you are not ethnically Moroccan, then you are a tourist. However, foreign residents have very different demands to tourists, and are more likely to purchase furniture and interior design products as opposed to souvenirs. They are also more likely to visit the artisans directly and to make commissions, instead of buying from a shop.

Moroccan residents

There is a growing demand in the local middle class for decorative items and furniture. The most common furniture are *banquetes*, traditional Moroccan bench sofas which line the salons in a house and are used for sleeping on at night. More modern beds and

bedroom furniture are also becoming popular. Smaller thuya items include lamp stands, decorative and tissue boxes, picture frames, and bowls.

4.4 Institutions and organisations

There are a number of institutions and organisations involved in the thuya craft in Essaouira. Some of these are state organisations, some are independent, and some are quasi-independent (table 4.1). The governmental organisations aim to regulate and control wood harvesting, and to support artisans. The independent organisations work primarily on the alleviation of the problems facing the industry. The quasi-state and independent organisations have objectives covering all of these.

State controlled	Quasi-state and Independent	Independent
Eaux et Forets	Cooperative artisanale des patrons marqueteurs sur bois de thuya	Association Professionnelle des Amis du Thuya (APAT)
Ministère d'artisanal	Chambre d'Artisanal	Environnement Developpement et Action au Maghreb (ENDA)
	(Wood Cooperatives)	Office des nations Unies pour le Developpement Industriel (UNODI)

Table 4.1: The organisations and institutions concerned with the thuya craft in Essaouira.

Eaux et Forets

This is the state Forestry Service in charge of managing the country's forest resources. The organisation is very hierarchical, with the central office in Rabat, below which are regional branches in major cities, such as Marrakech. The Marrakech branch governs the High Atlas Mountains south of the city, stretching west to the coast and including Essaouira. Below these offices are the provincial offices, one of which is located in Essaouira. The forest areas themselves are divided into regions, each governed by a forest guard who is based in a forestry post within the region.

The Essaouira regional office is responsible for management of the provincial forests, including extraction, desertification control, and forest regeneration. There are several tree nurseries in the province providing for the latter. When the wood extraction co-ops were functioning, the Eaux et Forets decided where and how much the co-ops could

extract wood and burl, provided licenses, and stamped the extracted wood. The forest guards patrol the forest and are in direct contact with other users of the forest, including poachers of fuel wood or thuya wood for carpentry.

Ministère d'Artisanal

This is the state body whose role is to represent all artisans' interests, not just thuya artisans. In Essaouira, they are based at the Artisanal Complex (see figure 4.2), where they are represented by the Delegate. They run the decreasingly popular two year thuya carpentry diploma. Despite their role in supporting and developing local crafts, the Ministère d'Artisanal is generally regarded by artisans as doing nothing and 'stealing all the money'.

Cooperative artisanale des patrons marqueteurs sur bois de thuya

The artisan cooperative, created in 1949, is the oldest organisation concerning the thuya craft. In 2006 there were around 60 members, and its workshops and machinery were constantly in use by both members and non-members. There is a large adjacent shop where artisans can display and sell their products, and a smaller shop within the workshop courtyard. Work is currently in progress to expand this shop as well as to compile a catalogue of members' products that can be marketed online. This apparent success hides a widespread concern by artisans that the cooperative is not representing their needs. Many carpenters see the committee, or 'thuya mafia' as they openly call them, as stealing all the profits and grant funds. For example, the general annual meeting in Autumn 2006 brought to light stunning accounting figures that showed the disappearance of thousands of Dhirhams. Only a few artisans dared to openly challenge this blatant discrepancy, and no action has been taken to investigate the matter.

Chambre d'Artisanal

This is a part-state, part-independent body, whose original aim was to eventually become fully independent. Its objectives are to look after artisan interests in Essaouira Province, not just thuya artisans, but all artisans including tailors, bakery workers, mechanics, and hairdressers. The previous register contained 1074 artisans, 538 of whom were listed as

carpenters, which shows the relative importance of thuya carpentry in the region. This figure cannot be taken as reflecting the total number of artisans in Essaouira as many artisans do not register with the Chambre.

Artisans, both members and those who choose not join the Chambre, say it is corrupt and does nothing to assist them. Many claim that men falsely join as thuya artisans in order to obtain an identification card (which is vital to obtain bank credit or a visa). They also accuse the 32 elected committee members of actively seeking out country dwellers who need professional certification and signing them up as artisans in exchange for votes, or that the committee invents the artisan statistics.

Wood harvesting co-operatives

Two co-operatives were set up in Imn Tlit and Ait Daoud (Essaouira Province) in 1995 to provide a legal source of thuya wood, especially burl. When APAT was created in 2000, the co-ops were supposed to provide them with legal sustainable wood in an attempt to create an eco-label for their products. It failed as the cooperatives could not provide enough wood. In September 2005 I was told by the Eaux et Forêts that only the Ait Daoud cooperative was functional. In January 2006 I was told neither were functional due to 'internal problems', and right up until my departure in December 2006 neither re-opened.

Association Professionnelle des Amis du Thuya (APAT)

APAT was created in 2000 by the United Nations Development Programme (UNDP). It consists of a group of thuya artisans whose aims are to decrease the wasteful consumption of thuya wood, and introduce certification of sustainably sourced thuya. A study was carried out involving APAT, ENDA, the Forest Stewardship Council (FSC), Soil Association and the World Wide Fund for Nature (WWF), the Eaux et Forêts, and a small NGO called *Choula*, to investigate the possibility of labelling sustainably sourced thuya wood. This project focused on Amsitten Forest, a protected thuya forest south east of Essaouira. After two years of studies it was concluded that due to the dis-organised chain of supply, and inability to secure a sustainable route of supply, it was not possible

to meet the standards required by the FSC and the project ended. In 2002, APAT collaborated with ENDA and the Eaux et Forêts to undertake a six hectare re-forestation of thuya trees in the Amsitten area. A coach of representatives from these organisations, along with a number of thuya artisans, travelled to the site to plant the trees.

Since the tree-planting event, little has been carried out by APAT. In the latter part of 2006 a shop was acquired in Essaouira *mdina* by APAT for its members to display and sell their products. The focus was on new innovative products that reduce the amount of thuya wood, either through the techniques used, or the use of other woods and materials. However, this shop has remained closed much of the time, and many of the products displayed do not fill their aimed criteria.

Environnement Developpement et Action au Maghreb (ENDA)

ENDA Maghreb is the Morocco arm of a Senegalese based NGO that runs a number of projects concerning social and environmental issues. ENDA have a small branch in Essaouira that carries out environmental education projects in Essaouira Province. They were involved in the eco-labelling and reforestation projects described above, but have since stopped their direct involvement with the thuya industry.

Office des nations Unies pour le Developpement Industriel (ONUDI)

ONUDI have been working to develop the thuya industry in Essaouira since 2001. An independent organisation was created by ONUDI to market and export thuya products to new markets, especially in Italy. As well as opening up new markets the project hoped to improve the quality of thuya products and to encourage innovation of new products. They have also set up a pilot workshop in the Artisanal Complex to demonstrate and organise training workshops regarding new technologies and techniques. These seminars, which are free to artisans, aim to encourage higher quality production and to decrease wastage of wood. However, many artisans are suspicious and wary of official organisations, so interest and attendance at the UN workshop has been very low. Artisans also feel that many of the new techniques require expensive and locally unavailable tools, so are not relevant.

The UN worked with the artisan cooperative to develop their shop and online catalogue but problems arose and this project ended. The UN now work with the Tamounte Cooperative (not officially a co-operative but a group of shop traders who run a joint thuya shop) on marketing issues.

The UN project in Essaouira is due to end in 2007. As a culmination of their work, the UN organised a competition of thuya artisans in October 2006. The focus of the competition was on products that reduced the consumption of thuya wood, and incorporated other woods and materials. A second focus was on the suitability of the item for export (to Italy). In total, 41 artisans entered, and an official ceremony marked the selection of winners.

4.5 Implications of thuya networks

The previous sections have attempted to give a general overview of the complex web of relationships that collectively constitute the thuya craft. They show that it is impossible to focus on thuya artisans as if they operate in a vacuum, as their actions are influenced, and influence in turn, the actions of the other people in the network. I also outlined the different organisations that have a greater or lesser impact on artisans lives. Despite aiming to control and alleviate problems concerning the craft, it is generally considered by thuya artisans that all of these organisations are failing.

It is not possible to determine the exact number of people, or actors, in each stage of the thuya network. However, it is possible to make informed estimates that are accurate relative to each other. Figure 4.4 shows the approximate relative number of actors in each of the four main roles of harvester, merchant, depot, and artisan, for the Aoulouz to Essaouira trade chain. In the diagram I suggest that there are around 200 harvesters in the Aoulouz region, 3 merchants in Aoulouz, around 12 wood depots in Essaouira, around 2000 artisans, and around 200 shop traders.

In the following sections I will concentrate on three sets of relationships: 1) thuya merchants and harvesters, 2) artisans and shop traders, and 3) artisans and institutions. I

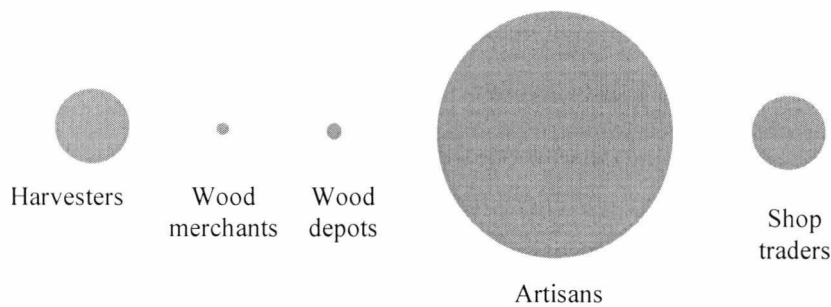


Figure 4.4: The approximate numbers of actors in each position of the Aoulouz to Essaouira thuya chain.

will then analyse the consequences of these relationships on artisan livelihood choices and strategies.

4.5.1 Wood merchants and harvesters

Figure 4.4 illustrates how a relatively large number of harvesters are reliant on only three wood merchants to purchase their wood. This creates a bottle-neck in the commodity chain, and places the wood merchants in a powerful position. The merchants can be said to occupy a 'central position', as they have many relations, or connections, with other actors (namely the harvesters) (Scott 2004:66). This centrality is both local and global, that is, the merchants have many connections to other actors close to them (the harvesters), and also many connections (via the wood depots) with a large number of actors throughout the entire network. In addition, this central role is prestigious in that the majority of these relationships are directed towards them (Knoke and Burt 1983:195). This prestigious centrality in the network is strategic, and gives the merchants power and control over the harvesters and depots, the repercussions of which extend out over the entire thuya network.

The merchants have control over the harvesters who are reliant upon them for their household income. It is the merchant who decides whether to buy wood from the harvester, when and how much he will buy, and the price he will pay. As there are only

three merchants, there is little or no opportunity for a harvester to seek out other buyers of his wood. The lending of money by the merchants to the harvesters as cash advances for future wood transactions exacerbates this dependency. Merchants are also powerful in that they have good links with the local authorities in the form of road blockade police officers and forestry officials, thus gaining protection for themselves and the harvesters they purchase from. This again leaves the harvester in an inferior position in relation to the merchants, who can turn the harvester over to the authorities at any time he chooses. The relationships between merchants and harvesters are therefore unequal, as the harvesters cannot reciprocate, and are left in a sub-ordinate position in relation to the merchants (c.f. Blau 1967:21).

The power of the merchants also extends in the opposite direction over the town wood depots, although this is not as obvious from figure 4.4. It is the merchants who choose where, when and how much thuya to sell to the depots, and so, as with the harvesters, there are few opportunities for depot owners to source thuya elsewhere, making them reliant on the merchants for their business.

Despite the control and power the merchants hold over the thuya supply chain, there is one factor they have little control over, and that is a stable supply of wood throughout the year. Merchants are limited by the supply of wood by harvesters, which is not at a continuous level. This is surprising considering the merchants' influence over harvesters, and implies a degree of independence from the harvesters. One ex-merchant blamed the harvesters for the irregular supply, complaining that the harvesters claim there are no more trees to harvest, when in fact they are protecting certain areas of the forest for future extraction. The emphasis here was on the selfishness and greed of the harvesters who refused to carry out a higher, more stable, level of production.

Some harvesters described how the end of summer is the best time of year to harvest thuya, as the wood is at its driest at this time. This suggests a seasonal preference for thuya harvesting, but this comment may be more ideal rather than the practical reality. In general, harvesters spoke of how they harvested thuya throughout the year, and

stockpiled it until they decide to sell it, or having amassed enough for a merchant to collect it. I suggest it is rather the economic needs of the individual harvester and his household that determines when and how much thuya is harvested. Time constraints are also likely to be an important factor, as farmers will have certain times of year when they have more free time in which to engage in supplementary activities such as thuya harvesting.

4.5.2 Artisans and shop traders

The role of shop traders has changed greatly over the past two decades. Prior to the 1980s, there were few shops in Essaouira selling thuya products. Artisans often became affiliated to one particular shop, to which they would sell their work, but the majority of thuya items were fabricated on commission from individual private customers. In this situation, artisans had relative autonomy and control over trade. It was the artisans who decided who to sell their work to, and at what price. Their success as an artisan was the result of their reputation based on the quality of their workmanship. The woodworkers were true artisans in the sense described by Pokrant (1982:117).

Since the 1980s there has been an increase in the number of shops in Essaouira to accommodate the rise in tourism. Now, artisans sell most of their work to shops and wholesalers, and little of their work directly to private customers and tourists. The relationship between artisan and shop trader has become inverted, with the artisans now dependent upon the traders for business. Whereas previously the traders would visit artisans to seek out products, now it is the artisans who seek out traders to purchase their work. Pokrant describes the artisans in this situation as market-orientated (Pokrant 1982:126).

Several factors have contributed to this shift. Firstly, the rise in the number of artisans has created strong internal competition, as they compete between themselves for trade. This has allowed the traders to gain control over artisans as it is the former who selects which artisan to buy their products from. Secondly, artisans are at a disadvantage as they are educated to a lower level than traders. This means that traders are more equipped to

interact with foreign tourists, for example with their superior language skills. Likewise, traders tend to hold better knowledge of business and trade. A third factor concerns the rise in tour groups with tourist guides, which are now contributing significantly to local tourism in Essaouira. It is commonplace throughout Morocco for tour guides to receive commission from establishments where their tourists spend money, whether it is a shop, restaurant or hotel. The shop traders can afford to pay commission, which can be up to 50% of the sale price, to coach tour guides. The obvious outcome is that tour groups are steered clear of non-commission paying shops and taken directly to large shops. The tour guides deter the tourists from visiting other shops with stories that the smaller shops sell poor quality, over-priced products, and that the group will instead be taken to a more reputable outlet.

Shop traders now control the consumption end of the thuya network. They choose which artisans to buy from, and are constantly forcing down the prices paid to artisans in order to maximise their own profit. The average price of an item is multiplied by three by the shop trader before re-sale to the public. This has resulted in a relative decrease in the average artisans' income. For example, an artisan will sell a medium size box for the same price in 2007 as he did in 1997, whilst at the same time the cost of wood and other materials, workshop rent, and the general cost of living has increased.

The shift from artisan to market-orientated woodworking is also in part due to the change in apprenticeship and learning patterns, which is explored and discussed further in Chapter Six.

4.5.3 Artisans and institutions

From the early days of thuya carpentry, the artisan guild and the Forestry Service controlled the profession. The guild was largely replaced in 1948 by the artisan cooperative. When the industry boomed in the 1980s the *Chambre d'artisanal* and *Ministère d'artisanal* were created to help artisans. Since the 1990s three NGOS - APAT, ENDA and UNODI - have attempted projects in Essaouira aimed at amelioration of the high consumption of thuya wood and development of the profession. Despite the range of

organisations involved in the thuya craft, the artisans' social and economic situation, and the forests' ecological problems, have not improved, and have probably worsened. We must now ask why these groups have failed in their attempts.

It is apparent from the descriptions given above of the different groups involved in the thuya industry that there is a great deal of distrust and suspicion among thuya artisans. At best, they regard the institutions that claim to be aiding and developing the craft as doing nothing. At worse, artisans believe that they are being exploited and taken advantage of.

The strongest accusations are made against the *Chambre* and the cooperative. The first of these is said to 'steal' all the state funding it acquires and do nothing for artisans. The *Chambre* is also alleged to fix elections by paying voters for their support, or exchanging artisan craft identification cards for votes. Like the *Chambre*, the cooperative is also run by committee, and similar accusations are made against committee members, who are referred to as the 'mafia'. Although these accusations cannot be proved, several facts can be stated; the artisan registry does contain mistakes and duplications of names, casting doubt on its accuracy; the cooperative accounts have lost several thousand dhirhams in previous years; and both organisations have done little over the past two years to actively promote or assist artisans. It may also be a coincidence that committee members of both organisations tend to come from the wealthiest, most powerful men involved in the artisanal sectors in the town.

Determining whether these accusations are true or false is unnecessary, what is important is that the artisans have strong negative feelings towards governmental and quasi-governmental institutions. In practical terms, assertions of corruption lead artisans to actively avoid involvement with institutions, including any attempts the organisations may make to assist the craft. Distrust of those that are supposed to be aiding the artisans also cultivates a feeling of despair and powerlessness, which in turn confirms a sense of fatalism among artisans.

Attitudes towards the Forestry Service are generally milder, which is probably influenced by the fact that artisans have no contact with the Forestry Service in their day-to-day activities. The common artisan attitude towards the Forestry Service is that they are mis-managing the forests, which is why there are problems with the supply of thuya wood. Artisans regard sustainable forest management as the role of the Forestry Service. Where artisans do come into contact, through family and friends living in rural, thuya forest areas, they are more wary of the Forestry Service. In these cases they regard forestry guards as a nuisance, who restrict access to forest resources and demand bribes and fines from those caught poaching.

4.5.4 Patron-client relationships

Some of the relationships between actors in the thuya supply and commoditisation network resemble those of patronage (c.f. Boissevain 1966, Rassam 1977), in particular those between wood merchant and harvester and between shop trader and artisan. Let us now examine each of these.

Wood merchant-harvester

The relationship most resembling one of patronage is that between merchant and harvester. Merchants have a huge amount of power over harvesters, and with respect to the four types of flow from patron to client outlined by Scott (1977:23), the relationship between harvester and merchant does appear to fit. The merchants regularly make cash advances to the harvesters, which are later re-paid through the supply of wood. The merchants also cultivate relationships between themselves and the local authorities, so they are in a position to protect the harvesters from the punishments of involvement in an illegal activity.

However, there are also key differences between classic patron-client relations, and merchant-harvester relationships. Although in purchasing the harvesters' wood, the merchant provides the harvester with cash, this money is supplementary to the subsistence of the harvester, not essential. Likewise, the protection from local officials that a merchant gives a harvester is interpreted by harvesters as being a guarded threat by the merchant who is actually pointing out to the harvester the merchants' power over him.

Also, the merchant does not take on other community responsibilities and assist with local services. Similarly, the harvester does not carry out a range of services for the merchant, and he does not engage in promotion of the merchant. The flow of resources between harvester and merchant is essentially that of thuya wood and cash, it does not expand out to other goods and services.

The relation between harvester and merchant is therefore better described as an economic one, rather than one of politico-economic or cultural patronage. It exists as both are dependant upon the other for their own private economic gain. So although the relationship is not equal - it is strongly skewed in favour of the merchant - it has an economic, not patronage basis. This explains why the merchants can't force the harvesters to regulate their supply of thuya wood, as they have no stronger social sanctions over them than economic coercion.

Shop trader-artisan

Elements of patronage can also be seen in the relationship between artisans and shop traders. An artisan may establish a relationship with a shop trader who purchases his products. The trader commissions work from the artisan, and will help the artisan with cash advances in order to buy wood and other materials, but also if the artisan has a non-work related pressing need for cash, a trader may assist. A trader who does this is often referred to as a *maâlem chakara*, a satchel master, as they often identify themselves as master craftsmen, but in reality are just businessmen.

Patronage relationships such as this can arise when the market is unpredictable, and this phenomenon has been observed for Moroccan grocery shopkeepers (Waterbury 1977:334). The thuya market is also very unpredictable, for both artisans and shop traders. Artisans have no security that they will find a customer for their work; even customers who commission a particular item often do not always return to purchase it. This is most common with foreign customers. Shop traders also have no security that an artisan will produce the items the trader has commissioned. Traders often complained that

when they give an artisan a cash advance to buy materials for a commission, the artisan spends it on marijuana and alcohol instead, and so the trader loses his money.

Creation of artisan – shop trader relationships give more security to both partners, but do not prevent the above problems, and cannot be considered as patron-client relations. The relationships are more successful in avoiding competition and ensuring trade, and are therefore governed by economic incentives as opposed to political and social patronage motivations. These relations also allow the artisans to gain access to consumers and markets that are normally out of their reach due to a lack of social capital. This should not be confused with situations in which patronage allows peasants to obtain resources normally outside their reach (Delamont 1995:130), but rather has purely economic incentives. There is a thin line between culturally acceptable trader and artisan relations and economic exploitation.

4.6 Artisan strategies

The organisation and functioning of the thuya trade has a direct impact on the artisans, who are caught in a complex web of social relations. Their position within this network creates, and limits, the range of opportunities and choices available to them. The strategies they choose reflect this social situation as well as personal preferences. Artisans often describe themselves as ‘the iron between the hammer and the anvil’, as they are under pressure from both suppliers of thuya wood and shop traders. This pressure is largely economic, reflecting an increase in the costs of production, and a decrease in prices paid by the shop traders for artisan products.

4.6.1 The effects of an erratic wood supply

The erratic supply of thuya to the depots has a direct and important impact on artisans. The disorganised procurement of timber results in a variable quantity and standard available in wood depots. Consequently, there is no assurance that when an artisan visits a wood depot to purchase wood, he will find adequate quantities and quality that he requires. If quality of workmanship is to be maintained, artisans have two options: to stop working when they cannot find suitable wood, or to buy large quantities of good quality

wood when it is available and stock pile it in their workshop. Artisans often cannot afford to take either of these options, as they have few economic resources, and little storage space in their small workshops. Only the wealthier artisans and workshop owners can afford to buy large quantities of good quality wood as it arrives at the depots. This aggravates the situation, both by reducing the quantity and quality of wood available to smaller workshops, and by causing friction between wealthier and poorer artisans. For the majority of artisans the only option is to compromise on workmanship, by buying low quality wood. This wood is more likely to have faults and cracks, and to warp.

4.6.2 Production strategies

There are three well-known responses when faced with a difficult, potentially dangerous situation: fright, fight or flight. These responses are reflected in the different strategies an artisan may choose faced with the hammer and anvil situation.

The first, 'fright', strategy has several consequences, the first of which is to reduce the amount of time spent making an item, including using unseasoned wood. A second fright reaction is to reduce the cost of materials. The single or combined result is a decline in the quality of products, and also a simplification of items, as more complex and time consuming techniques and designs are discarded in favour of simple, quick ones. For example, instead of spending several weeks making a small batch of detailed inlaid tables, it is more profitable for an artisan to spend several days producing a higher quantity of simple, undecorated boxes. This strategy has favoured mass production workshops, where the different stages of production of, say, small boxes, are divided up between several workers. This strategy has also resulted in an increase in the number of artisans doing lathework, which has a very high production rate.

This process of simplification has resulted in a decline in quality, loss of skills and knowledge, and also an increase in wastage of thuya wood. In addition, the importance of time saving discourages innovation, and instead favours copying successful products. This situation continues unchecked in the absence of a governing body, such as the original professional guild. The strategy is only truly successful in the short-term, as over

the long-term the artisan will earn less from his simple, low quality products, meaning he is less able to spend more time and money producing high quality items. A decrease in income can force the artisan to sell some of his tools, and move to a smaller less suitable workshop. This in turn decreases his ability to produce high quality goods. Simplification also means a decrease in the artisan's knowledge base, with the same results. A positive feedback loop entails, placing the artisan in a downward poverty cycle, creating a market favouring cheap, low quality items, causing a loss of skills and professional knowledge, and causing the unsustainable harvesting of thuya forests. This negative strategy could be regarded as a flight response.

Some artisans take positive action, in other words, they adopt a 'fight' strategy. These artisans either maintain a certain amount of autonomy from shops, instead focusing on direct sale to private clients, or they have stable relationships with a few of the larger shops and wholesalers. These artisans work in a similar way to the early *maâlmîne*, specialising in high quality items with high levels of inlay and veneer work. This strategy requires a higher level of knowledge and skills in comparison to the previous one discussed, and often these artisans are referred to as the *vrai maâlmîne* – the 'true masters'. This term indicates their greater knowledge of thuya carpentry, and is discussed further in Chapter Five.

A third strategy for artisans is 'flight'. Recent years have seen an emigration of Souiri thuya artisans to the countryside surrounding Essaouira, or to the Agadir region. In the first case, artisans move to family homes in the neighbouring countryside, thereby avoiding high costs of living. Thuya wood and other materials are purchased in Essaouira and taken by motorbike, taxi or bus to their home. Likewise, finished products are packed into cardboard boxes and transported back into Essaouira to sell. Other artisans are moving to one of the villages close to Agadir. This has become so entrenched that one village is informally referred to by thuya artisans as 'Dar Souiri' – 'Village of the people of Essaouira' due to the high concentration of Souiri artisans living there. Living costs are also significantly reduced in the Agadir area, but there is a further advantage to this region. Agadir is situated close to the thuya forest areas of the Atlas Mountains, including

the Aoulouz region. Consequently, thuya wood, and especially burl, is more easily available and cheaper in Agadir than in Essaouira. Of the artisans emigrating to Agadir, nearly all produce simple undecorated items, mostly from burl wood, and lathework is the dominant technique. This pattern implies that it is the inexperienced artisans who are taking this route.

A second flight route is to quit the profession completely, and many artisans have done this in recent years. The most commonly mentioned new occupation (by artisans and Souiris in general) is that of taxi driver, and many more have become shop traders, or restaurant and hotel workers. There are no exact recent figures for the number of artisans, but it is considered by most artisans and Souiris to be significantly lower than the 6,300 estimated in 1998 (Chakir 1999). A decline in the number of wood depots and sawmills as mentioned earlier may be evidence of this. Exact calculations are complicated by a third flight route: multiple employment. The thuya industry is highly seasonal, and the number of artisans swells correspondingly to meet increased demand in the summer. These seasonal workers may be students, or opportunist workers who enter the profession in response to other employment opportunities. Movement in and out of the thuya business depends on the relative attractiveness of other employment opportunities, and when other employment is available, they quit the craft.

4.6.3 Selling strategies

The method an artisan chooses to sell his products depends on his social networks, his ability to meet and communicate with foreigners and potential traders, his practical resources, and his economic status. There are three selling strategies available to an artisan: 1) direct, 2) *commander* (commission work), and 3) *souq* (when an artisan first produces an item then seeks out a buyer amongst shop traders and wholesalers).

Direct sale occurs through the display and selling of items from an artisans' workshop or retail workshop. Commission work may be procured from shop traders or wholesalers, or from a private individual. The third method, *souq* selling, differs from the first two methods in that the product is first fabricated, and then a buyer is actively sought by the

artisan. This method is more unpredictable for an artisan, as he must first expend valuable time, effort and money in fabrication, before knowing if he can sell his products and what price he will receive for them.

In the case of *souq* selling, the artisan will usually entrust his finished products, which may range from one unique item (a small inlay table for example) or a box of standard items (for example domino box sets), to an intermediary *simsar*. The *simsar* is an individual, often a friend of the artisan, or himself an artisan who has fallen on hard times. He will carry the item, or items, in a carrier bag or box, around the town to look for a buyer. He will visit shops along the way, starting with those in which the shop owner is familiar with the *simsar* and therefore where there is a relationship of trust. The shop trader will inspect the pieces, and if he is interested, bargaining will begin. The artisan will tell the *simsar* to seek a certain price, and if the shop trader is not willing to pay that amount, the *simsar* will have to go back and forth between the two parties until a price is agreed. The *simsar* will then fetch any remaining items and take the money to the artisan. The *simsar* will be paid a small proportion of the sale price.

There has been a general shift in the spatial location and structure of artisan workshops in Essaouira. Workshops that cannot compete with shops, or do not want to sell products directly to the public have been forced out of the *mdina* by high rents and an increasing pressure by workshop neighbours who are fed up with the noise of machinery and high levels of sawdust and into the new town. In addition, new large-scale workshops are generally set up in the new town. The remaining *mdina* workshops are experiencing a shift in their focus from workshop to shop. A good example of this is the Skala, the old munitions stores in the *mdina* sea wall that was converted into thuya artisan workshops in the middle of the last century. A few years ago the Skala was a lively place, with artisans working away at their workbenches set up in the courtyard. The opportunity to watch and interact with the artisans at work attracted tourists. This recently began to change, and by December 2005, several of the workshops had been converted to shops selling non-thuya products. Most of the remaining workshops had been converted to retail workshops, with many of the products bought in by the artisans from wholesalers. There was only one

remaining workshop, which was rarely open. A year later the number of tourists visiting the Skala declined as the artisans could not afford, or refused to, pay tour guides to bring their groups to the Skala. Several workshops have been converted to thuya or non-thuya shops, and artisans have moved their production to the new town. The number of artisans working in the courtyard has decreased, and instead of the sound of industrious tapping of artisans doing inlay work, the visitor is greeted with young lads giving their sales pitch, and at most, varnishing.

4.7 Conclusion

This chapter has given an outline of the structure and dynamics of the thuya craft organisation, and has demonstrated how the thuya artisans are embedded in a far-reaching complex network of actors, from harvesters in remote areas of the High Atlas mountains, to foreign tourists on a day trip to Essaouira. Browns' (1977:309) description of Salé, a port not dissimilar to Essaouira, accurately describes the thuya craft organisation, "Relations among individuals and the structuring of groups formed a pattern of fragile, shifting factions and alliances". This constantly shifting state is largely the result of the illegal status of thuya wood and high levels of competition between artisans and thuya traders. This results in insecurity of supply and prices, lack of control of the market, and high levels of suspicion leading to individualistic behavior and corruption.

Thuya artisans are caught in the middle of this web, and describe themselves as the iron trapped between hammer and anvil. Artisans are physically and spatially isolated from wood harvesters so they are unable to demand a higher quality and steady supply of wood. They regard supply problems as the result of mis-management of forest resources by the state Forest Service. Artisans are therefore reliant on wood merchants, who control the supply chain. Artisans also have very little control over the marketing and sale of their products, control of which lies with the shop traders and wholesalers. In addition, artisans are wary and distrustful of the institutions that aim to assist and develop the craft. The combination of these factors leaves artisans with a particular set of strategies available to them. Their choice of livelihood strategy depends upon their economic and social capital, as well as their individual knowledge and technical skills.

Chapter Five

Woodworking Knowledge

“ A thuya maâlem can work with any kind of wood and technique, but a normal carpenter does not know how to work with thuya. ”

(Common thuya artisan saying)

5.1 Introduction

This chapter will first describe and explain the different woodworking techniques carried out by thuya artisans, and the different products created using these techniques. I will then use the example of the operational sequence of box production in order to illustrate the differences between these techniques. I then outline the repertoire of tools and materials available to thuya artisans, and how they are used. I will explore how this repertoire, and their organisation within the workshop reflect the knowledge and expectations of the artisan.

Keller and Keller (1996:60), in their study of American blacksmiths, argue that; “the knowledge of smithing is reflected in the acquisition of tools and the establishment of locations for those tools in the workplace”. Tool acquisition and organisation is the product of the blacksmiths knowledge of the craft, previous experience, and expectations of future work, and allows him to carry out his tasks simply and effectively; "The organisation of a shop, far from being arbitrary, embodies the potential for productive activity and as such is a material realization of the blacksmith's expectations and anticipations regarding future work."

The collective mass of knowledge, ideas, tools and materials of production is regarded by Keller and Keller as a ‘constellation’ (1996:23). Each time the craftsman is faced with a task, he applies this constellation in order to best achieve his goal. I will argue that the knowledge, tool repertoire, and workshop organisation of a thuya artisan constitute a constellation that can be instantiated in a multitude of ways. This instantiation is

dependant upon a number of factors, including economic and social status, as well as the personal preferences of the individual artisan.

5.2 Woodworking techniques

Thuya carpentry knowledge and skills are classified by artisans into seven technique categories: inlay (*marqueterie*), veneer (*placage*), incrustation (*incrustation*), simple (*simple*), lathework (*le tour*), fretwork (*tkhram*), and sculpture (*sculpture*) (plates 5.1 to 5.7). This is a local classification, and as I shall later explain, one that mixes crafts (lathe work and sculpture) with techniques (inlay, veneer, incrustation, fretwork and simple). To prevent confusion, and in keeping with local classification, I shall consider all of these as 'techniques'.

The number of artisans in each category in 1999 is shown in figure 5.1. However, classifying thuya artisans according to the techniques they work with can be confusing, as many artisans are generalists, and work with several techniques. As will become clear in the following sections, generalist artisans may work with inlay, veneer, incrustation, and simple techniques. In contrast, fretwork, lathework and sculpture artisans are usually specialists, and are only skilled in one technique. I shall briefly explain each technique in turn.

Inlay

Inlay is the process of gouging out a pattern in a base piece of wood which is then in-filled with a different coloured wood or other materials such as mother of pearl (see Chapter Three, section 3.7). When non-timber materials are used the technique is sometimes referred to as 'incrustation'. However, the technique is the same as wood inlay work, and the two are carried out together. This technique is used to decorate a wide range of products, including tables, *banquete* strips, trays, and boxes. Small products tend not to be inlaid as the extra time spent on production is not reflected in the selling price of the item.

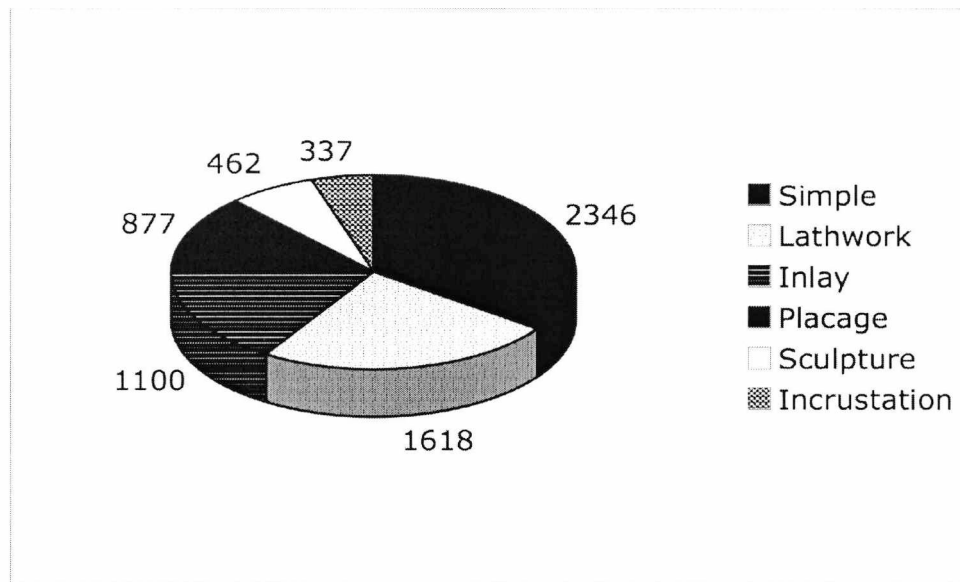


Figure 5.1: Percentage (%) of artisans using different woodworking techniques (Ministère de l'Artisanat et de l'Economie Sociale 2003:13). The numbers next to each segment show the actual number of artisans. Note the absence of fretwork.

Incrustation

Incrustation is the Darija term for inlay work that uses metal filament instead of wood as the inlay material. Originally, silver filament was used, but this has been replaced by aluminium which is significantly cheaper. Most artisans use old cooking pots which they buy for 2Dh or 3Dh a piece and cut into thin strips with scissors. A few artisans use sheet aluminium which they cut in the same way, but which is more expensive. Only a handful of artisans still use silver, as the resulting products are expensive. Incrustation work usually has mother of pearl inlay. There has been a recent trend of creating pictures in aluminium incrustation and then painting them with red, green and black ink. Incrustation is most commonly used on boxes and vases.

Veneer

Veneer work, locally termed *placage*, is also known as marquetry in English (see Chapter Three, section 3.7). The base wood for veneer work may be thuya trunk wood or pine wood. The design is built up on top of this base like a mosaic with small pieces of thuya trunk or burl wood. The veneer pieces are first cut into planks between 6mm and 8mm

thick. The veneer pieces are then cut from these planks on an electric table saw and glued into place. The veneer pieces may be nailed to the base with small panel pins to secure them. These pins may or may not be removed, and the resulting blemishes are covered with *nshara*, a mix of wood glue and sawdust. The product is then planed. Products using veneer are similar to those using inlay. Chess, drafts and backgammon boards are also made using veneer.

Simple

Simple work is un-decorated, or minimally decorated with a little inlay in the form of straight lines cut on an electric saw rather than by hand. It therefore requires a smaller range of skills and knowledge than inlay, incrustation and veneer techniques, and more machine work as opposed to handwork. Simple work usually uses burl, as this is regarded (by artisans and consumers) to not require any further decoration in order to be marketable. The products are often mass-produced, catering for the demand for small, cheap souvenirs. These products are consequently of a generally poor quality. A wide range of products fall into this category including boxes, office accessories (pen pots, letter racks, calling card holders), games (domino sets, die) and models (animals, cars, boats).

Fretwork

Fretwork involves the use of a hand or electric fretsaw to cut holes in a plank of wood, creating an arabesque pattern. The designs are photocopied from books or drawings onto paper to make a template, which is then glued to a plank of wood. A hand or electric drill is used to drill a small entrance hole in each hole in the pattern, and the fretsaw is then used to cut out the hole. The planks are then planed and the product assembled. Trunk wood is almost exclusively used for this technique which is popular for lampshades, but also for box lids.

Lathe work

This describes all work carried out using a lathe, and includes decorative bowls and pots, ashtrays, and lamp stands. As nearly all the work is carried out by machine (even the

planing and sanding) it is possible to mass produce in a short amount of time. Lathe workers are often blamed for the increase in the quantity of wood consumed by the profession, as up to 50% of the wood consumed by lathe workers is wasted as sawdust (Chakir 1999:107).

Sculpture

There are only a handful of artisans carrying out sculpture in Essaouira. Some of these previously trained as carpenters, whilst some know only sculpture. It is a largely self-taught technique, with inspiration taken from the natural properties of the wood, and is regarded as an art, not a craft like the other woodworking techniques. Burl is most commonly used due to its natural twists and contortions, but trunk wood is also admired for its aesthetic qualities. Due to the difference in technique between this and the previous categories, carvers use a different repertoire of tools to other carpenters, namely carving chisels, files and hammers. This is another reason why they are not considered carpenters.



Plate 5.1: Boxes with floral inlay, around 20cm and 25cm in length.



Plate 5.2: Boxes with painted incrustation.



Plate 5.3: Veneered boxes, using thuya trunk wood, thuya burl, *citron* and burnt *citron*.



Plate 5.4: Simple boxes in trunk and burl thuya, with burnt *citron* for decoration.



Plate 5.5: Fretwork box in thuya trunk wood and edged in burl.



Plate 5.6: Lathe work boxes in thuya trunk and burl.



Plate 5.7: Carved masks and camel figurines in burl wood. The mask designs are West African in origin and around 30cm-40cm in length.

5.3 Techniques and products

A product inventory was carried out in winter 2005/2006 of eight shops specialising in thuya products. The low survey number was due to the suspicion on the part of artisans; even artisans and owners with whom I had good working relations were unwilling to allow me to inventory their stock. A further problem is the disorganised nature of thuya shop displays, and as it was not possible to empty entire displays of their products in order to count each one, at times, educated estimates were made regarding the number of items. Despite these problems I believe that these shops, and therefore the survey data, are a good representation of thuya shops in general.

The main items produced using each technique are shown in table 5.1. Lathework and 'simple' techniques are used in the production of the most frequently occurring items. The majority of these items are typical souvenir products, mostly small and cheap. Furniture, at the bottom of the list, most commonly uses the inlay, veneer and simple techniques. These items are larger and more expensive, and so less likely to be souvenirs (see Chapter Seven for more on tourist preferences), and include items produced for locally resident European expatriates and Moroccans.

Boxes are the most commonly produced item, with a total of 598 recorded, and range from tiny items about 5cm in size, to tissue boxes, compartmentalised jewellery boxes, and large trunks 1m in length. The type of box depends on the technique used: lathework produces round boxes, simple tends to be used in mass production of small and medium boxes, whilst inlay is often reserved for medium and larger boxes. The relative proportion of each technique used in production of the surveyed boxes is shown in figure 5.2.

	Inlay	Veneer	Incrustation	Fretwork	Simple	Lathe work	Sculpture
Boxes	+	+	+	+	+	+	
Frames	+			+	+		
Bowls						+	
Games		+		+	+	+	
Candle-holders						+	
Office accessories					+	+	
Lamps				+		+	
Models					+	+	
Vases	+	+	+		+	+	
Furniture	+	+		+	+		

Table 5.1: The top ten item types in shop product inventory produced using different thuya woodworking techniques, listed in descending order of frequency. Sculpture items did not score in the top ten, so have no score.

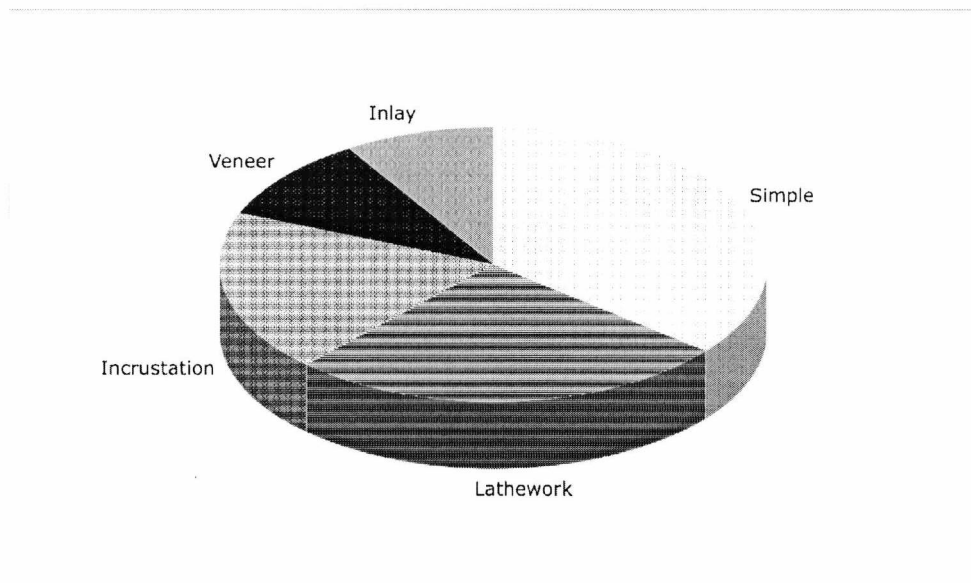


Figure 5.2: Relative proportions of each technique used in making boxes.

5.4 Techniques and the production process

Artisan perceptions of the techniques outlined above and the relation of the techniques to each other can be better understood with regard to the technical sequences involved in production. As an example I shall focus on the production of a small box. The box is the most common thuya product, and is often depicted as an archetypal thuya item. The box is also a good example as all the techniques described above, excluding that of sculpture, can be used in its production.

The technical sequences of production for each technique are shown in figure 5.3. Production can be divided into three stages: preparation, transformation, and completion. Each of these stages can be sub-divided into a number of operations, with the application of the different techniques in the transformation stage.

Preparation

For all techniques the first operation of preparation is selection, which involves a visit by the artisan to a wood depot to select a suitable beam or burl. The second operation is primary cutting, which involves sawing the wood into planks at the sawmill. The wood then undergoes a secondary cutting into the correct size pieces to construct the box. This is carried out in the artisans' workshop on an electric saw or by hand, and accuracy is important to produce a well-proportioned box. The pieces of wood are then planed in preparation for stage two.

The exceptions to this sequence are lathework and sculpture. For lathework, primary cutting involves the sawing of the wood into round chunks at the sawmill. Secondary cutting and planing are omitted, as they are unnecessary. In the production of a piece of sculpture (boxes are not made using the carving technique), the only preparation step carried out is selection of wood. The majority of thuya sculptures are abstract, and the carver has no preconception of the final form when he starts. He therefore works with the wood as he purchases it from the depot, and takes his inspiration from the natural form of the wood. This, in addition to the difference in tools and techniques used by the carver are the reasons why sculpture is more often perceived as an art form rather than a craft.

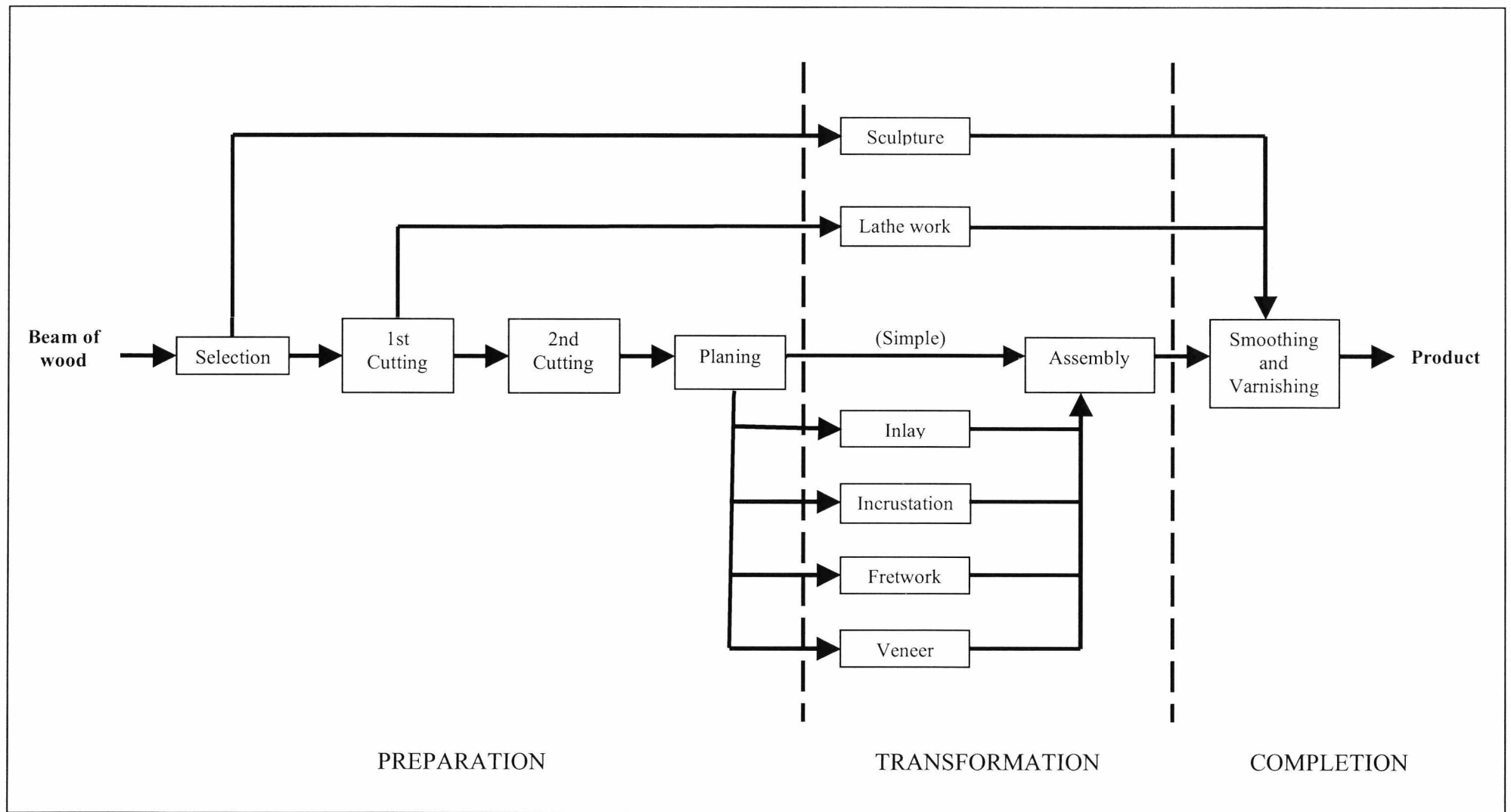


Figure 5.3: Operational sequences for the production process using different woodworking techniques.

Transformation

The different woodworking techniques are applied at the transformation stage. In the case of veneer work, the main lines of the pattern are drawn out on the box lid as a guide and the veneer pieces glued on. For inlay, the pattern is drawn using a compass (geometric designs) or cardboard template (floral designs), chipped out, and inlaid. In the case of fretwork, a photocopy of the design is glued to the plank and sawn out with a fretsaw. A 'simple' technique box will remain un-decorated, or, simple lines are cut in the plank with an electric saw and inlaid with a different wood.

Assembly of the product varies greatly between techniques and product type. Lathework products usually require very little, or no assembly. Fretwork often requires little assembly, as most products are lampshades or shelves. Products requiring most assembly are the larger pieces of furniture, which most usually use the simple, inlay or veneer techniques. Complexity of design increases the length of time involved in production. For example, a small simple box can be made in one day, whilst a large inlay table may require over six months.

Although figure 5.3 shows the application of the technique as preceding assembly, the two are often interlinked and interchangeable. For example, the technique may be applied to the plank of wood that will form the lid of the box first, and then the box is assembled. Alternatively, the box may be assembled, and then the technique applied to the lid (this cannot be done with fretwork). To assemble the box, the sides are first glued together to form a frame, and then the base and lid are glued into place. Hinges and locks are often added.

Completion

Finally the box enters the completion stage, which involves filing, planing, sanding and varnishing. The first three of these I have grouped together as 'smoothing' processes, and may be carried out by hand using rasps, planes, the *kutsheeya* (cabinet scraper) and sand paper, or using electric tools such as electric sanders or lathes. The inlay, incrustation and veneer techniques are more likely to use hand tools. In particular, the *kutsheeya* is

regarded as a traditional tool for these techniques. The *kutsheeya* is used in place of sanding, and is a physically intensive and time consuming task, but one that is considered, if carried out correctly, to produce a better quality finish to the product.

The smoothing process in fretwork, mass produced work (of all techniques), and often simple work, comprises sanding the item with a hand or table electric sander. Lathework uses the lathe for the same process. Artisans who use hand tools consider electric machines inferior as, due to the speed at which they work, the artisan has less control over the machine and therefore the resulting work.

The box is finally varnished, using a solution of shellac flakes in alcohol which is applied with a pad called a *monaqeeya*. Varnishing is considered by artisans as a skill in itself; if not carried out correctly it results in a poor finish to the product. Latheworkers often ‘cheat’ on the varnishing stage by rubbing the item in candle wax using the lathe. It is becoming more common for many artisans, especially those mass producing items, to skip the varnishing stage, which is consequently carried out by shop workers.

5.5 Techniques and knowledge

Described in this way, the decorative techniques of inlay, veneer, incrustation, simple and fretwork follow the same stages of production. In effect, the simple technique can be considered as basic joinery or cabinet making, and the other techniques are actually forms of decoration applied to the joinery products. Lathework and sculpture do not follow the same production pattern, and are crafts in themselves, comparable to joinery. For this reason, they are not considered by artisans as ‘true’ thuya woodworking skills. The relationships between these techniques is depicted in figure 5.4.

Consideration of the production of a box illustrates the differences in skills and knowledge required for the different techniques used in thuya work. Sculpture barely fits into this model, and is not considered true thuya woodworking. The division in production between lathework and the other techniques is also important. The secondary cutting and planing steps involve a lot of knowledge, skill, and accuracy, and sets the

level of quality of the end product. The technique later applied is essentially an additional decoration to the box. Lathe workers do not need to learn these skills as the technique of turning is essential to the creation of the box; there is no box before turning. The absence of, what other artisans consider, fundamental skills, are elemental in the dismissal of the lathe worker as a 'true' *mâalem*.

Each technique can be said to represent a distinct body of knowledge. This distinction enables an understanding of how thuya artisans classify and identify themselves. The bodies of knowledge required for sculpture and lathe work vary considerably from the other joinery techniques, whose knowledge bodies overlap closely. This enables an artisan to use these latter techniques of inlay, incrustation, veneer, and simple, interchangeably. Fretwork is an anomaly in this model, which I shall return to later.

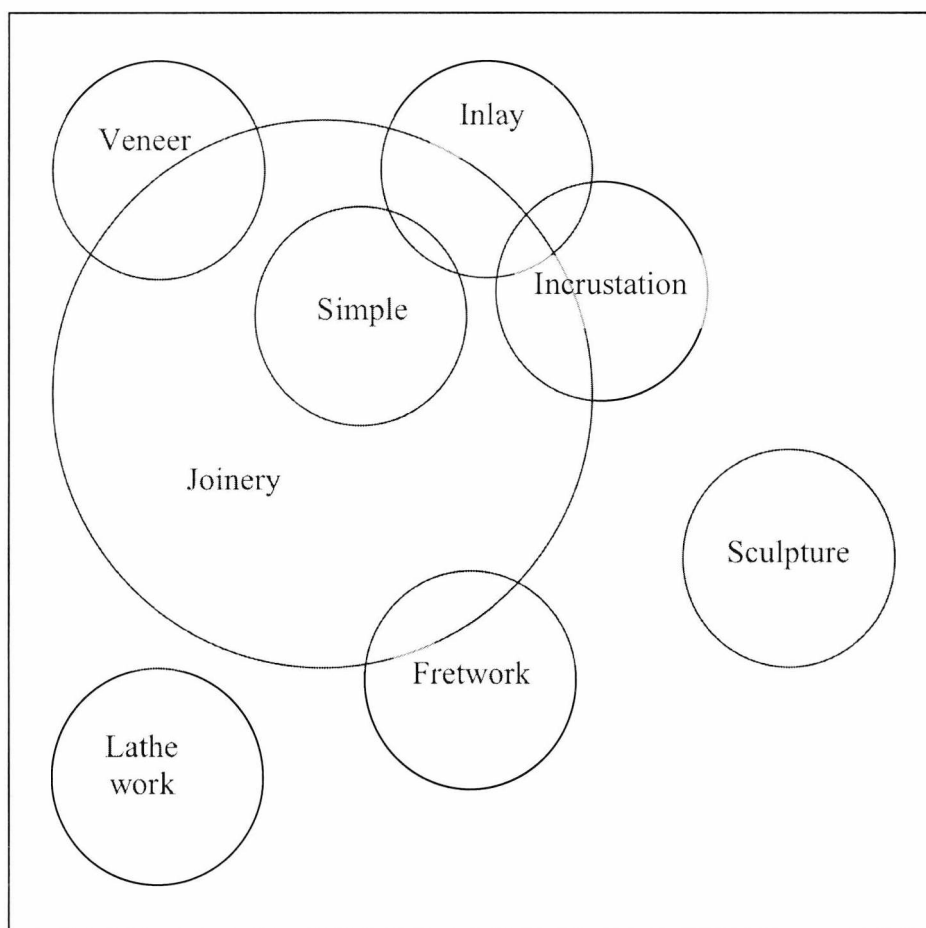
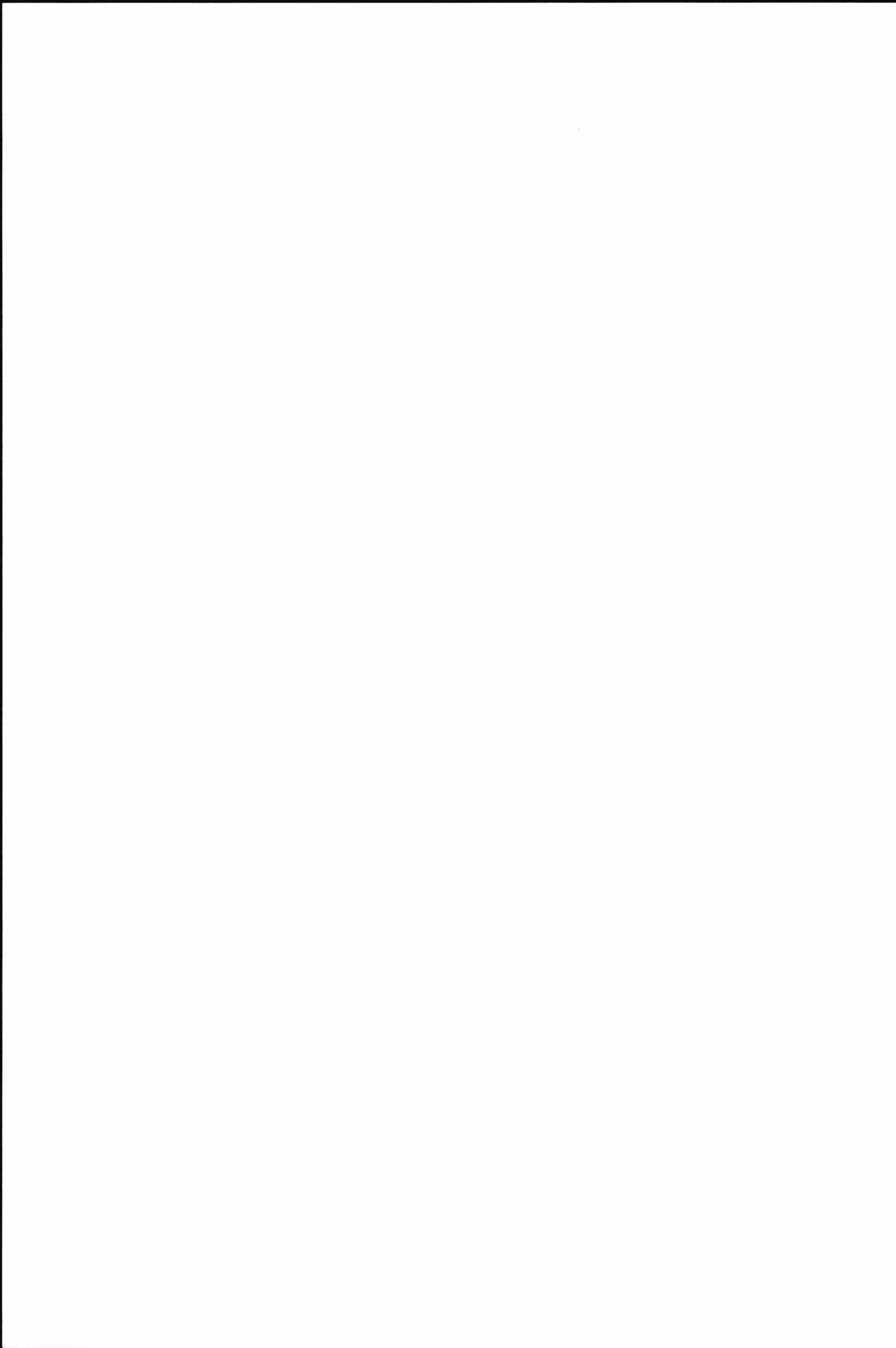


Figure 5.4: Venn diagram illustrating the relationship between the different wood working techniques used in the thuya craft.



The joinery techniques are the oldest existing within the thuya craft, with the exception of fretwork, which is a relatively recent introduction. An apprenticeship in the first half of the twentieth century involved a young boy attaching himself to a *maâlem* for several years of training. He was taught inlay work, veneer, as well as simple work, and his competence in each area was assessed by his master and the *amin* before the apprentice could become a *maâlem* himself. The early artisan was therefore primarily a cabinet-maker, and a generalist, who could turn his hand to a range of techniques. An artisan who today is skilled in this complete repertoire of techniques is called a *vrai mâalem*, 'true master craftsman'.

In contrast, lathe work is relatively new to the thuya craft. Hand lathes were never used for thuya work, and only began following the introduction of electric lathes in the first half of the twentieth century. Lathework probably did not become common until the 1980s due to the expense of the machinery. Artisans practicing lathework require only a few months to learn the skills, and because of the specialist nature of the work, do not learn basic cabinet-making skills. For this reason a latheworker is regarded as lower in status than a 'true' *maâlem*, and is often considered by non-lathe workers not to be a *maâlem* at all. This derogation of latheworkers continues into contemporary attitudes, as seen in a report by the state Forestry and Agricultural departments where they divide thuya artisans into *maitres-artisans* or *mâalems* (master craftsmen), and *tourneurs* (lathe workers) (Ministere de l'Agriculture et al. 1994:5). Carvers are also not regarded as *maâlmine* as they do not know how to prepare and transform wood other than by sculpture, but unlike lathe workers their status remains high as they fall into the bracket of 'artists'.

Classification of artisans is confused by the technique of 'simple' work. Formerly, this technique referred to a joinery product with an absence of inlay or veneer work. For example a chair or table in un-decorated thuya wood is classed as simple. In this sense, 'simple' in no way implies that the finished article did not require skill in its production, merely an absence of additional decoration. However, since the rise in demand for small cheap items, fuelled by the growth in tourism, a new kind of simple product has arisen.

This term now includes quickly made, low quality items, and has therefore become a negative term implying mass production and an absence of skill and knowledge on behalf of the artisan. This category is closely linked to those artisans who have not carried out a 'traditional' apprenticeship, but learnt only the skills necessary to produce a narrow range of products. They, therefore, often do not know how to do inlay or veneer work, or even simple work in its older sense.

Fretwork is a less common technique, and was not even listed in the 1998 survey data shown in figure 5.1. Fretwork is becoming more popular and is currently undergoing an expansion. The artisans who carry out fretwork are of two types. The first are artisans who learnt the full repertoire of joinery techniques, but who have specialised in fretwork. As the underlying skills involved overlap with other joinery techniques, fretwork is not seen as a significant departure. Artisans therefore consider fretwork a simple skill to learn. The recent expansion of fretwork is probably due to the spread of electric fretsaws, which are beginning to replace hand fretsaws. The artisans using electric machines are often relatively young and new to the trade, and many have only learnt this technique, as opposed to learning a range of techniques. As fretwork is used to produce only a limited range of products (predominantly lampshades and tissue boxes), these artisans do not learn the full range of joinery skills that 'true' *mâalmine* learn. A shift is currently occurring similar to that which occurred with the simple technique: a division between more widely skilled artisans using the old hand tools, and newer more limited skilled artisans mass producing items with machinery.

5.6 Materials

I shall now turn to an analysis of the materials available to, and utilised by thuya artisans. The materials used by thuya artisans can be divided into timber, and non-timber. I shall briefly describe the repertoire of each available to artisans, before discussing artisans' knowledge and choice of these.

5.6.1 Timber

Thuya accounts for over 95% of the wood used by thuya artisans (Chakir 1999:65). Thuya trunk wood is used in planks as the base on which inlay and veneer patterns are worked, and for fretwork. It is also used in *massive* (blocks), for lathe work and sculpture. Burl is not used as a base for inlay or veneer work as it is expensive, very hard, and susceptible to cracking. It is either used in small flat pieces for veneer work or in block for sculpture and lathe work. The remaining 5% of timbers used are shown in table 5.2. These woods are mostly decorative, and are used for inlay work. Less frequently, they are used as base woods for veneer work.

Inlay and veneer woods are chosen according to colour and pattern, which must complement the thuya and design, and for their ease in working. The dominant wood used for inlaying is *citron*, orange or lemon wood. The flexibility of this wood allows it to be cut into thin strips that are used to create geometric and arabesque patterns. No other locally available woods are flexible enough to create arabesque designs. *Citron* is also the main wood used to make the small shapes called *tureqa* that embellish the inlay patterns. The softness of the wood makes it easy to carve the *tureqa* shapes. In addition, the wood is very cheap as it is a plentiful waste product of citrus fruit agriculture in the Souss valley near Agadir.

Additional woods used for inlay include *ebene* (a term used for both ebony and acacia species), *acajou* (mahogany species), *tadut* (acacia), *girgar* (walnut), and *roko* (iroko). Most of these are expensive and difficult to acquire as they don't, or rarely, appear in wood depots. These depots are distinct from thuya wood depots and supply ordinary carpenter and joiners. Acacia is most frequently obtained through personal networks leading back to harvesters in southern Morocco, whilst *ebene* and *roko* are acquired through different networks often leading to Casablanca where the woods are more available to purchase. Mahogany is freely found in wood depots, but cheaper mahogany can be bought from boat builders in the port, either new off-cuts, or well-seasoned second-hand wood from old fishing boats. Second-hand *roko* and other rare woods can

also be acquired from old boats. A few artisans incorporate *sefsaf* (poplar) and *lurz* (Atlas cedar) into ‘simple’ products.

Various species of pine (called collectively *bois blanc* or *bois rouge* depending on its colour) are used as the base of veneer work. These are used because they are relatively inexpensive. The aesthetic properties of the wood are not important as the visible surfaces of the end product will be covered in veneer. Only one wood other than thuya, *acajou* (mahogany) is regularly used as the base of inlay work. Inlay base materials must not have a patterned grain that interferes with the inlay pattern, and must be a suitable colour to contrast with the inlay woods. Inlay base woods must also be soft enough, but not too soft, to enable the design to be chipped out. The physical properties of mahogany satisfy these requirements as it has no distinct grain, a reddish brown colour that contrasts well with the *citron* wood inlay, and a suitable hardness. Mahogany is also similar in cost to thuya. A few artisans have recently begun to do inlay work on walnut bowls. However, walnut is difficult to work with as it is soft, and therefore it is hard to create precise delicate inlay designs in it.

Darija Term	Latin Name	English Term	Utilisation
acajou	Unknown, several different species are used	mahogany	Base wood for inlay, inlay wood
bois blanc, bois rouge	<i>Pinus</i> spp.	pine	Base wood for veneer furniture
citron	<i>Citrus</i> spp.	orange, lemon	Primary inlay wood
ebene	<i>Diospyros</i> spp.	ebony	Inlay wood
girgar	<i>Juglans regia</i>	walnut	Base wood for inlay, inlay wood
lurz	<i>Cedrus atlantica</i>	Atlas cedar	Base wood for inlay, inlay wood
tadut, ebene	<i>Acacia</i> spp.	acacia	Inlay wood
roko	<i>Milicia excelsa</i>	iroko	Inlay wood
sefsaf	<i>Populus</i> spp.	poplar	Base wood, inlay wood

Table 5.2: Non-thuya woods used in inlay and veneer work.

5.6.2 Artisan knowledge and selection of wood species

Thuya artisans are obviously characterised by using thuya, either trunk or burl wood, with the addition of primarily *citron* wood for inlay work. There is a small, but increasing recent trend to use other woods such as mahogany, walnut and poplar. This has partly been in response to efforts by state and non-governmental organisations to encourage artisans to reduce thuya consumption. However, utilisation of non-thuya woods remains low, and artisans continue to consider themselves *najara diel ârâar*, thuya carpenters.

All thuya artisans can identify and name thuya and *citron* woods. Their level of accuracy in identifying other woods appears to depend on how often they come into contact with them, and how they learnt about those woods. One locally prominent artisan has a French book on sculpture (Chevalier 1978) describing different wood types and uses, and he often lends this book to his artisan friends, or describes to them what he has learnt in this book. This artisan was also formerly a trader in non-thuya woods, so has a greater knowledge of these woods due to his connections with timber merchants.

Wood identification problems arise due to the disorganised and irregular manner in which wood ends up in Essaouira, and due to the different names used, which vary between Berber, Arabic, French and English. For example, artisans will use the terms *ebene* and *tug* to refer simultaneously to species of ebony and acacia. The two woods are similar in colour, but ebony tends to be blacker and is a denser, heavier wood. The conflation between the two is partly the result of a switch from ebony to acacia as the price and difficulty of procuring ebony has increased. Acacia and ebony are brought to Essaouira through informal trade routes and so no one is really sure what species they are. Ebony is considered superior in quality to acacia, and there is a certain amount of false marketing occurring, where an artisan will claim that the acacia wood he has used is ebony in order to increase the value of his product. However, many artisans do not recognise the difference between the two woods, and actually believe they are using ebony when it is in fact acacia, or vice versa. There is a similar confusion with mahogany, different types are recognised by artisans, but no one is sure of their correct identity.

Due to the difficulties and expense of obtaining ebony and acacia, *citron* wood is now commonly deep-fried in vegetable oil by artisans. The result is a burnt, brittle, blackened wood, which is used in inlay work to replace other dark woods. Some artisans and traders will claim to customers that burnt *citron* wood is actually ebony in order to inflate the cost of the product. Identifying burnt *citron* is easy for most artisans.

Substitution of thuya has begun to occur, although these 'fake' products are not made in Essaouira, but imported. The source of these products is unknown, but artisans and traders thought they had originated from Marrakech, the Khemisset region, Azrou (the Middle Atlas), or the High Atlas region south of Marrakech. The products are made from Atlas cedar, *Cedrus atlantica*, in which case they are most likely to originate from Azrou, as this is a cedar forest region. The products take a distinctive form not found in Essaouira of small, carved animal figures, most usually donkeys, camels and cats. All the shop traders I asked claimed that the figures were made from thuya wood. I assumed that thuya artisans would instantly recognise the figures as non-thuya, but a quarter of the artisans I asked believed them to be made of thuya wood. One half identified the animals as cedar, and a quarter remained unsure of the species of wood.

There would also appear to be an unknown level of substitution of *tug*, juniper species for thuya wood. More research is required to determine the extent of this substitution and the reasons behind it, and even whether it is accidental or deliberate. Juniper is very similar in pattern, colour and smell to thuya, and therefore easy to confuse. On several occasions I found thuya items in workshops or shops that had a different feel to them, but when I queried artisans and shop workers about the wood, I was always told that it was thuya. Artisans say that there are different kinds of thuya, differentiated by their patterning and colouration, but all are from the same tree.

However, shortly before leaving Essaouira in 2006 I came across another case of this strange thuya wood in an artisans' workshop. As in the other situations the artisan reassured me that it was thuya. However, a few days later I was once again in the workshop when the artisan began to chip out the pattern in the wood prior to inlaying. All

of a sudden he called me over to where he was working and told me to sniff the freshly chipped out holes in the wood. The fresh smell emitted was juniper, he said, not thuya; he was certain of it. He seemed initially excited about this discovery, but after a few minutes he became disinterested and returned to his work. When I tried to pursue the topic further, he said that it made no difference to him what the wood was, and I could not engage him further in discussion.

These data suggest that thuya carpenters do not hold a deep level of knowledge regarding timber species. This can be explained by artisans not often coming into contact with different species due to their unavailability in local markets, and because many thuya artisans never visit non-thuya wood depots. This partly explains why artisans are apparently unwilling to diversify into different wood species: they are unaware of the alternatives.

5.6.3 Non-timber materials

There are 19 non-timber materials commonly used by thuya artisans (table 5.3). The same problem exists for materials as it does for wood resources, the range locally available being extremely limited. Artisans buy their materials from small hardware shops, usually in very small quantities, just enough to complete the immediate tasks at hand. Artisans often complain about the lack of good materials, but only a few have the contacts or opportunities to obtain better materials from Casablanca or abroad.

Probably the most commonly used material is wood glue. Thuya artisans do very little complex joinery, most joints being simple carcass or rebate joints, so glue is very important. Glue is also essential to secure inlay and veneer pieces into or onto base woods. String is widely used as a cheap way of clamping freshly glued items together, such as boxes. Boxes are one of the most common products made of thuya, and require hinges and locks. The range of these in Essaouira is very limited, and of poor quality

Several materials are used for inlay work. The most common non-timber inlay material is *stf*, mother of pearl. The shells are bought from traders who visit the artisan workshops,

Darija Term	English Term
alcool	Spirit alcohol
bzagrat	Hinges
gomme	Wood glue
kharqom	Orange food colourant used to dye glue-paste
l'khet	String
mastic	Mixture of glue and sawdust used to fill blemishes
morghla	Red powder sometimes added to candle wax to cover blemishes
msmar / msamer	Nails
murjan	Coral
n'shara	Sawdust
sandarac	Shellac
slk	Aluminium (usually from old cooking pots)
shmâa	Candles
l'qfal	Locks
sof	Wool
stf	Mother of pearl
qa'it l'hrach	Sandpaper
vis	Screws
khit dyal naqra	Silver filament

Table 5.3: Non-timber materials used by thuya artisans.

or through personal contacts who know of shell traders. The best quality shells are collected along the coast near Essaouira, and the lower quality bought from Jadida on the coast to the north. The difference in quality is reflected in their price, shells from Essaouira cost 3Dh each, whilst shells from Jadida cost only 1Dh20 each. The shells are cut into small, usually round pieces, using *lqet*, pincers, or ground into shape with the *lmoon*, stone hand grinder. A very few artisans who produce high quality items use coral and bone in their inlay designs, which are rare and expensive. Artisans carrying out metal inlay originally used silver filament, but as the cost of silver increased, and the value of finished thuya work decreased, artisans switched to cheaper aluminium. A very few artisans will still use silver for high quality products. The majority of artisans now use second-hand aluminium in the form of cooking pots which cost only a few dhirham each, and which they cut into thin strips with scissors. Aluminium is also available in a few hardware stores in sheet form, but this is more expensive and so less commonly used.

When an item is finished it is sanded and varnished. Sandpaper is bought by the piece or metre, and increasingly finer grades are used to create a good finish. Many artisans now use electric sanders instead of hand sanding, but this is generally considered to produce a poorer finish. Once sanded, blemishes in the wood, inlay or veneer are filled with *nshara*, which is a mix of wood glue and fine thuya sawdust. Food colourant is sometimes added to match the colour to that of the thuya wood. This filler is smeared onto the blemishes, or sometimes across the entire surface of the item, with a finger or more usually an old phone card, special attention being paid to squeeze the filler into gaps. The filler is left to dry and then re-sanded.

There are two further ways of disguising blemishes, which can be carried out before or after the item has been varnished. The first uses *sandarac* flakes, which are melted into a block by heating them in a pot of water. The flakes amalgamate and are squeezed into a sausage shape before it cools solid again. The block can then be melted with a hot piece of metal and the hot gum smeared onto the blemish. The second uses candle wax, which is melted and mixed with red colourant and then dabbed onto blemishes. Alternatively, solid candle wax can be rubbed onto a piece, which is then sanded with an electric sander. The sander melts the wax and pushes it into blemishes.

The only varnish used by thuya artisans is *sandarac* varnish, also called by the French term *vernish*. It is actually the flakes of shellac, rather than gum Arabic that are used. These are added to a bottle of spirit alcohol, which is then shaken and left in the sun until the flakes have dissolved. A little vegetable oil is rubbed into the thuya wood, and then the varnish is applied with a *monaqeeya*, a pad made from sheep's wool covered in a cotton cloth. The *sandarac* flakes are purchased by weight, a few dhirhams worth at a time: 2Dh of flakes will make 250ml of varnish.

Finally, artisans use water, vegetable oil or diesel to sharpen tools on a whetstone, opinions varying as to which liquid should be used.

5.6.4 Artisan knowledge and selection of non-wood materials

The range of materials used by thuya artisans is narrow, and most artisans will use almost the entire standard repertoire at some point in production. The exceptions are the inlay materials of mother of pearl, aluminium, coral, and silver, all of which are specific to inlay work, the latter two being used by only a few artisans specialising in very high quality products. The other exceptions are locks and hinges, which are specific to box production.

The narrow range of materials used reflects the range of materials available to the artisans in local hardware stores. Therefore, there is little variation in materials and the knowledge concerning their utilisation. The main factors affecting choice of materials are cost and social contacts. Social relations are useful in that they can gain access to resources outside of Essaouira. For example, the friend of an artisan who lives in Casablanca has access to a wider variety of materials, and the artisan can request that the friend bring or post him materials. However, unlike hand tools (see section 5.7), this process is not common, as better materials result in a higher price the artisan must pay, and this cost is difficult to redeem in the end price of the product. For example, artisans often complain that they cannot obtain good quality locks and hinges, but these are expensive, and do not add value to the product, either because they are not very visible, or because most boxes are made to supply the cheap souvenir market, and therefore there is no demand for good quality accessories.

5.7 Tools and equipment

There is a total repertoire of around 60 types of *douzain*, that is the tools used by thuya artisans, although every artisan will not own or utilise all of these (Appendix One). The quantity, quality and range of tools an individual owns reflects the techniques he uses and the products he makes, his economic status, his dedication to producing good quality work, and his views concerning electric tools.

5.7.1 Origin of tools

Tool terminology is mostly derived from Darija, although there are many French terms as well. Tools that have Darija names are those that existed in Essaouira prior to the French Protectorate and the development of the thuya profession, and include the tools essential for basic carpentry and inlay work. The French introduced a number of new tools to this repertoire including the *tournevis* (screwdriver) and *metro* (ruler, from *metre*, metre). More recently introduced tools, namely electric tools such as the *tour* (lathe), and the electric *ponceuse* (hand sander) are called by their French names, as no terms in Darija exist for them. The utilisation of French as opposed to Classical Arabic terms indicates the source of these tools, which have all been introduced from Europe. The only tool in the carpenter repertoire that has no direct European equivalent is the *mrîbâr*. This is a special type of chisel that is used to gouge out a groove or hole in a piece of wood prior to inlaying.

As with materials, local hardware stores have a poor range of tools. Choice varies between cheap but poor quality Chinese tools, and more expensive but slightly better quality Spanish and French brands. There is a big market in second hand tools, for example at the Sunday *Jouteeya souq*, second hand market, in the industrial quarter of Essaouira. Tools that are unavailable in local shops, or are expensive to buy, are hand-made by the artisans or local blacksmiths. For example, the *mrîbâr* is made by local blacksmiths from iron, or ideally truck engine pistons. Artisans themselves will make wooden tools such as the *ghormeel* (marking gauge). The electric *seenia* (table saw) and *mHeeka* (table sander) are fabricated using second hand motors from machines such as washing machines. Artisans will also constantly mend and re-work tools as they break or wear down. For example, bastard files are made from old blunt wood files, and the *mrsham*, a marking tool used in drawing out inlay designs, is made from old worn metal saw blades.

5.7.2 Tool repertoires

Although there is a basic repertoire of woodworking tools, the repertoires for each technique vary slightly. For example, an artisan carrying out inlay requires around 26

kinds of tool, whilst an artisan doing lathe work needs only 12 (figure 5.5). These figures reflect both the number of different operational sequences involved in each technique, and the difference in the type of products made using each technique. For example, inlay work is more often carried out on large complex products such as tables, whilst lathe work is more often used to produce small simpler items such as cup coasters. These figures also show the relative importance of electric machinery. Lathework artisans carry out nearly all operational sequences with the lathe, in contrast to inlay work in which the majority of operational sequences are carried out by hand. Artisans carrying out mass production, generally those using the simple technique, are also heavily reliant upon electric machinery, and therefore use fewer hand tools.

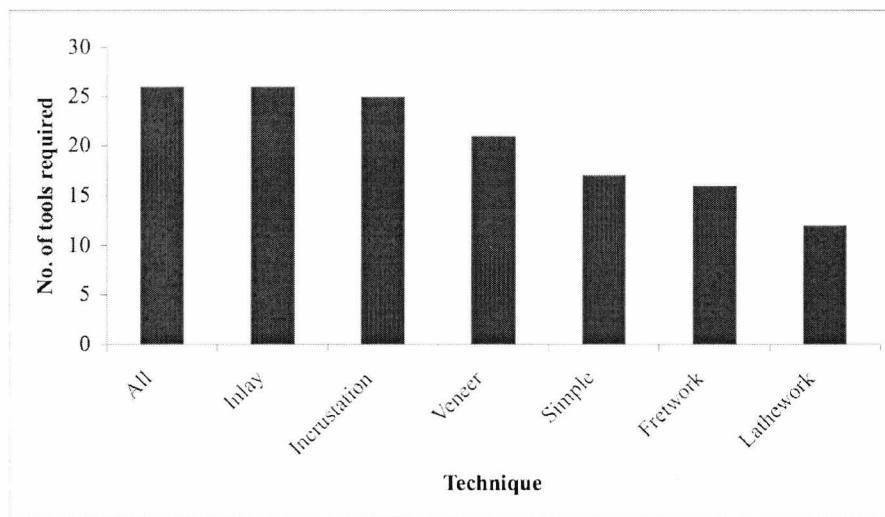


Figure 5.5: The number of kinds of tool required by each carpentry technique.

The number of tools used by artisans carrying out the same technique will also vary. Generally speaking, the more money an artisan has, the better the quality and quantity of tools he will own. A poor carpenter cannot afford to buy new tools so he will make do with a small range of second hand or handmade tools. Likewise, a young artisan new to the craft will take months or even years to build up a complete toolkit. Correspondingly, a successful artisan who has fallen on hard times will slowly sell off his tools to make money. This leads to negative feedback, as the fewer the tools an artisan owns, the more limited he is in the work that he can produce. Artisans who cannot afford to buy tools will often rely on their social networks to borrow a specific tool needed to carry out a task.

These tools are often those less frequently used, and more expensive, such as electric sanders.

An example of the negative feedback that can take place when an artisan falls on hard times is that of Azak. Azak is in his late thirties, married, with three children. He started work as a shop seller, then gradually learnt the craft from about 19 years of age. He rented a workshop outside of the *mdina*, sharing with a friend, also a thuya artisan. For four years they were relatively successful, making good quality boxes. They had enough money to purchase good tools, and to be able to purchase good quality wood, and allow it to season before use. However, Azaks' associate stole money, products and materials from the shop, leaving Azak with no money. He was forced to leave the workshop and sell his good tools. When I first met Azak he was working in a tiny room, less than 1m x 2m, on the roof terrace of his house. As he only had a few tools, he was limited in the work he could produce. Further, he had little money to buy wood and materials, so was reduced to making small batches of ten boxes of low quality. His income continued to decline, and several months later he was forced to abandon his craft and become a shop seller.

The ability of an artisan to purchase better quality tools depends upon both his economic and social resources. Better quality tools cost more money to purchase but, in addition, there are few available in Essaouira. An artisan must therefore rely on his social contacts with friends in larger Moroccan cities, especially Casablanca, and also his foreign contacts. Artisans often ask these contacts to purchase and bring them tools that are locally unavailable. In the case of foreigners, he or she will often make a gift of, or ask only a token price for, the item. It is not always easy for an artisan to develop relationships with outsiders, especially foreigners. First, he must have access to foreigners in the form of a centrally placed attractive workshop that is likely to be visited by visitors. The artisan must also have the necessary language skills, and social skills in order to communicate effectively. This vital resource is therefore often not available to poorer, less educated (often including the older) artisans.

However, having the ability to purchase tools does not necessarily result in buying them. An artisan who is interested in producing a lot of products quickly, will not use tools which require skill, time and effort to use. This attitude is linked with general views regarding electric tools. For example, there has been a major shift from the use of the *kutsheeya*, the local form of handmade cabinet scraper to electric sanders, either the *mHeeka* (table sander) or *ponceuse* (hand held sander) to finish products. The electric sanders are quicker and easier to use, and therefore favoured by those wanting to produce items quickly. However, the sanders do not create a very fine quality finish, and leave round scratches on the surface. A few artisans refuse to use sanders, claiming that the work of the *kutsheeya* is higher in quality and more 'traditional'.

5.7.3 Workshop organisation

Keller and Keller (1996:63), in their work on blacksmithing, discovered that there is a triad of fixed equipment: the forge, anvil and vice, which are located close together and comprise a 'core' around which the rest of the workshop is organised. Tools are located primarily in associations close to the fixed equipment where they are used, and then according to their frequency of use, and shape, which defines how a tool can be stored. They argue that this organisation reflects the previous experiences and current knowledge of the artisan, as well as his future expectations of work.

First impressions of thuya artisan workshops often suggest an absence of order and organisation, indeed they appear messy and chaotic. However, closer inspection shows that spatial organisation of tools and materials does exist. However, this is only partially explained by Keller and Kellers' theory of tool constellations. I shall explore these ideas further with reference to three thuya artisan workshops.

There are only three fixed pieces of equipment commonly found in a thuya workshop: the workbench, lathe, and electric table saw. Unlike blacksmith workshops, these three pieces of equipment do not represent a core, as they are not essential to all workshops. The primary fixed feature and core working area is the workbench. Every workshop has one, although in lathe workshops it may be very small. Lathe workshops instead have the

electric lathe as their main focus. Finally, the majority of workshops now own an electric table saw. The exceptions to these are lathe workshops, smaller, less wealthy workshops, and workshops engaging in more traditional hand techniques. Artisans who do not have a table saw in their workshop are reliant on friends and colleagues who do have access to one, or the sawmill. I term these items 'fixed', but they may also be mobile, for example some inlay artisans put the workbench in the street during the day so they can work using daylight.

Artisan workshops often have little space, and furniture consists of one or more workbenches, wall-mounted tool-racks, and shelves where materials are stored. The workshop focuses on the workbench, each representing a workspace. In lathe workshops the lathe replaces the workbench. The only other large items are the table saw and electric sander. Plate 5.8 shows a typical workshop located in the Skala, hence the rounded ceiling. In the front of the photo is the workbench, which doubles up as a kitchen. On the wall to the left is the tool rack, and in the far left corner are stacks of half made boxes. The table saw sits against the back wall, and on the right on the floor is a freshly sawn stack of planks (from the sawmill). Waste wood and rubbish covers the floor. A small mezzanine is just visible where wood and old materials are stored.

As can be seen in plate 5.8, tools are hung on the tool-rack, on nails on the wall, or beneath the workbench. Tools and materials are arranged in these areas according to their shape and size, frequency of use, and value. Most hand tools are placed in the wall tool-rack, which consists of a simple bar on which the tools are hung (plate 5.9). The general rule for which tools hang here is 'whatever fits', and includes chisels, hammers, screwdrivers, set squares, and files. The larger hand tools are hung from nails on the wall, such as saws and large dividers (plate 5.10). Small tools such as the *mribâr* (inlay tool), small files, and whetstones are kept in the workbench drawer, sometimes in a small box. Small valued tools are also kept here. One example is an artisan who had two small, locally rare, spring-action compasses that he used to leave lying-around the workshop. However, one was stolen, and since then, he has become very watchful of his second set of compasses which he keeps tucked away in a workbench drawer. Larger, usually higher



Plate 5.8: A typical artisan workshop in the Skala.

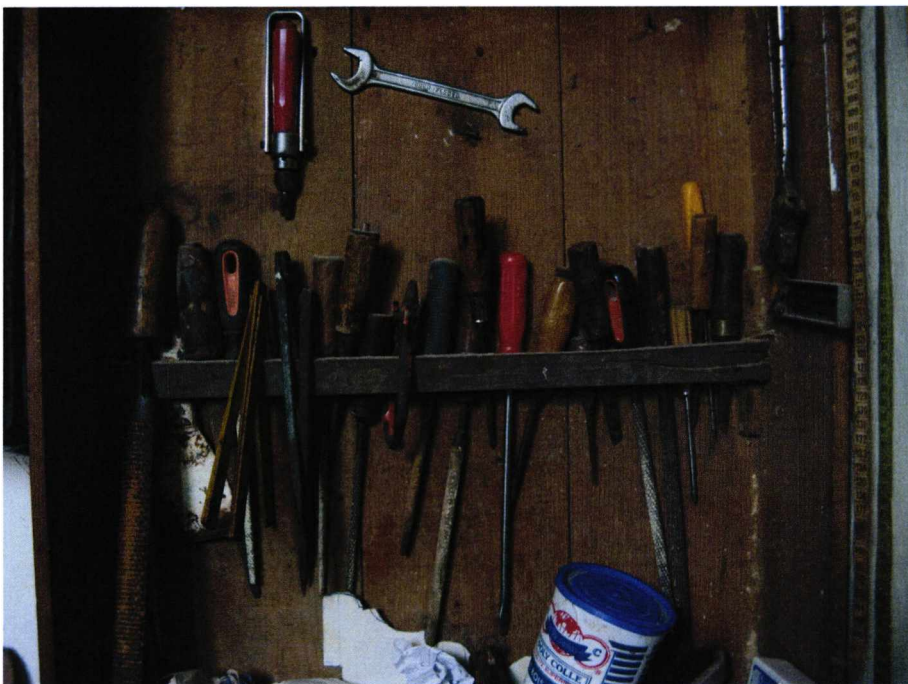


Plate 5.9: Wall mounted tool rack containing hand tools, mostly files and chisels, but also dividers, screwdrivers, and pliers.



Plate 5.10: Larger hand tools hanging on nails on the wall. From the left: large compasses for drawing designs, hacksaw and tape measure, tenon saw and template, general purpose saw.

value and less frequently used tools, such as the power tools are stored beneath the workbench or on a shelf. Materials, such as glue, alcohol, candles and string are stored out of the way, usually on a high shelf. Spare *tureqa* (small inlay shapes) are kept in small tins and boxes, on a shelf or beneath the workbench. Wood and half made products are stacked wherever there is space, either on the floor, beneath the workbench, or in a mezzanine.

Figures 5.6, 5.7 and 5.8 show the spatial organisation of three typical artisan workshops. The first represents a typical small workshop where an artisan works alone making small veneer boxes. The second is also a small workshop where one artisan works alone making lathe bowls that he incrusts with aluminium. The third workshop is larger and has three artisans working within it, two workers and their *patron*, employer¹. They specialise in inlay and veneer furniture.

¹ Use of the term *patron* in this situation refers to 'employer' or 'owner', and does not imply a patronage relationship.

The first workshop clearly shows the relationship between space and equipment. Measuring less than 3m², everything the artisan requires is located within arms reach. The tool rack hangs on the wall above the workbench, and holds chisels, files, hammers, compasses, set squares, and similar tools. Small tools such as the *mrîbâr* and drill bits are located in a drawer in the bench. Less frequently used electric tools and materials such as glue, string and varnishing materials are situated on a high shelf to the right of the door. The electric saw sits on the other side of the workshop, behind the working artisan, and can be used as a second workbench when required. Wood and unfinished products are stacked on the floor against the wall behind the table saw.

The second workshop is similar in size to the first, and also has one artisan working in it. This artisan makes lathe work bowls, which he then decorates with aluminium strips, which accounts for the differences between this and the previous workshop. The lathe workshop is focused on the lathe, which dominates the small room. There is only a very small workbench as it is unnecessary for production, the bowls are held in a vice on the side of the workbench for decoration. The few tools are kept in a tool rack above the workbench, and materials sit on a small adjacent shelf. At the back of the room are a few low stools where the artisan sits and chats with visitors.

The third workshop is larger, and contains four workbenches. The artisans work at three of these, although not always at the same one, and the fourth is used for wood storage and where a small tabletop electric saw is situated. However, unlike the 'core' working area in a blacksmith workshop, these workspaces are often not personal, and different artisans will work at any one workbench at different times, with the *patron* of the workshop working alongside his two workers. There is a mezzanine at the back of the workshop where wood is stored, and unfinished products are stacked at the back of the workshop against the wall. Because the tools in this workshop are shared equally between three artisans, they are hung on hooks along the walls. This workshop carries out a lot of floral inlay work, so they have many cardboard design templates hanging in carrier bags and on the walls.

As the previous examples illustrate, the organisation of tools and materials within the workshop follows a general pattern. This pattern is aimed at arranging the workshop in the most practical way to allow effective production, and is largely influenced by space and the size and shape of tools and equipment. Spatial organization is therefore more closely linked to the storage properties and value of an item, rather than its' use for a particular task.

Furthermore, the workspace is very mobile. Artisans will move around a workshop depending on who else is there and what they are making. This movement is not due to tool use, but rather to do with the character of the products. For example, an artisan in workshop three, making *banquette* strips (long strips of wood that form the front piece of Moroccan sofas) will work on one of the back workbenches. In this location there is less chance that the long strips will interfere with the other workers. Likewise, an artisan in the same workshop who wants to do some detailed inlay will work in front of the doorway in order to make use of natural light. Due to the small size and lack of light in workshops, many artisans take their workbench into the street to work. The table sander is also often taken into the street to avoid the workshop filling-up with sawdust. As a result of this mobility, it is less important for tools to be located in associations close to one particular point.

The organisation of the thuya artisan workshop is more fruitful in illustrating the past experiences and future expectations of artisans (Keller and Keller 1996:86). Knowledge is purposeful (ibid:14), and its instantiation dependant upon the goals of the artisan, whether they be to produce a highly skilled unique piece of art, or whether it is to pay the household bills at the end of the month. However, workshops, in turn, limit the actions of the artisan, and therefore that there is a constant interplay between what an artisan aspires to do, and what he can actually do.

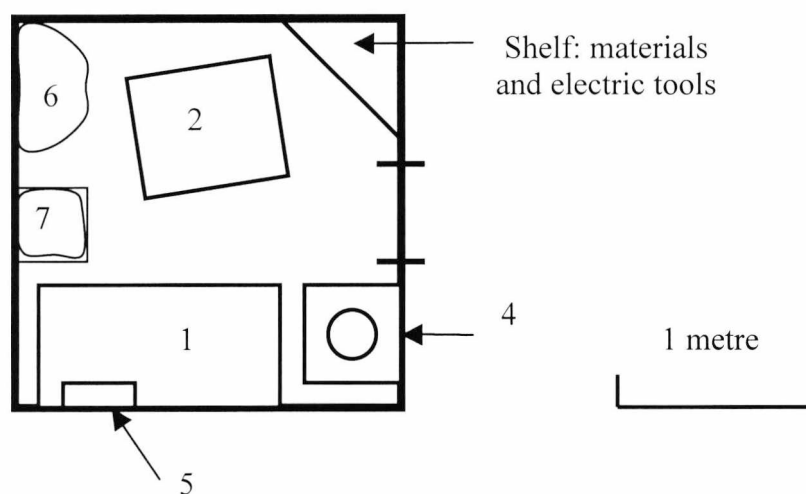


Figure 5.6: Workshop 1.

Legend: 1 = Workbench, 2 = Electric table saw, 3 = Lathe, 4 = Electric table sander, 5 = Toolrack, 6 = Unused wood, 7 = Unfinished products.

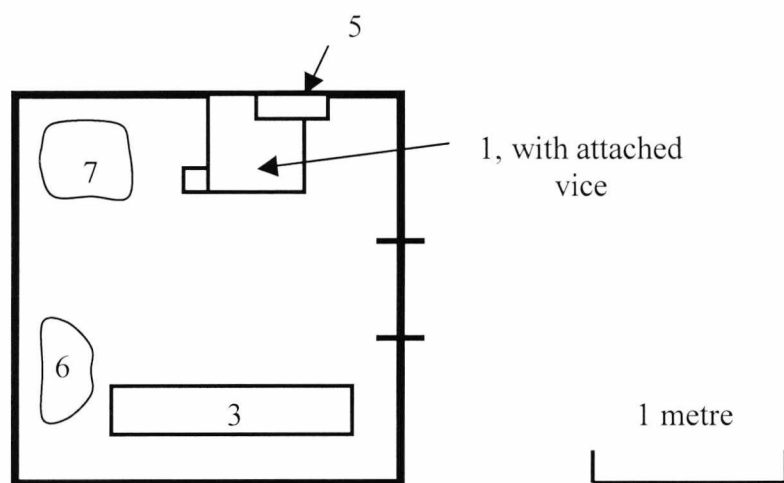


Figure 5.7: Workshop 2.

Legend: 1 = Workbench, 2 = Electric table saw, 3 = Lathe, 4 = Electric table sander, 5 = Toolrack, 6 = Unused wood, 7 = Unfinished products.

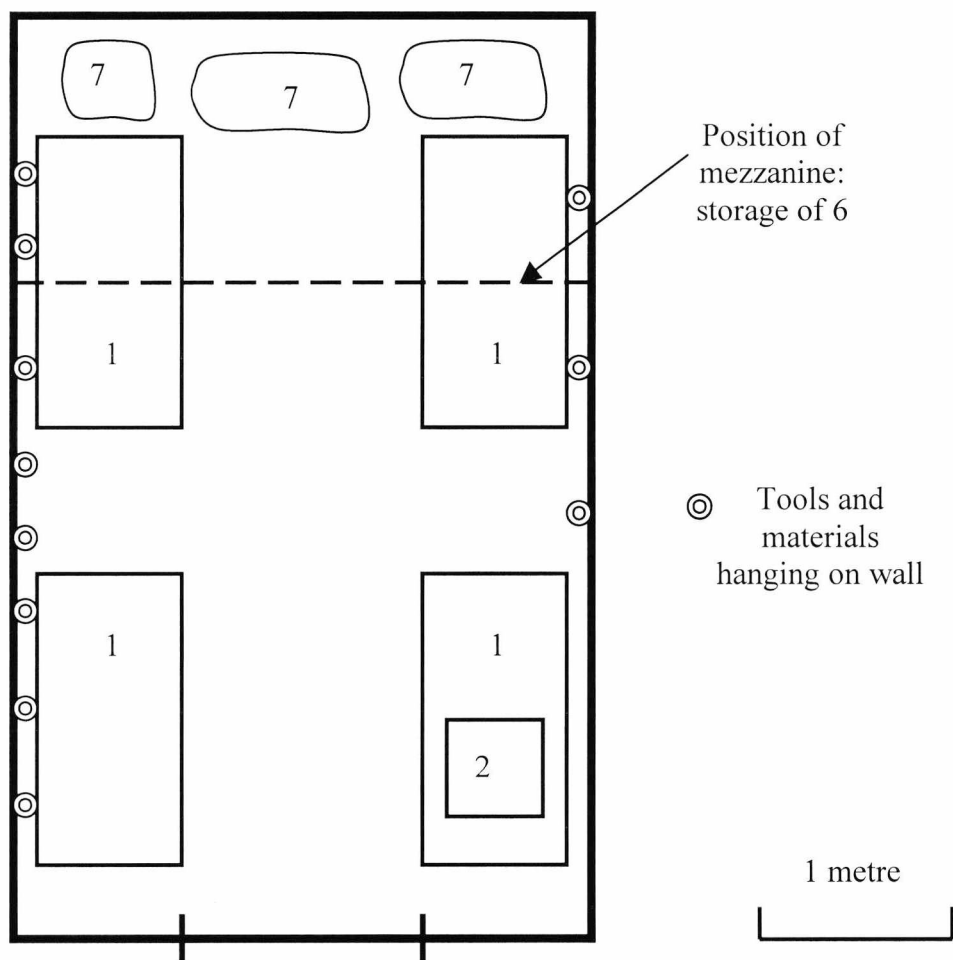


Figure 5.8: Workshop 3.

Legend: 1 = Workbench, 2 = Electric table saw, 3 = Lathe, 4 = Electric table sander, 5 = Toolrack, 6 = Unused wood, 7 = Unfinished products.

The latheworker in workshop one is called Abdellah. He is around 40 years old, and is married with a baby daughter. He started learning thuya woodworking as a child. He left school early to become a *mtâalem*, and spent four years as such. Then he left his masters workshop and joined with another young artisan to work *nos-nos* – half-half, meaning they divided their profits equally between themselves. After a few years he had saved enough money to rent his current workshop, and has remained here ever since.

When Adbellah learnt the trade there were few electric tools, no metal planes, and other tools were very limited. Abdellah now owns an electric saw, table sander, and a small range of tools. He has therefore chosen to switch towards electric and more modern techniques rather than continue with the older techniques, such as using the *kutsheeya*. The organisation of workshop one indicates that Abdellah produces small veneer boxes either on commission from shops, or for the *souq* (Chapter Four, section 4.6.3). He has no knowledge of, and does not expect to carry out any inlay or lathework, so he possesses no tools relating to these techniques. The products he makes are of average quality, as this is what is demanded from commission and *souq* products. This fact is reflected in the presence of a table saw, electric table sander, and an electric hand sander. These tools are used to cut and sand wood quickly, thus speeding up production, but resulting in a low to average level of quality. The presence of this equipment also indicates a more modern perception and approach to the thuya craft, and would suggest that economic concerns, rather than aesthetic ones, dominate in the artisan's personal goals.

Hamid works in workshop two. He is in his mid thirties, and is unmarried, and supports his elderly parents. When he first left school he did several low paid jobs; cleaning fish cans in the sardine factory, selling cigarettes on the streets, and working in the port. When he was about 16 he became a *mtâalem* in one of the Skala workshops as, at that time, it was considered a good profession. He speaks of his apprentice days with nostalgia, his master had many apprentices, and therefore it was a good social life for a young apprentice. Hamid learnt lathework, and has specialised in this technique ever since. He is cannot afford to rent his own workshop, or buys his own tools, and so he works for a *patron*, who is also a latheworker. His *patron* owns the workshop and tools, and sometimes assists with purchasing the wood and materials for Hamid to work. In return Hamid gives half of his total profits to his *patron*.

The lathe workshop reflects the artisan's knowledge and expectation to exclusively produce lathe work products. The distinctiveness of the lathe workshop also illustrates how the body of knowledge held by lathe workers is significantly different to artisans carrying out other techniques. Not so obvious are the social factors that influence Hamids

behaviour. The fact that he does not own his own tools, his position in relation to his *patron*, and the dependence of his parents upon him, means that it is unlikely that Hamid will be able to improve his low economic condition. This is reflected in his work, Hamid never explores new ideas or designs, instead keeping to the same products and designs that he knows he can sell. He has not changed his products for many years.

Hamid has become very disillusioned with the thuya craft, but has no alternative livelihood options. He blames the monopoly of the shops and traders for his economic problems, and smokes dope “to forget”. Hamid is one of many thuya artisans who smoke marijuana, contributing to its immoral image. Artisans often say that they smoke in order to cope with the monotony and repetitiveness of the work, although a few say that smoking is necessary for inspiration of new designs and ideas.

Hamid spoke of his *patron* as ‘like a brother’. However, near the end of my fieldwork he disappeared from his workshop. After several weeks, I discovered him working in one of the large ‘supermarket’ shops where he was sanding and varnishing products. He told me his story;

“I was ill with the wind and my chest. For twenty days I was in my house, sick. But my *patron* didn’t come to visit me, he didn’t even ask after me. That was bad. He should have visited me to see if I was OK, and to offer me money if I needed it. This is what I would have done if I was a *patron*. The *patron* is a bad man, he just wants money. People warned me before I started work for him, but I needed the work. Now I know the truth.”

So Hamid left and came to this shop to ask for work. He is happy here, he said. He gets paid by the day, 60Dh, twice the amount he earned in his previous workshop, and then he was only paid when he sold his products. So now he has more economic security, even though his job is of a lower status. He even has one day off a week now, which before he did not have, which he uses to visit friends and family.

Unlike Hamids’ absent *patron*, Najib, the *patron* of workshop three is an integral component of the daily work of the workshop. Najib is considered by his workers, and

neighbouring artisans, to be a fair and good *patron*. Najib has a different working relationship with each of the other two artisans Aziz and Rachid. Najib always works with Aziz, making a range of furniture which may be veneered or inlaid. Aziz is paid a wage dependent on output. Aziz is highly skilled in hand techniques, more so than Najib. He is therefore often given the more skilled tasks to do by Najib. At other times they will work side by side, with no apparent hierarchy. However, Najib often leaves Aziz working and wanders off to deal with other business such as seeking commissions or purchasing wood, or to visit nearby artisans.

In contrast, Rachid does not work directly for Najib, and Najib will not give orders to Rachid, unless Rachid seeks advice. Rachid makes large (between 70cm and 1.20m in diameter) inlaid tables on commission for shops or individual customers. Najib purchases the wood and materials, and provides him with workshop space and some tools, and in return Rachid gives him 50% of his profits.

The large workshop size (which has a mezzanine for storing wood) and the security that Najib offers, means that the pressure to produce high quantities of products quickly, as in the other examples, is lower. Instead, they specialise in medium to high quality products which fetch a higher price in the market, and therefore a reasonable income to the workers. When Rachid has a commission he can earn around 150Dh per day, five times as much as the latheworker Hamid earned.

If the theory of workshop organisation put forward by Keller and Keller is to be applied, it would suggest that in the cases of workshops one and two, the artisans have no previous experience of, or future expectations of, other forms of production, products, or techniques. This conclusion would be wrong for two reasons. Firstly, thuya artisans are flexible, and often change the focus of their work. For example they may switch from inlay work to fretwork as their main technique. Likewise, they may change from individual commission work to mass production for the *souq*. These switches can be due to changing economic or social conditions, or personal preference; sometimes an artisan just likes a change. For example, one artisan Mohamed, after 15 years of making small

inlaid tables, decided to switch to making fretwork lamps and shelves. His motivations were partly financial, as he realised that there was a niche in the market, but also personal as he enjoyed the change in work. Secondly, the workshop is the result of the interplay between experience, knowledge, aspirations and goals of the artisan, as well as his economic and social situation. Therefore, it could be that this artisan can only afford a small workshop, which restricts him to producing small products. Likewise, the most economic form of production is of many, small, average quality, items for quick sale.

In contrast, workshop three is larger, and therefore provides the opportunity for several artisans to work within it, as well as the ability to produce any size product the artisans desire. The *patron* could have chosen to set up a mass production workshop of small, cheap simple, souvenirs. Instead, he has chosen to produce high quality furniture, using veneer and inlay techniques. This choice is reflected in the presence of inlay tools and materials, absence of machinery, and lay-out of workbenches to utilise natural light. The workshop also reflects the attitudes of the artisans towards the craft, as the tool repertoire indicates that they are more likely to use older hand methods where possible as opposed to machine work. Attention to quality is also revealed in the large mezzanine where wood is stored, suggesting that the *patron* is not dependant on the erratic nature of wood supply, and allows the wood to season slightly before use. But again, there is an interaction between ability and aspiration, as the *patron* must be economically able to buy and store wood in this manner.

5.8 Conclusion

In this chapter I have outlined the materials and tools used, and the techniques carried out in the practice of thuya woodworking. Ellen (2004) argues that “equipment... is an artificial index of complexity [of a technical process], since it is decontextualised, both technically and socially”. I have therefore attempted to relate the repertoire of tools, materials, and technical processes of artisans to the broader social web in which they are embedded (Ellen 2004, Lemonnier 1992).

The range of tools and materials available in Essaouira is limited. Artisans are further limited by the cost of these resources, and their knowledge of them and how they function (whether they be electric tools or new materials). The repertoire of tools and materials an artisan owns and uses is therefore dependant upon his economic status as well as technical knowledge, which in turn is a factor of his training in the craft and his social relationships with other holders of knowledge.

Artisans can increase their resource repertoire through developing relationships with people outside of their existing social networks, whether Moroccan or foreigners, these people can procure resources for the artisan. The extent to which this social capital can be accessed is also dependant upon the level of education (which provides necessary language skills) and economic status (in the form of visibility of the artisan to outsiders), as well as additional personal social skills of the artisan. In addition, level of education and economic status are likely to contribute to a general awareness of different cultures and social settings. This allows the artisan to achieve the correct level of communication with outsiders without, for example, appearing too demanding or rude in their requests.

Economic and social capital do not completely explain the repertoire of tools and materials an individual artisan utilises, but only the repertoire available to him. Likewise, as discussed in Chapter Six, the artisan also maintains a body of knowledge and skills that also acts as a general repertoire. The artisan selects the exact tools, materials, knowledge and skills to use at the point of instantiation. How an artisan chooses to instantiate resources and knowledge in the practice of woodworking depends on a complex equation of previous experience, social and economic factors, and personal beliefs. For example, despite having the economic ability to purchase electric equipment such as sanders, some artisans choose to continue to work with the *kutsheeya*, a tool costing less than 30 pence, as it is perceived to produce work of a higher quality, as well as its value as a 'traditional' tool.

Chapter Six

Knowledge Transmission of Thuya Carpentry Practice

"If I were not a najar [thuya woodworker], then what would I do? I cannot get up early in the morning and follow the orders of a patron. I am not able to live a different life to that of a najar."

(Quote from a thuya artisan)

6.1 Introduction

In the previous chapter I outlined the basic tools and materials, and technical processes used by thuya artisans. This chapter will first explore how technical knowledge and skills are transferred, that is, how artisans learn the skills and knowledge necessary to become a successful carpenter. Mode and effectiveness of transfer influences the level of knowledge an artisan will gain, and how he will apply this knowledge in the profession. Therefore, changes in methods of knowledge transfer over time can explain in part the evolution of the profession. The mode of learning and the resulting knowledge of an artisan is dependant upon socio-economic and political factors (Buechler, 1989:31), and being a thuya artisan is more than a sum of skills and knowledge, but rather the profession represents a 'community of practice'. Modernisation of the craft has caused it to diverge, resulting in two distinct communities of practice. Second, this chapter will discuss how thuya artisans define levels of knowledge, using the example of inlay work. The common perception of the thuya craft by the state and local NGOs is one of decline. They claim that artisan skills and knowledge have been eroded due to the expansion of the craft, and in particular of mass produced, cheap, goods. Thuya artisans themselves often mirror this feeling, claiming that there are no 'true' *maâlmîne* remaining in the profession. I will use the inlay technique to examine levels, and perceptions of, knowledge and skills.

6.2 Apprenticeship

Since the foundation of the thuya carpentry profession at the start of the twentieth century, transmission of knowledge between the generations has usually been via the

process of apprenticeship. A young boy was apprenticed to a *mâalem*, a master carpenter, and stayed in his service until the *mâalem* and the guild of thuya artisans decided the apprentice was sufficiently skilled to become a *mâalem* himself. Although the role of the guild declined in the 1950s, traditional apprenticeship continued in some form until the 1970s, when a second style of apprenticeship arose. This latter, modern, apprenticeship scheme resulted from the changing economic and social situation of Essaouira.

Apprenticeship now varies widely, depending on the needs and wishes of the *mâalem* and *mtâalem*, the apprentice, and although traditional and modern apprenticeship are merely two ends of a continuous scale, differentiating them provides a convenient way of understanding changes in knowledge transmission. I will attempt to outline the differences between traditional and modern apprenticeship, and explore the factors affecting the choice of apprenticeship form by men entering the profession. Broadly speaking, modern apprenticeships are favoured by young men who enter mass production workshops, whilst traditional apprenticeship is preferred by men who aim to become generalist craftsmen.

6.3 Apprenticeship in the *mdina*

In Spring 2006 I encountered 19 boys and young men working in thuya workshops in the old *mdina* of Essaouira who considered themselves, and were considered by other artisans, to be apprentices. Only one third of the 57 workshops surveyed had apprentices at that time. Of these workshops, two thirds had one apprentice, less than one third had two, and one workshop had three apprentices. This latter workshop was located in the Artisanal complex, and was connected to the state diploma training program. Of the apprentices, 13 were full-time, and six were part-time.

There appeared to be no significant difference in the type of workshop containing one or more apprentices, all the workshop premises were rented, and there was no difference in the number of machines between workshops. There were roughly equal numbers of lone workshops and combined retail workshops. All the workshops used a mixture of trunk and burl, except for one that used exclusively burl.

The apprentices were mostly young, 76% aged between 10 and 20, with the remainder in their twenties. The majority were Souiri in origin, with only one from Essaouira Province and one from Agadir, despite the common complaint by many artisans that the craft is being taken over by men from the countryside. Two thirds of the apprentices were unrelated to their *mâalem*, one third were sons, and one apprentice was the brother of the *mâalem*. Just over half the apprentices had fathers who were also thuya artisans, but this is not surprising considering the high number of artisans within the town.

Nearly all (90%) of the apprentices started learning thuya work whilst still in school. Half of the apprentices had been studying for less than one year, so, not surprisingly, only one of the apprentices (who had been working for 11 years) had had more than one *mâalem*. The rest had worked between two and seven years.

All the *maâlmîne*, masters, were over 30 years old, 56% were in their forties, 33% in their thirties, and one was over 50. Two thirds of them had been in the profession between 20 and 30 years, and one third for longer. Three quarters of them were Souiri in origin, and the remainder from Essaouira Province, although some of these moved to Essaouira when they were children. Over 80% of *maâlmîne* knew inlay, veneer and simple techniques. One knew and worked only veneer and simple work, and one other knew and worked only lathework.

Nearly all of these apprentices are following what I describe as a 'traditional' apprenticeship. The density of traditional apprenticeships within the old *mdina* corresponds to a spatial distribution of artisans within the town. Historically, almost all thuya artisans were based in the old *mdina*, and those remaining there today tend to have held workshops there for a long time, often inherited from fathers or another family member. This continuity of the craft between generations means that these artisans are more likely to be more traditional, with a generalist knowledge base and practice. When the craft expanded in the 1980s, many artisans set up workshops in an area outside the *mdina* called Shebeelia (or Bila Rasi). This quarter remains today a centre of mass production workshops, so it would be expected that the majority of apprentices located

here would follow a 'modern' apprenticeship model. This geographical dichotomy is not clear-cut, as rising rents and hostility to noisy, dirty workshops has resulted in many artisans re-locating outside the *mdina*.

6.4 Traditional apprenticeship learning stages

Several stages of apprenticeship can be distinguished, and are shown in figure 6.1. The early stages, which I have termed 'part one', are similar to the 'familiarisation' and 'observation' stages of knowledge transmission described by Ruddle and Chesterfield (1977), but otherwise, their model has limited application to thuya apprenticeship. However, like their model, learning of the thuya craft is an accumulative process, so although the stages I describe may *commence* consecutively, each continues in parallel throughout the learning process, so that several learning stages may be in process simultaneously at any one time. The flow diagram in figure 6.1 therefore describes merely the order in which learning stages commence.

A more useful model, which closely parallels the learning stages in thuya woodworking, is that of Goody in describing Daboya weavers (1982:69). The first two stages correlate to the stages I describe in part one of figure 6.1. Part two in the same diagram represents more formal learning that commences "when a boy is judged ready to settle down and work on a regular basis". At this time "he is assigned to, or chooses, a weaver to work with and learn from" (ibid). The remaining stages in Goody's model are not learning stages so are not discussed here. However, thuya woodworkers do follow a similar pattern of development to Daboya weavers. Young men will continue working with their master until they are able to set up an independent workshop, established and successful artisans often specialize into trading, and older artisans take on the position of informal elders within the craft community.

Part One: Observation and Familiarisation

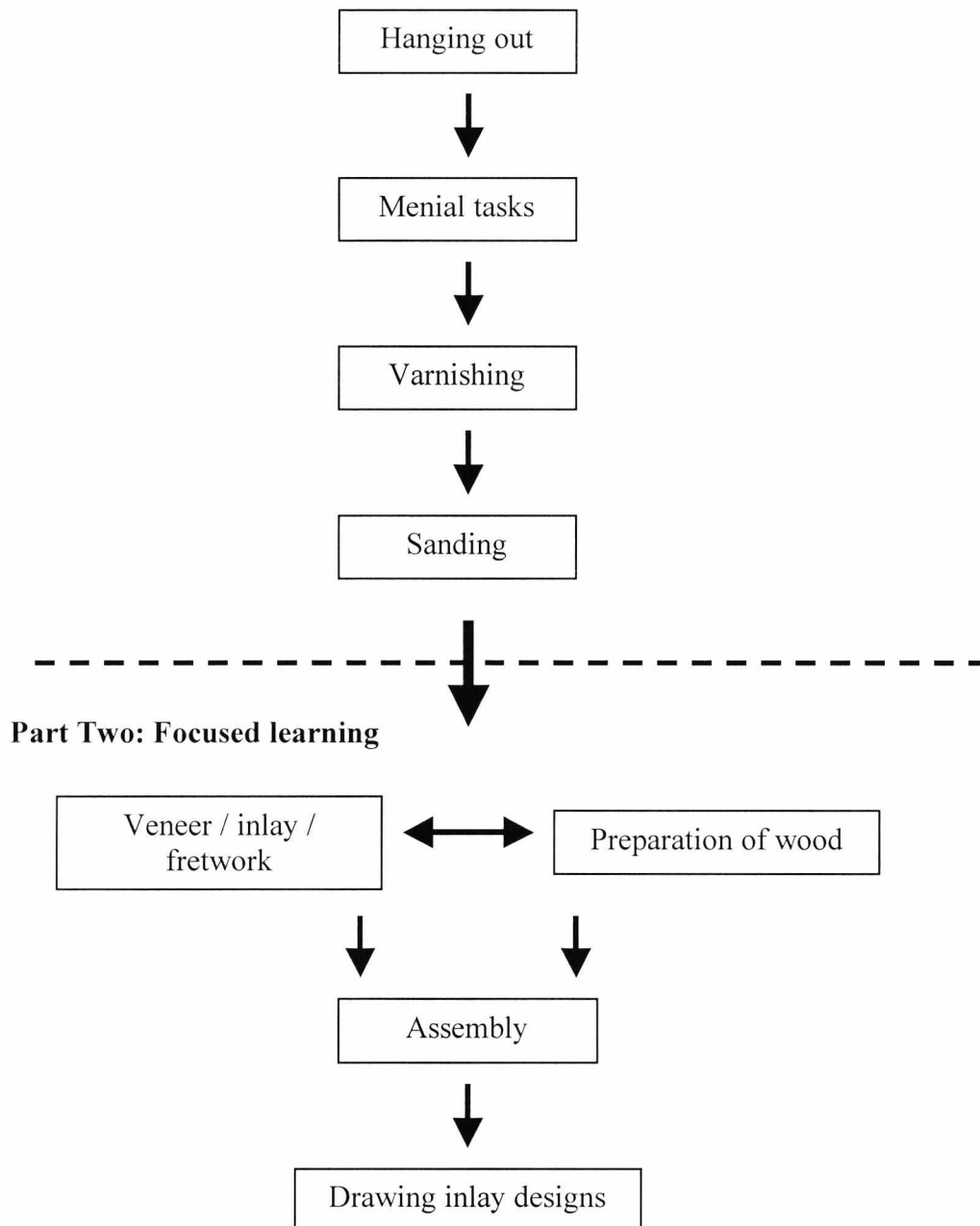


Figure 6.1: Learning stages in a traditional apprenticeship. This figure shows the order in which task learning commences. Learning is cumulative, and the preceding tasks continue alongside newly learnt tasks.

For a young boy, learning often begins before an apprenticeship is entered into. Young children, and especially boys, spend a lot of time playing in the street outside a workshop. In this way boys are drawn into the social networks of their street as they become familiar with its inhabitants. These may be residents, neighbours, workers, shopkeepers or artisans, or various combinations of these. As the inhabitants of each street tended historically to be members of the same extended family, the social network of the street was likely to closely overlap the boys' kinship network.

Therefore, the shops and workshops on a boys' street are an intrinsic part of his social world, and so the boy will begin to hang-out outside and within them. Although boys are often annoying to thuya artisans, as they interfere with potentially dangerous tools and generally get in the way, and are often chased out of the workshop, they are mostly tolerated, indeed treated with affection. One of the workshops where I was apprenticed was located on a small *derb* (a small alley) in the old town. The local children often played outside, in particular one small boy of around 5 years old, called Ali. Ali was a cheeky, naughty boy, but shy at the same time, and would often sidle up to the open doorway of the workshop to peep inside. Whenever he was spotted he was cheerily greeted by the artisan, Abdellah. Occasionally Ali would enter the workshop, sometimes invited, sometimes not, and be included in conversation. However, if Abdellah was busy on a particular task, or Ali touched anything, he was angrily chased out of the workshop, only to be happily welcomed back later on. Similarly, in another workshop the artisans' two young children, one boy and one girl, were sometimes sent to be watched over by their father. They were naturally curious, and would play with whatever they could reach, whether it was wood, hammer, nails, or even the electric saw. Their father was very patient, even when they turned the electric saw on. The other workers were often annoyed and complained lightly about the noise, but they were not in a position to tell the childrens' father to send the children away.

As the artisan-boy relationship develops, the artisan will send the boy on small errands, including fetching water, cigarettes and tea ingredients from the nearby *hanout*, shop. School does not interfere with this process, and a boy will return to the workshop after

school and at weekends. Abdellah had two older boys regularly visit his workshop who were at school, and gave them the menial tasks of tidying tools, sweeping the floor, and washing tea glasses. These two boys are his sons, but it was their mother who sent them to the workshop, in order to get them out of the house, and out of her way, but at the same time have someone watching over them. Mothers often send their sons to the fathers' workshop for these reasons.

When artisan and boy are related there may be no obvious boundary between the boys' role as visitor, and apprentice. A boy may be placed in a workshop by his parents, or request to be so placed. He may or may not have had previous exposure to the artisans' work, as described above. This does not affect the position of the apprentice, and his first tasks are those described above: cleaning, tidying, fetching, and watching.

Hanging out and carrying out menial workshop tasks enable the boy/apprentice to become acquainted with the workshop environment and its activities. This process of acquaintance, which can be compared to Ruddle and Chesterfields' 'familiarisation' and 'observation' stages, may not necessarily be the result of a conscious effort on behalf of the boy, who may regard the thuya workshop as merely another aspect of his social world.

Apprentices continue to carry out menial tasks throughout their apprenticeship, and these only diminish with time as the apprentice becomes to be regarded as an artisan equal in status to the others in the workshop, or if a new apprentice is taken on. The following excerpt from my field notes gives an example of Mohamed, an 18 year old apprentice of about two years:

Mohamed arrived in the workshop, and Abdu (his *mâalem*) immediately sent him back out again to buy a parasol base. It was for the sun on Abdu's terrace, said Mohamed. He returned a short while later, and was then sent to buy tea and sugar and to make a pot of tea. Eventually, he settled down varnishing panels for boxes. (22/3/06)

The processes of familiarisation and observation continue as the apprentice learns the first two carpentry skills: varnishing and sanding. The first skill to be learnt is how to varnish using the *monaqeeya* and shellac varnish. This task requires time and patience, and permits the apprentice to become familiar with the different products made in the workshop, their form and construction, as well as the qualities of thuya wood. Once an apprentice can varnish he can actively contribute to the workshop economy. This incorporation of the apprentice into the economic activity of the workshop early on in the apprenticeship has been similarly described for Senegalese Tukolor weavers (Dilley 1999).

One example of a young boy in the early part of his apprenticeship is Moustapha. In 2007, Moustapha was about 13 years old. He comes from a small village two hours drive from Essaouira, and, at the start of 2006, was sent to the town by his parents in order to take up a thuya carpentry apprenticeship. At first he was shy, his first language was Berber, he spoke no French, and had little formal education; but this quickly changed. His first tasks were sanding and varnishing, at first, of old, unimportant stock. This enabled him to learn without the pressure of working quickly or worry about damaging an important piece of work. He also carried out other menial tasks such as sweeping and tidying the workshop, as well as small errands, including fetching materials from the hardware store and borrowing tools from nearby workshops.

Moustapha worked in a large retail workshop, with a shop display outside the front of the premises that was set up and dismantled each day. This quickly became Moustapha's responsibility, and through interacting with tourists he quickly learnt basic numbers and words in French and English (the latter of which he approached me for lessons) and began to sell products.

It would be expected that Moustapha would progress to part 2 of his apprenticeship once his *mâalem* is satisfied with his progress. Ruddle and Chesterfield's model becomes less useful at this point, as the learning trajectory of the apprentice depends on his ability and interests, as well as the specialism and priorities of the master. As the apprentice

continues to develop his finishing skills, new skills are introduced. The master starts to take the apprentice with him to the wood depots where, primarily through observation, the apprentice learns about selection and primary processing of the raw material, as well as the economics of the wood market. The apprentice is also thus introduced into the network of depots and sawmills and the artisans he meets there. The apprentice also learns about the sale of finished products, through client visits to the workshop, and by accompanying his master to clients' shops.

Usually, the first joinery technique learnt is that of hand-planing the planks of wood in preparation for use. As with the earlier hand sanding stage, this task allows the apprentice to learn the incipient qualities of the wood. Another preparatory task is cutting and grinding small discs of mother of pearl for use in inlay. The shells are cut, with pincers, or ground, with a hand grinder into near perfect discs. As many carpenters agree, the success of a good quality product lies in the preparation stage and in the finishing stages of sanding and varnishing. All of these require great patience and attention to detail, and a deep understanding of the raw material, and all of these skills are necessary for the apprentice to be able to master the transformation stages of production.

The precise techniques learnt, and the order in which they are learnt, depends on the nature of the work carried out in the workshop. For example, Hassan was 19 years old in 2007. Since leaving school when he was 17, he has been working in a retail workshop that specialises in boxes. Hassan's main tasks were sanding and varnishing. The workshop specialised in boxes, and would receive large orders. One of the workshop *mâalemine* would cut the panels of wood for the boxes on a table saw, plane them by hand, and sand them on the *mHeeka*. The workshop was dedicated to high quality products, and so unlike other workshops who used the *mHeeka*, this workshop subsequently re-sanded items by hand to achieve a good finish. This was Hassan's task. Once the boxes had been constructed, decorated with veneer, and sanded again with the *mHeeka*, Hassan would carry out a final sanding by hand, and then varnish the box. Gregg was the same age and had been an apprentice for the same length of time as Hassan. He worked in a small retail workshop close by Hassan's workshop in the *mdina*.

Greggy's workshop specialised in drums, and he spent most of his time stretching and tying the skins across the finished drum bases. Gregggy wanted to learn inlay work, and so his *mâalem* taught him how to file tiny shapes in mother of pearl for inlay work. Greggys' learning took a rapid leap one day when his *mâalem* Hamid was struggling to match a deadline with an intricately mother of pearl inlaid *guenbri*.

Hamid was in a rush and flustered. He had an hour to finish doing the inlay on a *guenbri*. Hamid had asked Abdu next door to make some dark wood *tureqa*, I had just watched Abdu do this. Hamid had inlaid a *slq* (aluminium ribbon) design, and was adding the *stf* (mother of pearl) *tureqa*. Gregggy was helping by filing down the pieces of *stf*. Hamid arranged the *tureqa* from Abdu in a couple of different patterns on the design, but decided he didn't like them in the end. Hamid decided to complete the design with *stf* pieces instead. Hamid carved out the holes. Then, to speed up work, both he and Gregggy took it in turns to grind the pieces on the grinder and glued them into the holes – a rare treat for Gregggy. (18/11/05)

On a separate occasion my *mâalem* was also under pressure to finish a job quickly. One day I met him in the street on his way for some urgent business. He returned to his workshop with me, and asked if I wanted to wait for him to return. I thought I would sit and drink tea, but instead he put me to work inlaying a *banquette* strip. This was the first time he had let me work on one of his products. In a rush, he handed me a box of *t'reefat* pieces, a hammer, a *b'mnqar*, and a pot of glue. He showed me what to do, although I already knew after watching him work over the previous weeks. His only advice was to make sure I did not leave any gaps in the inlay work, and told me how to prevent this. He then left me working alone, returning two hours later.

It may take an apprentice a long period of time, even years, to reach an acceptable level of understanding and skill to continue to the next stages of production. There is considerable potential for conflict between the master and apprentice during this period, and apprentices often complain that their master is purposefully holding them back. Likewise, a master will not push an apprentice into progressing, and may complain that their apprentice is lazy and unwilling to progress. Part One in the apprenticeship model is therefore essentially a 'test' phase, both for the apprentice as well as the artisan. For the

apprentice it is an opportunity for him to decide whether he likes the craft, before he expends too much time and energy on it. For the artisan, it allows him to assess the qualities of the apprentice, not merely his potential for learning skills, but also his ability to conform to the craft and its community of practice. Therefore, through menial, boring repetitive tasks, and by teaching the primary and final stages of production first the master determines the ability of the apprentice and his dedication to the craft.

One example that illustrates the 'test' phase purpose of apprenticeship, is the apprentice Azak. Azak was 21 in 2005. When I met him he was working in a retail workshop where he made drums and sold products. He left the workshop for a job in a bakery nearby, but only a few weeks later he again moved, this time to a shop. Within a month, he had quit, and I lost contact with him. Artisans who knew him said that Azak was just looking for a job that he liked.

The first transformation skills (see Chapter Five, section 5.4) learnt by the apprentice depend on the masters' skills and work. Often, the apprentice progresses onto the individual decorative technique of inlay. Some artisans will introduce this step much earlier in the apprentices' learning, as seen above with the example of Greggry. Several, all older generation, artisans explained that it is important to teach young boys how to do inlay work, as they are better equipped to carry out this often intricate work with their smaller fingers. At first, the master will teach the apprentice how to draw around *tureq* pieces on a work in progress. The master lays out the *tureq* pieces in position, and demonstrates how the apprentice uses the *mrsham* to scratch around each one, firmly holding the piece in place with his finger. Next, the apprentice will learn how to cut out the hole and inlay the *tureq* pieces. Once the apprentice is familiar with the design, he can be left to continue these tasks on his own. Ahmed, described in further detail in section 6.6, was a reluctant apprentice. However, his *mâalem*, his father, taught him how to plane and glue two planks of wood to form the base of a large tray. Ahmed was then left to create and inlay his own design, using *tureqa* pieces his father made. Ahmed occasionally worked on this tray for several months, and I do not know if it was ever completed. He was more interested in retail and watching tv, and his father failed to encourage him

further in learning the craft. This example highlights the importance of the relationship between master and apprentice, and their aspirations.

The apprentice will then learn the different steps in assembling the final product. Again, what he learns depends on what items the master is making. As the apprentice learns he can contribute more and more to workshop production. Among the last skills an apprentice acquires are how to create and draw out inlay designs. This is unsurprising as it is a difficult skill, especially with regards to geometric designs.

As the apprentice gains more skills he is able to carry out more tasks in the production of a particular item. Eventually, the apprentice can carry out every stage, from selection of wood to finishing. The apprentice will start to work alongside the master in production, or the master will give the apprentice commissions to carry out on his own. It may take further practice for the apprentice to gain a full understanding of the craft. He may have gained the necessary skills to produce an item, but may not know how to apply this knowledge in new ways. One apprentice illustrated this one day when we were discussing box production. He had been working two years as an apprentice, and had mastered veneer work and box construction. However, he showed me a box whose lid was stuck and wouldn't open. The apprentice admitted that he did not know how to fix this problem, and that he would have to give it to his master to alter.

There is no specific point at which the apprentice becomes a *mâalem*, a craftsman, in his own right. This transition is not marked by any special event or ceremony, and may occur gradually over time, as opposed to being a definite event. Although now considered a craftsman, the young artisan has by no means completed his professional development. He will continue to learn and refine his skills for many more years, and will seek advice from his previous *mâalem* and other artisans. The young artisan may continue to work in his ex-masters' workshop, move to another workshop, or set up his own workshop.

The old apprenticeship system closely mirrors that described for Daboya weavers in Northern Ghana (Goody 1982). Goody describes seven 'stages of skill' in the life-cycle

of a weaver (Chapter One, section 1.4.2). These stages can also be seen in the life of a thuya artisan. Thuya artisans often specialise by producing only one, or a small range of, styles or products. Although the 'elderhood' stage, as marked by the death of the artisan's father, is not recognised by thuya artisans, old retired master artisans do hold a respected position in the craft. They are often still active in artisan social circles, spending considerable time sitting and chatting with artisans in their workshops.

6.5 The new apprenticeship model

The aim of traditional thuya carpentry apprenticeship is the transmission of a repertoire of technical skills that enable the apprentice to independently practice a craft. This has also been described as the primary objective of apprenticeship elsewhere (Buechler 1989:37). Since the 1980s a new form of apprenticeship has developed that focuses on the transmission of mass production knowledge. Unlike traditional knowledge, the aim is to incorporate the apprentice into a production line, in which all the workers are interdependent upon each other for production. The apprentice learns tasks according to the stages of production of one item, or a limited range of similar items. The move from traditional to new apprenticeship mirrors the move from the production of high quality, high value, individual items, to mass production of identical, lower quality and low value items. This new form of apprenticeship is particularly suitable for the production of simple products and lathe work, and increasingly, fretwork.

New apprenticeships are much shorter than traditional apprenticeship, lasting as little as two months, and rarely more than a year. In fact, an apprentice can actively participate in the production process after only a few minutes of explanation, as he only needs to carry out a small simple task to contribute effectively. These skills are as easily learnt from co-workers as from a *mâalem*, so horizontal knowledge transmission is common in new apprenticeships. Pre-apprenticeship familiarisation may occur, but is less common than with traditional apprenticeships. The initial familiarisation and observation stages are usually omitted, and the apprentice moves directly to a later stage. The focus of the workshop on mass production results in a breakdown of the overall production process into smaller tasks: a process of modularization of working practices.

Najib was about 15 years old in 2006. He was an apprentice in a fretwork workshop, working alongside one older apprentice of 17 years, and their *mâalem*, a young man in his mid twenties from Marrakech. Najib was from a small village about thirty miles from Essaouira, and had been sent here by his family to work. He had not completed secondary school, and spoke little French. He had started work two years ago, at first with his uncle who made magic boxes. His uncle could not afford to keep him on though, so he moved to this workshop a month previously, and was already fully incorporated into workshop production. The workshop made fretwork lampshades using electric fretsaws, as opposed to hand fretsaws that older artisans tended to use. Each apprentice worked at their own fretsaw, the *mâalem* did little carpentry work himself, but instead spent much of his time sourcing outlets and selling the products. Najib and his fellow apprentice had only been taught the skills necessary for production of fretwork lamps using electric tools, and had no option within this workshop to develop their skills further. However, they are content to remain working in this workshop as they are unlikely to find alternative employment.

Mohamed was 18 years old in 2006 and underwent a 'new' apprenticeship. He was disinterested in school, and had quit a few months previously to join his friends in a thuya workshop producing small boxes. Even if Mohamed had completed his education, there were few career options available to him, and he was attracted to the workshop by the reasonable wage and his friends. Mohamed was instantly incorporated into the production line of the workshop. The breakdown of tasks in the production process and the use of electric machinery meant that it was easy to learn the tasks given him. When given a new task, one of his friends would briefly show him what to do, and then let him continue on his own. The workshop *patron* spent little time himself in the workshop, and he took little interest in Mohameds' training. Mohamed is happy in his job. Although it often involves long hours, the social aspect of the work is good. When there is little work and the *patron* is absent, he and his friends hang out in the street with the other carpenters. The job also gives him a low, but steady income, and Mohamed is aware that he has few other livelihood options, and therefore has no ambition to develop his carpentry skills or change jobs.

In the past, boys started their apprenticeship at an early age due to limited educational access, and the economic needs of the boys' family. Now, labour laws on child labour and compulsory education means that most boys wait until they have completed secondary school before entering an apprenticeship. Despite this trend, many boys still become familiar with the profession at an early age, by spending time after school or in the holidays playing or helping out in thuya workshops.

The increase in age of apprentices has important consequences. Older boys and young men are less willing to submit themselves to a *mâalem* as required in a traditional apprenticeship model, and refuse to spend several months doing menial tasks such as sweeping floors and varnishing. A good example of the resulting conflict between *mâalem* and apprentice can be seen in the case study of Hassan, described in the next section. Apprentices interpret the slow imparting of knowledge by their masters as the masters purposefully holding back knowledge and 'secrets' and therefore sabotaging the apprentices' progress. Older boys are therefore more likely to choose the new apprenticeship model.

Thuya artisans have witnessed a decline in social status since the first half of the twentieth century. Whereas previously artisans were well respected in the town and enjoyed the comforts of professional life, artisans have fallen to the level of labourers. Attitudes to artisans have also changed, and they are now often seen as cigarette and marijuana smoking, alcohol drinking, disreputable members of the community. For this reason, parents (in particular mothers) do not want to send their son into a thuya carpentry apprenticeship. This has affected uptake of the profession. Therefore, apprentices are more likely to have personally chosen the profession, and the main reason they would do so is to make money. Their main objective is to obtain an income, and so they do not want to spend many years undergoing a traditional apprenticeship in which they would be paid very little. Instead they are likely to choose to enter a mass production workshop where they can contribute effectively to workshop production within days, and therefore quickly achieve a reasonable wage.

6.6 Changes in patterns of knowledge transmission

The preceding sections provide us with a valuable insight into the transmission of technical knowledge. However, equally important, and often ignored, is the absence of effective knowledge transmission. The breakdown of the learning process between master and apprentice is the result of conflicts of interest between master and apprentice, and can occur in two ways: the with-holding of knowledge by the master, or the unwillingness to learn on the part of the apprentice. As described by Simpson (1997:48), speaking of Sinhalese ritual drummers: there is "a considerable tension between transmission and retention" of specialist knowledge. This conflict between master and apprentice has been identified in many other apprenticeship situations, including Senegalese weavers (Dilley 1989) and Japanese potters (Singleton 1989).

The withholding of knowledge by artisans can occur for two reasons: competition and workshop economics. The tension between master and apprentice resulting from the threat of future competition has been documented as a problem in apprenticeship learning in many situations. In the thuya craft, competition between master and apprentice is not a new issue. For example, older artisans tell how their *mâalem* refused to let anyone, apprentice or otherwise, watch them when they drew out geometric designs. The *mâalem* would draw in the evenings or at night when everyone else had gone home for the day. The apprentices were instructed in how to carry out the inlaying of the design, but had to wait several years before they were taught how to draw the patterns, if at all. Apprentices and young artisans today still complain that their *mâalem* purposefully holds back knowledge, both of designs, and other technical skills. This situation is amplified by a culture of copying, resulting in artisans becoming even more protective of their skills and designs.

Artisans have a second reason for withholding technical knowledge from an apprentice, that of workshop economics. The apprentice becomes economically active within a workshop very early on in his apprenticeship when he learns how to varnish finished products. If an artisan does not teach the apprentice any further technical skills, then the

apprentice is effectively trapped in this menial role and the apprentice remains dependant upon his *mâalem* (c.f. Dilley 1999). The apprentice is then in a position to be exploited by the master, who benefits from the apprentices cheap labour compared to the cost of hiring a second carpenter.

This reason is closely linked in with that of competition, and how the two forces interact is demonstrated in the example of the apprentice Hassan, mentioned previously. The mainstay of Hassan's *mâalem's* business is commission work, with regular clients including shops in the UK and France. Hassan has learnt how to do veneer work, but has made only a few boxes himself. His main tasks are sanding and varnishing, his *mâalem* and two other carpenters in the workshop carry out the cutting and planing of wood, veneer and inlay work, and assembly of the boxes. Hassan complains that all he does is sand and varnish. Hassan also complains he gets paid little, although according to his *mâalem* he receives a very good wage for an apprentice. Due to the production process, there are long periods of time when Hassan has nothing to do, so he hangs out with the other apprentices and shop workers in the street. He often argues with his *mâalem*, and regularly 'quits' in frustration and anger. Each time, he spends a few days or weeks hanging around or doing a little varnishing in a nearby retail workshop, before returning to his *mâalem*.

The case of Hassan perfectly illustrates the conflict that can occur between master and apprentice. His situation is characterised by a common thuya artisan saying that, "if you begin by learning varnishing, you will always be varnishing", implying that if an apprentice starts varnishing, he will never progress any further in the craft. This situation has become more common due to the increased economic difficulties of the craft. Varnishing is a lengthy process, and many workshops now try to maximise their output by selling products in an un-varnished state (varnishing is consequently carried out by the wholesalers or shop workers). However, these un-finished products fetch a lower market value for the workshop. A *mâalem* can therefore maximize output and income through exploitation of the apprentices' cheap labour to carry out the varnishing process.

His *mâalem* did not explain why he has not involved Hassan more in the production process. One reason may be that this particular *mâalem* demands a very high quality of workmanship for his products, and Hassan has not yet adequately developed his skills to contribute more to workshop production. However, when there are no commissions, and therefore little or no work to do, Hassan is not encouraged to practice his skills. The situation suggests that Hassan is most useful to the overall workshop production whilst he is sanding and varnishing, and selling to the public, and fulfils these simple tasks at a cheap cost to the workshop. It would be expensive for the *mâalem*, in time, materials and wages, to teach Hassan further skills, and as there is presently no need for a fourth carpenter in the workshop, these costs would not be repaid as Hassan would leave the workshop to seek employment elsewhere. The workshop would therefore not only waste valuable time and money, but create a potential competitor, who could threaten the long term success of the workshop.

The refusal to transmit knowledge on behalf of the *mâalem* is one of the reasons most commonly quoted by artisans who leave their apprenticeship early before learning the full repertoire of skills, or when completely shunning the traditional form of apprenticeship. In the 1980s, this was partly responsible for the rapid boom in the number of thuya workshops, a decline in product quality, and a rise in mass production.

The second reason why there may be a breakdown in knowledge transmission between master and apprentice is disinterest on the part of the apprentice. This unwillingness to learn highlights the current common attitude towards the thuya craft as merely a 'means to an end', that is, a way to earn money. This is a short-term economic view, and indicative of a shift from artisan to market-orientated motives (Pokrant 1982). This desire for economic returns is clearly illustrated in the example of Ahmed.

Ahmed was twenty years old in 2007. He has been working in his fathers' retail workshop since he left school two years previously. His father learnt the trade in turn from his father, and is considered a 'true' *mâalem* by other carpenters. Ahmeds' father only does commission work, primarily inlay and veneer furniture. Ahmed spends most of

his time looking after the shop side of the retail workshop, cleaning and arranging stock, varnishing products, and selling to tourists. His father, who has poor language skills, only reluctantly deals with customers. Ahmed is therefore competent in the finishing tasks of production, as well as the marketing side. However, he has not yet learnt the preparation stages of production. One reason why he has not learnt about the selection and processing of wood as carried out in the depots and sawmills, is that Ahmed is left to tend the shop whilst his father goes to do these jobs. Ahmed has, however, recently started to learn how to do inlay work, and has been practicing inlaying *tureq* pieces (that his father made) on a piece of wood that will become a tray.

Despite his fathers' desire that Ahmed learn the craft, and although Ahmed claims to have chosen this work, he admits that he is not very interested in learning carpentry. When there are no customers to talk to Ahmed sits in the back of the workshop watching television on his own, he does not hang out with the other apprentices and carpenters in the street. Ahmed wants to become a trader, or run a mass production workshop, and considers his father old fashioned in his work and way of life. The following quotes illustrate his attitude towards being a trader, working in mass production, and money;

It's easier to get friends to make the different products in the shop than to spend my time learning and making. It is easier for one person to make boxes, another bowls etc."

If I make 20 of one product I can sell them all immediately and get the money, I don't have to wait months for customers. One of my friends does this, he said there are foreigners who spend several thousand Dhirham in one go. After 5 yrs I'd have enough money to build a house. Working as I do now would take at least 10 yrs, if ever".

People respect you if you have money. You are as important as the amount of money you have in you pocket. People like you, want to be your friend, say hello in the street, want to work for you, if you have money.

Attitudes of apprentices are, therefore, a highly significant factor in determining what kind of artisan a person will become. Moreover, these perceptions of the craft are not static, and are open to change, as shown by the case of Moustapha mentioned above. When he first started work as an apprentice Moustapha was very keen to learn the craft,

and was adamant that he would soon begin to learn woodworking skills. However, by spring 2007, the workshop, and Moustapha's attitude towards the thuya craft, had changed.

By this time, the shop display outside the workshop had expanded greatly, and a new apprentice had been taken on. The new apprentice was slightly older than Moustapha, and the two carried out similar tasks although Moustapha was spending most of his time selling to customers, whilst the second apprentice carried out sanding and varnishing tasks. Unlike previously, when Moustapha said he was eager to start learning carpentry, now he claimed to be happy selling products, and was un-interested in developing his carpentry skills. Moustapha has a very outgoing personality, and it is likely that this change in attitude is partly because he has found a role he greatly enjoys. More likely though, is the influence of his surrounding community of practice, which I will discuss in the following section.

Changing attitudes may also be temporary, as seen in the apprentice, Mohamed, described in section 6.4. When I first met Mohamed in October 2005 he spent his time hanging around outside the workshop smoking and joking around with apprentices from nearby workshops. I don't recall ever seeing him do any work. In November Mohamed disappeared, and when I asked the *mâalem* where he was, he replied "he doesn't want to work, he just stays at home and watches tv all day". I thought I would not see Mohamed again, but only a month later he re-appeared, full of enthusiasm, in another workshop owned by the same *mâalem*. From then on, Mohamed was a good apprentice and a good worker.

Verdon (1979) differentiates between 'enterprises' and 'apprentice workshops' by stating that, "unlike an enterprise whose primary aim is economic, apprentice workshops are equally, if not more interested in knowledge, status and honour". This is consistent with Pokrant's classification of weavers into artisans and market-orientated workers (1982:117). The behaviour and comments of thuya apprentices mentioned above suggest that thuya workshops are undergoing a transition from an emphasis on traditional craft

values to an emphasis on economic values. This is apparent in the mass production workshops, and the example of Mohamed. The erosion in transmission of the full repertoire of carpentry skills in these workshops is not the result of conflict between *mâalem* and apprentice, but rather a characteristic of the form of production. Only the skills necessary for workshop function are transmitted, and in mass production workshops where the production process has been broken down into small, simple tasks, the skills required by any one worker are very limited. Apprentices can therefore easily learn from a peer, or quit a traditional apprenticeship after learning only a few basic skills. The resulting trend is a de-skilling of the labour process (ibid:122).

6.7 Changing communities of practice

As seen in the case studies of apprentices described above, learning how to be a thuya carpenter is more than the acquisition of a set of technical skills, but a way of life and of looking at the world, in other words a community of practice (Wenger 2005). Apprentices first enter this community at the periphery, and as they become more experienced, move towards the core (Lave and Wenger 2005). This process is rapid in modern apprenticeships, but may take several years in more traditional workshops. In small workshops there may only be one master and his apprentice, but in larger workshops, where there are several workers, apprentice learning may occur through 'benign neglect', as in the example of Mohamed (ibid:93). This is currently more common in mass production workshops where there are likely to be more young artisans working at any one time, and the skills required are simple enough to be transmitted between them.

Using a 'communities of practice' approach is not new to craft learning and has been profitably employed in the analysis of many apprenticeship situations (for example, Dilley 1999, Silver 1980, Singleton 1989). In this view, apprenticeship is a process through which the apprentice develops a position and identity within the community (Argenti 2002).

What is apparent in the thuya craft is that although the old traditional community of practice may appear to have declined in importance, a new community has evolved.

These two communities are concurrent, and merge into each other. The traditional community still produces highly skilled generalist artisans, the 'true' *mâalmine*, whilst the new community produces specialist artisans with a narrower range of technical skills. The difference between the 'true' *mâalmine* and lesser skilled artisans can be compared to Ashanti wood carvers in Ghana (Silver, 1980). Ashanti carvers are differentiated into 'masters' and 'novices'. The masters are carvers who undergo a long apprenticeship and are highly skilled in the techniques of their profession. In contrast, novices learnt their skills more informally, and on a limited scale, and practice the profession as a stop-gap whilst looking for other employment.

The boundaries between the traditional and modern communities of thuya artisans are elusive and fluid. Moustapha, the young boy mentioned previously, began in a promising position, as apprentice to a highly respected *mâalem*. The workshop in which Moustapha was located is surrounded by several other retail workshops, and the artisans and apprentices spend much of their time in the street working, selling, and hanging out. Moustapha's happy, enthusiastic character quickly gained him many friends among the other artisans, and it didn't take long for him to be accepted into the community. However, this community consists of young men who can be described as 'new' apprentices, having learnt the minimum required of them to make a living. They are more interested in hanging out playing music, smoking marijuana, and picking up female tourists than learning the thuya craft.

Moustapha had already lost much of his original interest in the craft by Spring 2007. By December 2007, he was a completely changed person. A few months previously he had quit his apprenticeship and workshop, and was now working in a retail workshop a few doors down. Trendy clothes and a cool swagger had replaced his innocent charm and enthusiasm. A neighbouring shop-worker shrugged off the striking change his attitude and behaviour with the comment "if you don't like a job, then you change it, don't you?" However, this was more than a simple change of job, it was a complete change in the beliefs and perceptions of the thuya craft, from a highly dedicated and skilled profession, to just another means to make money.

Not all conversions are so abrupt, an artisan may have learnt through a traditional apprenticeship, and spent years practicing the craft in a more traditional manner, and then change to mass production. This may occur through a fall in economic success, like Najib, the carpenter who lost his workshop, tools and business capital due to a devious business partner. As the result, Najib became dependant upon thuya traders for cash advances so he could produce low quality boxes on the roof terrace of his house.

Artisans may also move in the opposite direction, as documented by Argenti (2002) for wood carvers in Cameroon. One example is an artisan called Latif, who, although he spent much of his childhood hanging around his fathers' workshop, decided to train as a jeweller. Several years later he had the idea of teaching himself thuya carpentry, and applied his knowledge of jewellery design to his inlay work. He is now locally considered an expert carpenter who produces high quality furniture using a range of techniques.

6.8 How artisans define levels of knowledge and skills

As mentioned previously there is no formal procedure an apprentice must undergo before he is recognised as a *mâalem* by the community. Likewise, there is no visual means of differentiating between an expert and a non-expert. To add to the confusion, the term *mâalem* is often given to any practitioner of any skill, and is now more a term of respect rather than a term delineating status and skill. Artisans will even call young apprentices by the term. On several occasions, on informing a carpenter that I myself was undergoing an apprenticeship, he inspected my hands for calluses and injuries as confirmation. However, this only confirms practice of the craft, and does not distinguish between different levels of skill.

I have spoken of the 'true' *mâalem* in this and previous chapters as an artisan who is locally considered an expert in his craft, and implied that there is a hierarchy of artisans based on their knowledge and skills. The basic emic description of a 'true' *mâalem* is a generalist carpenter who has a broad repertoire of skills and can produce a range of products to a high standard. Although a true *mâalem* may specialise to a certain degree, a

vital characteristic is the ability to apply their repertoire of knowledge to respond to any demand made upon them.

The technique held in highest esteem by artisans is that of inlay work, locally known by the French term *marqueterie*. At the simplest level, an artisan is either a 'good' *mâalem*, or a 'poor' one. 'Good' artisans carry out inlay and veneer, and good quality incrustation and simple work. 'Poor' artisans do poor quality simple and incrustation work, and lathework. 'Poor' artisans are also characterised as those who are involved in mass production. Inlay is also the technique that is used as the signifier for the thuya craft in Essaouira; it is depicted as the traditional thuya craft skill, and the others as mere recent intruders to the industry who are responsible for its demise. It is therefore helpful to take a closer look at this technique, and to make an analysis of its perceived authenticity and superiority within the thuya craft.

6.9 Inlay work

The thuya craft achieved fame through the technique of inlay, and it remains the key indicator of the profession, despite the relatively low proportion of artisans who today do inlay work. The decline of the profession is often described as a loss of knowledge of the inlay technique and the designs it uses. I shall give a brief explanation of inlay designs and how they are created, and attempt to trace the history of inlay designs, in order to assess how design knowledge has changed.

6.9.1 Geometric designs

Geometric designs are considered by thuya artisans to be more traditional than floral designs, although there is dispute over which style of design was used first in thuya work. Geometric designs are also considered to require a deeper knowledge of designs, and a higher level of skill, in creating them. Geometric designs can be very time consuming, and the greater the complexity of the design, the longer the time required to make it, and the greater the amount of skill required. These designs are therefore considered the mark of a highly skilled, and therefore respected, artisan.

There are two main groups of geometric designs. The first are circular and radiate out from a central point. These designs are named according to the number of divisions of the circle that forms the base of the design. Thus a design in which the circle is divided into eight is termed a *tumaani* (eight point) design (plate 6.1). The *tumaani* is the most common radial design, which can be further sub-divided to create a 16, 32 or 64 point design, each further sub-division resulting in greater complexity. Similarly, the base circle can be divided into six, producing a *Sadaasi* (six point) design. This design is often said to be Jewish in origin because of its resemblance to the Star of David. As with the *tumaani*, the *sadaasi* can be further sub-divided to create a 12, 24, or 48 point design. Designs with more sub-divisions do occur, but are rare, due to their complexity. The second type of geometric designs are repetitive and theoretically infinite and are termed *mHabara* (plate 6.2). These designs are now uncommon, according to artisans, because they are difficult and time-consuming to create.

6.9.2 Floral designs

Floral designs are perceived to be simpler and easier than geometric designs to create. As with geometric designs they are repetitive. A basic design is drawn onto a piece of paper or cardboard and cut or chipped out with a knife or *mrîbâr*. This template is then used to draw the design onto the base wood.

Floral designs are inlaid with either *citron* wood or metal filament, usually aluminium (plate 6.3). Other woods cannot be bent into the arabesque shapes, including burnt *citron* wood. On large round tables both geometric and floral designs are often combined. The geometric component radiates out from the centre of the table, and the floral components flow around the edge of the design.

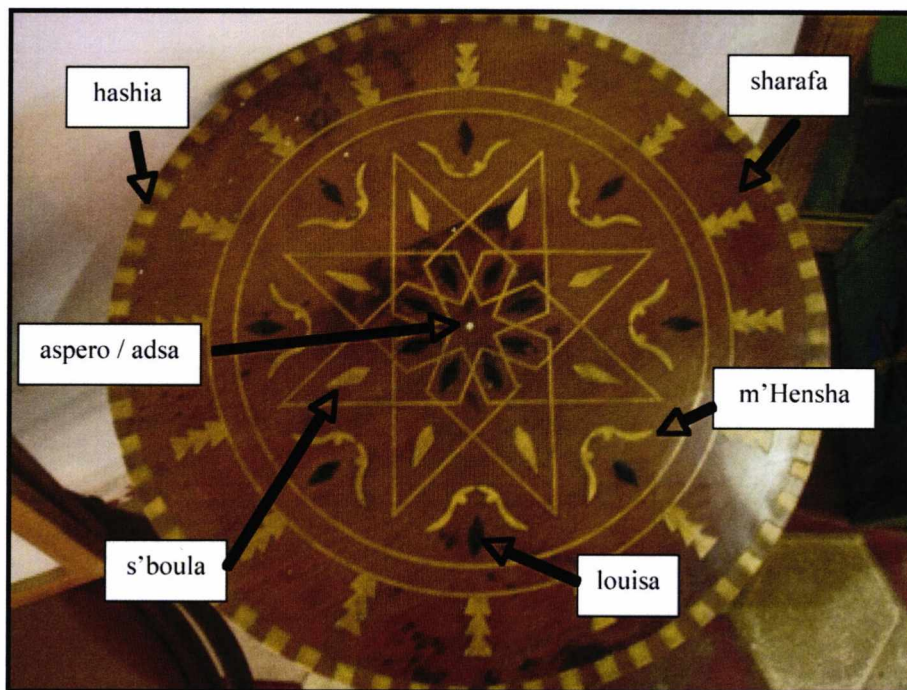


Plate 6.1: Small thuya trunk wood table-top, 35cm in diameter, showing a *tumaani* 8-point design and common *tureqa* shapes in *citron* and *ebene*.



Plate 6.2: Thuya box with geometric *mHabara* design in *citron*, mother of pearl, and burnt *citron*.



Plate 6.3: Trunk wood boxes with inlay designs in *citron*, burnt *citron* and mother of pearl.

6.9.3 *Tureq* shapes

Once the outline of the design has been drawn, gouged out, and inlaid, small shapes called *tureqa* (singular: *tureq*) are added for decoration. There is a distinct repertoire of *tureqa*, shown in figure 6.2, ranging from 5mm in diameter for the smallest *adsa* (full stop), to 100mm long for the largest *tureqa*. They are named after objects they resemble, for example a leaf shape is called *louisa* after a herb (*Lippia citriodora*) used to make tea, and a shape that resembles a finger nail is called *dfer* (nail). For geometric designs, the *tureqa* are inlaid into the gaps, termed *douar* (singular: *dar*), houses, formed between the design lines. On floral designs *tureqa* usually take the form of stylised petals and flowers.

Tureqa are most commonly made from *citron* wood, but can also be acacia, ebony, or mother of pearl. Acacia and ebony have become rare and expensive in recent years, leading to the practice of frying *citron* wood in vegetable oil to burn it to a black colour as a substitute. Plate 6.1 shows how *tureqa* are used in a *tumaani* design on a small round table.







Tureq Shape	Darija Name	Description
	louisa	Name of a plant – shape looks like a leaf
	s'boula	Ear of grass
	dfer	Finger nail
	mHensha	Snake
	qelb	Heart
	rabaaiya	4 lobed shape

Figure 6.2: The different types of *tureqa* shapes used in thuya inlay work.




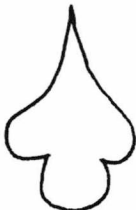


Tureq Shape	Darija Name	Description
	wow / caracol	Arabic letter 'wow'
	sharafa	Castle shape
	aspero /adsa	Asperin / point
	rabose / mreesha	3 lobes and a point
	mdRja / mreesha / tureq	Long nodular shape
	tmaja	3 lobed shape with legs

Figure 6.2 (cont.): The different types of *tureqa* shapes used in thuya inlay work.

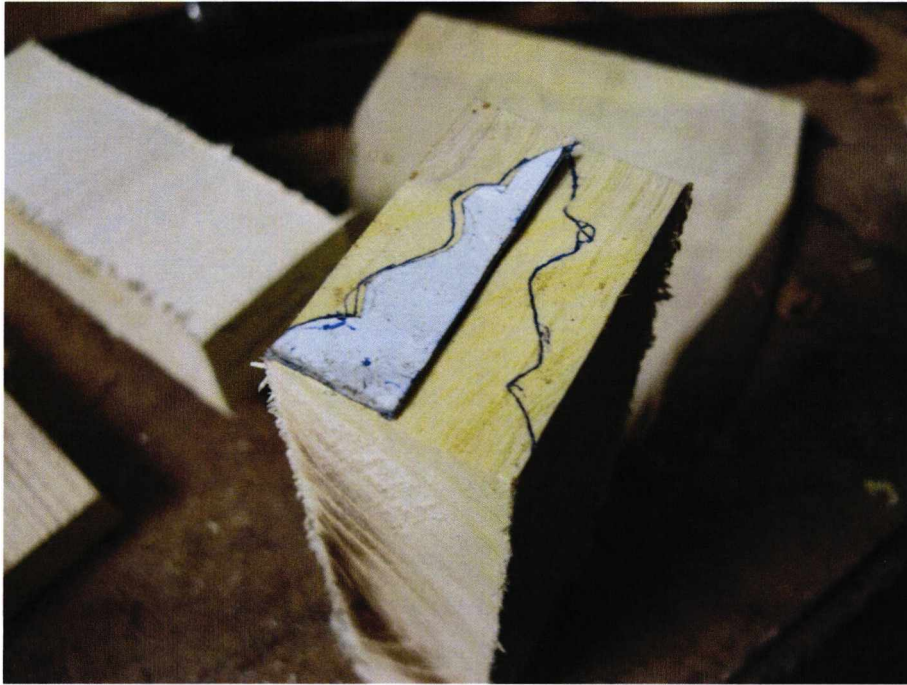


Plate 6.4: *Sharafa* shape drawn onto the end of a *citron* rod, with template (*tureq* shape is about 4cm long).



Plate 6.5: A partially carved *tureq* rod.

Carving *tureqa* requires skill and precision. The artisan starts with a baton of *citron* wood, whose width and depth is slightly larger than the size of the desired *tureq* shape. The *tureq* shape is drawn onto the end of the baton, and then carved using chisels, files, and hand planes (plates 6.4 and 6.5). Once the baton has been shaped, the individual *tureq* pieces are sliced off the end of the rod with a tenon saw.

6.9.4 Operational sequence for the inlay technique

The first stage of creating an inlay design is the drawing of the design outline onto a prepared, planed, base board. A template is used for floral designs, and geometric designs are marked directly onto the wood using a *mrsham*, marking tool, a drawing compass and a ruler. Once the design is complete, it is chipped out using a *mrribâr* and hammer. The resulting groove is scraped out with a *bominqar*, a type of homemade bradawl. First the lines of a design are dug out and in-filled with thin strips of *citron* wood, and then the *tureqa* are inlaid. The operational sequence of these steps is shown in plates 6.6 to 6.13. Once the inlay is complete, a file is used to rub down any protruding pieces of inlay. The item is planed with an electric planer or a *kutsheeya*, and finally varnished using a *monaqeeya* and a varnish of shellac and alcohol.

6.10 History of inlay designs

The technique of inlay originated in the near East, and found its way to Essaouira some time at the end of the nineteenth century. At first, inlay work was applied to other woods, for example mahogany, with the inlay materials including copper, silver, ivory and bone. Only later was the technique applied to thuya wood, signalling the birth of the current thuya craft.

It is difficult to trace the development of inlay designs over the decades for two reasons. Firstly, there are few old items in circulation, and most have been lost, destroyed or remain behind closed doors in family homes. Secondly, of the few items publicly accessible in museums, hotels and shops it is very difficult to determine the exact age of an item and therefore construct a sequence of design history. The owners themselves are usually unable to determine the history of items that they own. This difficulty is



Plate 6.6: The *mribâr* (top) and *bominqar* (bottom), the two main tools used for inlay work.



Plate 6.7: After the design has been drawn out on the base-board, the *mribâr* and a hammer are used to hammer out the design.



Plate 6.8: The *bominqar* is used to gouge out the grooves of the design.



Plate 6.9: The groove is filled with wood glue.



Plate 6.10: A thin strip of *citron* wood is held in place over a groove.



Plate 6.11: The *citron* strip is hammered into the groove.



Plate 6.12: The *citron* strip is cut to the correct length with a chisel, and more glue applied to the next section to be infilled.



Plate 6.13: Base board showing uncut, gouged out, and infilled, areas of the design. The artisan experiments with different *tureqa* shapes by drawing them in the *douar*.

compounded by the incipient properties of thuya wood that takes on an old appearance after only a few years. As several thuya artisans have commented, “once a thuya item is over ten years old it is considered antique”.

The oldest item that can be dated is pre-1920s, the era during which, it is locally agreed, electric band saws, used for cutting the thuya beams into workable planks, arrived in Essaouira. Planks that have been cut by hand saws do not show any signs of cutting, as opposed to the electric saw which usually leaves marks on the wood. I found only one example of inlay from this era, which was on a chest of drawers. The chest, shown in plate 6.14 was in *bildi* thuya trunk wood, with citrus wood floral inlay. The chest was renovated in the Winter of 2006, including replacement of the top two drawers (visible in the photograph).

I have attempted to construct a chronology of inlay designs from old thuya objects. Aging the products relied on the opinions of antique sellers and carpenters. Again, it was a difficult task, firstly as opinions varied widely, and secondly, as it is often beneficial for the informant to inflate the age of an object if he thinks you may be a potential customer.

There is also a small market in the production of ‘fake’ antiques, which can be difficult to distinguish from authentic pieces. Five criteria emerge as those used locally to age an object: the colour of the thuya wood, the inlay patterns, the *tureq* shapes, the materials used, and the workmanship.

1. Colour of wood

As previously stated, thuya changes colour with age, developing an antique appearance. This is the first age indicator of an object, implying that it is over ten or fifteen years old, and worthy of the local classification of ‘old’ or ‘antique’.

2. Inlay patterns

Opinions differ as to whether floral or geometric designs were the first to be used in thuya objects. Plate 6.14 suggests that floral designs existed early on, but many other

very old objects have simple geometric inlay patterns, as seen in plate 6.15. These designs have a very European art deco feel to them, unlike the second kind of geometric design which is based on Islamic principles, as seen in plate 6.16. The Islamic geometric designs were used in the second decade of the twentieth century, and can be seen in some of the objects entered in the 1915 Casablanca exhibition. Both floral and geometric patterns therefore appeared very early in thuya work. However, the geometric patterns are held in higher esteem by artisans as they are considered more skilful.

The 1950s brought independence to Morocco, and this was reflected in thuya work with five pointed star designs becoming popular (plate 6.17). A second particular style, which I call the *adsa* style, appears to have been popular in the 1960s (plate 6.18). The name refers to the many round points in the floral design. The 1960s saw the appearance of *hashia*, which is the two-tone band pattern found along the corners of objects (for example plates 6.16 and 6.18). This corner pattern is considered different to the older two-tone band pattern called *t'reefat* which is found on flat surfaces (plate 6.17).

3. *tureq* shapes

It is thought that the earlier artisans made larger, simpler *tureq*, the small shapes in inlay designs, due to the lack of good, appropriate tools. As tool technology improved, so the *tureq* became more complex. However, the 1960s and 1970s were marked by a distinct simplification of *tureq* shapes, which is explained by artisans as indicating a decline in knowledge and skills at this time, related to the increase in the number of artisans. Plate 6.19 shows a good example of a small table with large, simple, *tureq*. However, *tureq* size decreased again in the 1980s, suggesting either that *tureq* shape and size is determined more by current trends, or that the general level of knowledge and skills in the craft increased during this period.

4. *Materials used*

Very early work used materials of high value, such as silver, gold and ivory. These materials are evidence that the early thuya craft produced objects of high value for the wealthy. Over time these materials have been replaced by cheaper options. Aluminium,

for example has largely replaced other metal inlay materials. Bone was also used in older objects, but is now rarely used. Choice of wood for inlay has faced similar economic pressure, and now ebony has largely been replaced by burnt citrus wood, a far cheaper and easily available raw material. Use of precious materials may indicate age, but they have been used in small amounts throughout the history of the craft, to the present.

5. *Workmanship*

There is a generally held perception that the older the object, the better the workmanship. This comes from the belief that the original thuya artisans held the highest levels of knowledge and skills, which have been declining over time. This decline, thought to have accelerated in the 1960s and 1970s, gaining speed in the 1980s, is blamed on the incomers to the craft.

It would therefore appear that inlay designs have been constantly changing since the early years of the craft, and that there is no particular style or period that can be separated out as 'traditional'. Rather, the craft has constantly been influenced by different fashions and tastes since its invention. I suggest that these changes have been the combined result of artisan knowledge and numbers, market changes, and popular trends.

However, despite the shift in recent years away from inlay work to simpler, quicker woodworking techniques, the inlay work that continues still retains the same designs, as seen in plate 6.20. This table, made in 2006, demonstrates the typical designs of recent years. It is therefore difficult to prove that there has been loss of knowledge regarding designs over the past century. It is certainly the case that the more complex geometric designs, and *mulet âshoos*, as seen in plate 6.16 are now rarely created, but several artisans have commented that the reason for this is lack of time and economic returns on producing these designs, as opposed to the absence of knowledge of creating them.



Plate 6.14: Pre 1920s chest of drawers. Note the new top two drawer faces.



Plate 6.15: Front view of a 1920s cabinet with simple art deco geometric design.



Plate 6.16: Table made in 1963. The design is a *mulet âshoos*, a classic Islamic geometric design.



Plate 6.17: 1950s table, with the five pointed star design that was popular following the independence of Morocco.

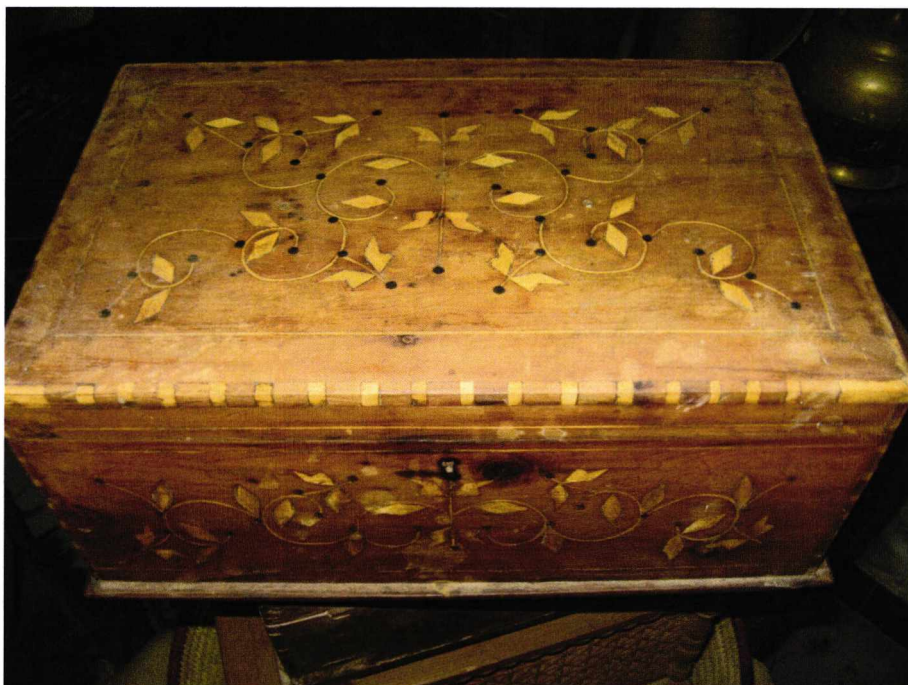


Plate 6.18: 1960s large box, with an *adsa* design (referring to the black points). The two-tone banding around the corners of the box, called *Hashia*, originated in this period.



Plate 6.19: 1960s / 1970s table. This was a period of big, simple *tureq*.



Plate 6.20: Inlaid table measuring around 120 cm in diameter, made by Abdellah Twll in 2006, showing the typical designs used by inlay artisans at this time. The centre of the table has a 16-point design, which is encircled by floral motifs, followed by *sharafa* and finally *hashia*.

6.11 Innovation and change

Recent local and national discourse surrounding the thuya craft focuses on the loss of knowledge in the form of traditional designs and practices, claiming that this is an indication of the decline of the thuya craft. This view is held by both external agents - state bodies and non-governmental organisations - and the artisans themselves. Despite this perceived loss of traditional forms and designs in thuya work, projects aimed at developing the craft insist that there must be innovation and introduction of *new* forms and designs, for it to continue.

One example is the ONODI project that began in 2004 and finished in 2007. The project aimed to tackle the perceived multiple problems of 1) a rapid increase in the number of artisans and corresponding decline in knowledge and skills, 2) a high thuya wood consumption and wastage, and 3) low quality products. Their primary solution was to create and develop export links of high quality thuya products to Italy, with the

underlying assumption that this would only be successful if new 'modern' designs were introduced.

Two factors contribute to the absence of innovation. The first of these is the rise of 'new' apprenticeship, and corresponding decline of 'traditional' apprenticeship. The old apprenticeship system transferred knowledge in a vertical or oblique direction, from father to son, or from a more distantly unrelated male adult to a boy (Cavalli-Sforza and Feldman 1981). In contrast, the new apprenticeship system is moving towards horizontal knowledge transmission, with a closing of the age difference between master and apprentice. Now, young men often learn from their friends of similar or slightly older age.

This shift from inter-generational to intra-generational knowledge transmission has important consequences for innovation and knowledge levels in general. I agree with Acerbi and Parisi that artisans who have learnt vertically or obliquely (from their father or uncle) are likely to have a knowledge base very similar to their teacher. In contrast, horizontal learning (from a peer) is more likely to result in the learner possessing a different knowledge base to his teacher.

However, contrary to Acerbi and Parisi, in the example of the thuya craft I suggest that it is inter-generational transmission that creates more optimal conditions for change to occur, not vice versa. This is because the knowledge held by an artisan is not equivalent to that which he instantiates, and it is inter-generational transmission that offers more opportunity for the artisan to instantiate his knowledge in new innovative ways. Artisans who learn vertically (or obliquely) tend to learn the full repertoire of carpentry skills, they become a 'true' *mâalem*. In contrast, artisans who learn horizontally tend to learn only a limited range of skills, and often only the knowledge concerning the production of one particular product. It is therefore the true *mâalem* who has the necessary repertoire of knowledge and skills that enable him to innovate and adapt to new ideas.

The differences between artisans who have learnt through horizontal or vertical/oblique transmission are also cultural. A man who chooses to learn from a peer is more driven by learning the trade quickly to maximise his economic returns, usually by entering the mass production sector of the craft. Vertical learners tend to be more committed to the craft *per se*, and are therefore more likely to enjoy their craft, and enjoy experimenting with new ideas. For example if a tourist shows an artisan a photocopy of a product he wants to commission, it will be the artisan with the greater knowledge repertoire who takes up his offer first. This artisan will have both the necessary knowledge and skills in order to undertake the practical work, and the desire to take on the challenge.

The second factor that inhibits innovation is copying, or stealing, as it is referred to by artisans. Individual artisans or workshops will often use the same design over and over, maybe over many years, so it is sometimes possible to deduce which artisan made a particular product by studying the design. However, there is no official ownership of thuya product designs, and therefore no restraints against one artisan copying the ideas of another. Any artisan can produce any form or design, as long as he has the necessary knowledge and skills to do so. The result is that copying designs and products is a very common practice within the thuya craft.

On one occasion I found myself on the receiving end of an artisans' wrath concerning copying. I had been working with an artisan, who had taught me how to make a small table with a six point design inlaid in the top. I was proud of the finished table, and took photos of it to use as discussion points when talking to other artisans. One day I showed the photos to an artisan, and he instantly demanded where I had made the table, and who had taught me the design. I asked why he was so keen to know, and he said that the design belonged to him, that he created it. After further discussion it arose that this man had taught the artisan who had taught me. Once this fact was determined, the man became less angry, and instead spoke proudly of how he had first created the design and taught it to his apprentice (the man who had taught me).

Artisans often complain that as soon as they create a new design, then it is stolen by other artisans, and almost instantly appears in a cheaper form in thuya shops. It is therefore not economically viable for artisans to expend time and money developing new products. Those that do often hide their work at home or in the workshop, away from prying eyes. The cause of this culture of copying is the fierce competition that exists in the thuya market. Artisans often cannot afford to spend the time and money required for innovation, however, once a new product enters the market and is seen to be successful, artisans are quick to copy and mass produce the product in order to gain the economic benefits.

6.12 Knowledge loss

One of the main problems of the thuya craft as perceived by government agencies and NGOs is the loss of traditional skills and knowledge among artisans. Their argument is that very few artisans now produce inlay work. Artisans echo this view, and add that it is the decline of the geometric design in inlay work that indicates a loss of knowledge.

The loss of regulatory or controlling bodies governing the thuya craft is often cited as having contributed to the decline of the craft. In earlier times this role was filled by the guild, which closely monitored the craft. Apprentices were only accepted as a *mâalem* when they could prove their skills. Consequently, the guild also strictly controlled the quality of workmanship as well as prices in the market place. Although the Artisan Cooperative, Chambre d'artisanal and Ministère d'artisanal were created to fill the void left by the dismantling of the artisan guild, none of them have the same power as the guild. Nowadays, anyone can call himself a *mâalem* and begin to practice the profession, regardless of his levels of skill and knowledge. Likewise, there is no control over product quality, ownership of designs, and pricing.

How then does the thuya craft differ from other crafts in which learning is through apprenticeship? In all examples of 'successful' crafts, there are strong mechanisms that maintain their social structure. These mechanisms limit access to technical knowledge and maintain discipline and hierarchy, which together ensure the perpetuation of the craft

and its resilience to outside influences and attempted intrusions. Marchand (2003) describes how Djenne builders use banter to assert hierarchies and access to technical knowledge. Banter and practical jokes play a similar role among Gujarati boat builders (Simpson 2006). Religion and spirituality are also important mechanisms. Dilley (1987a, 1987b), in his study of Tukolor weavers states that African artisans tend to be associated with mystical and spiritual forces through the nature of their occupations or the materials they use. For Tukolor weavers, the loom is sacred as it was stolen from the spirits, which still inhabit it at night. Thus, a weaver will not work at night, and will remove all moving parts and the cloth from the loom before sunset. Djenne builders are also considered to be closely associated with the spirit world, and fear of their spiritual power gains them respect. As the result, less experienced builders will not attempt to steal a master builders work for fear of reprisal. Likewise, unruly labourers can be kept in their place through threat of spells. Religion plays an essential role in maintaining social structure and discipline among Yemeni mosque builders (Marchand 2002). However, changing social and cultural values can cause these complex mechanisms to fail. One example is that of Sri Lankan ritual drummers, whose craft was taken over by outsiders partly as the result of changing social ideas concerning illness and rituals, which removed much of the respect and fear attributed to the ritual specialists (Simpson 1997).

The thuya craft, as an invented tradition, lacks these more 'traditional' control mechanisms. In contrast, there is a dislocation of technical practice from social and moral practices. This is often the case with newly formed crafts, for example the various wood carving crafts that have arisen in Kenya, Zimbabwe and South Africa in the last century (Choge et. al 2005, Standa-Gunda and Braedt 2005, Shackleton 2005). For all of these examples, including thuya, there are no controls over who has access to the craft and its technical knowledge, and no constraints as to the level of competence that must be achieved before becoming an independent artisan. Until the 1950s the craft guild was successful in controlling production, apprenticeship, and especially quality control. However, this organization was not resilient enough to cope with the rapid social changes, leading to its collapse. As opposed to social and cultural controls, it can be argued that invented traditions are more determined by economics.

An exception to this is the example of Harris tweed (Ennew 1982). The production of Harris tweed is strongly associated with crofting, yet crofting was only introduced to Scotland at the end of the 19th century. Production of Harris tweed is regulated by legislation. The wool must originate from Harris, the weaver must also be local, and the workshop attached to their home. Finally, weaving must be carried out by hand, using approved loom technology. Only approved weavers meeting these requirements are permitted to use the Harris Tweed Certification Mark on their products.

Although it is true that there are currently many thuya artisans producing items of poor quality. There has also been a rise in the quantity of un-decorated thuya items, especially in burl wood in recent years. However, it could be debated that this may not necessarily prove to be a decline of knowledge and skills within the craft in general.

Firstly, 'loss of knowledge' can refer to a range of technical and design knowledge, and practical skills. Often, this phrase is used just to describe the loss of design knowledge. However, although geometric designs are said to be in decline, artisans admit that the origin of these designs are from the wider Islamic artistic traditions. Many artisans therefore believe that this knowledge cannot really be 'lost', as it is retained in Islamic literature, art and architecture throughout the world. This is contrary to what Le Tourneau (1965:89) writes of artisans in the northern city of Fes in 1900. He argues that practical knowledge is in danger of being lost, for if someone forgets it, there are no written sources to refer back to.

Secondly, a closer look at the numbers of artisans reveals an interesting fact. The exact number of thuya artisans is unknown, due to the absence of an accurate census. The most recent estimate is Chakir (1999), who gives a total of 6300 thuya artisans in Essaouira for 1998¹. In the early part of the twentieth century there were only 10 to 20 artisans. This figure rose during the first half of the twentieth century to 54 artisans (in 1949),

¹ Very few artisans agreed with this figure in 2006 and 2007, all providing a lower figure. Many believed that the number of artisans has since declined due to problems within the craft.

indicating an annual average of 1.5 new artisans (Sibony 2004:25). In contrast, between 1992 and 1998 the average uptake of artisans into the craft was 741 per year. This figure would not be possible if all the new entrants had undergone a traditional apprenticeship, and indicates a change in the way artisans are learning the craft. So although the exact numbers are unknown, it is apparent that there has been an exponential rise in the number of artisans over the past century.

A different picture emerges if we look at the number of artisans carrying out inlay work. It can be presumed that all of the artisans in early statistics were 'true' artisans, knowledgeable and skilled in all thuya techniques. However, according to Chakirs' statistics, only 20% (1,260) of all artisans in 1998 were practicing these techniques. Although it is not an exact correlation, artisans who undergo a traditional apprenticeship are more likely to have learnt inlay work, and therefore continue practicing it, and so this figure is more indicative of the 'true' *mâalem*. If this is in fact the case, then both the total number and the number of true artisans has increased exponentially to the present day (figure 6.3). This is promising for the craft, as it shows that there continues to be a strong interest in maintaining the more traditional skills and the number of artisans practicing the full range of techniques continues to rise.

6.13 Conclusion

Thuya artisans constitute a community of practice within which knowledge and skills are maintained, transformed, and transferred. This has changed radically in the past century, with the development of a modern woodworking practice as represented by modern mass production workshops. The transformation of the community of practice mirrors the apprenticeship process, which remains the primary method of knowledge transfer. Two distinct communities of practice, and forms of apprenticeship have emerged, one more traditional, and one modern. However, the craft has maintained its fundamental core of values and ideals. This core has been changed little by the recent influx of new 'factory-line' artisans, but remains as an enclave.

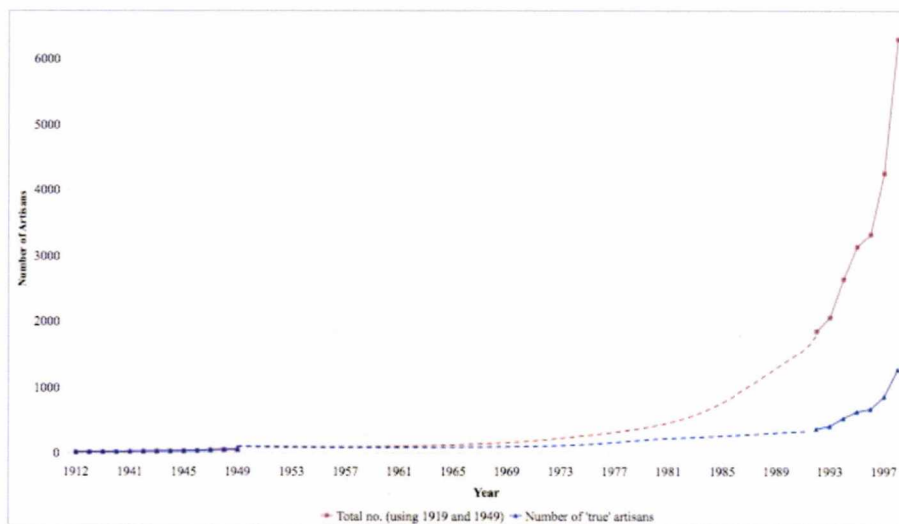


Figure 6.3: Number of artisans over time. The total number of artisans is shown in red, the number of 'true' artisans is shown in blue (Chakir 1999 and Sibony 2004). The dashed line is an interpolation of the data between 1950 and 1991.

The willingness of artisans to move from the traditional to modern practices has arisen through a combination of social and economic factors, similar to those described by Simpson (1997) in his study of Sri Lankan ritual specialists. These include: the rise of education, the increased perception of the craft as lowly, and the absence of security in the local labour market.

This, and the preceding chapter, have demonstrated that 'knowledge' is constructed of several elements: technical knowledge, design knowledge, practical skill, and experience. Knowledge is often confused with practice, that is, how an artisan carries out the practice of thuya woodworking. The knowledge system of any one artisan is the sum total of these, but is also the result of the personal choice of the artisan in the context of the social, cultural, economic, and political world around him. What an artisan does depends upon the type of knowledge, the level of this knowledge, the tools and materials available to him (economic and social capital restrictions), his personal choice of techniques and tools (aversion to electric tools for example), and his personal 'passion' for the profession (determining how meticulously he works). However, most important are economic considerations: the need to earn a living always takes priority over ability and desire to produce high quality work.

Chapter Seven

Local Perceptions and the Cultural Significance of Thuya

"In Essaouira there is only fishing and thuya, I became an artisan because I didn't want to go to sea"

(Quote from a thuya artisan)

7.1 Introduction

This chapter will explore the different perceptions of thuya, and its significance within the local socio-cultural system. So far this thesis has concentrated upon the thuya artisans. However, as demonstrated in previous chapters, the carpenters exist within a complex interdependent web of actors. Therefore, in order to fully understand the cultural importance of thuya, it is necessary to also look at its importance to other groups of people who use it. As discussed in Chapter One, significance of a species varies between individuals (Garibaldi and Turner 2004), leading to the question: for *whom* a particular species is significant? In the example of thuya, the *who* could refer to several groups of people, the main ones being: harvesters, wood merchants, carpenters, traders of thuya products, and consumers. These groups are not constructed of uniform individuals, but can be further sub-divided: between the village women who harvest thuya leaves to relieve stomach ache and their men folk who cut the trees down for sale to supplement household income; between the small scale wood merchant working closely with harvesters and the large scale Casablanca exporter; between the artisan producing a range of unique, high quality products and one solely involved in the mass production of identical boxes; from the tourist in search of a cheap holiday souvenir, to the Italian importer of expensive designer thuya furniture.

I argue that, for the actors involved in the commoditisation of thuya, that is the wood merchants and the traders in thuya products, value is perceived essentially in economic terms. For these groups of people thuya is a means of making money, no more than a commodity to be bought and sold. For this reason I shall leave aside these groups, and

concentrate upon the actors in the three remaining groups. I shall look firstly at thuya carpenters, then at tourist consumer groups, and finally at the harvesters.

7.2 Indicators of cultural significance

In Chapter One, I discussed two indices for identifying cultural keystone species (Garibaldi and Turner 2004a, and Cristancho and Vinings 2004). Although I concluded that the cultural keystone concept is flawed, the indices provide a set of criteria that can be used as a heuristic tool in this case. Table 7.1 shows an amalgamation of the criteria used in defining the two versions of the index.

1. Exists physically within the territory that the cultural group inhabit or use. CV
2. Used intensively (routinely and/or high quantities) and has multiple uses. GT
3. Either related to or used in activities intended to supply the basic needs of the community. CV
4. It would be hard to replace this species with another available native species. GT
5. The language incorporates names and specialised vocabulary relating to the species. GT
6. Significant spiritual or religious value, featuring in narratives, ceremonies, and/or songs. CV, GT
7. The story of the species' origin is tied to the myths, the ancestors, or the origin of the culture. CV
8. Ubiquitous in the collective cultural consciousness and referred to as one of the most important species. CV, GT
9. Central to the transmission of cultural knowledge. CV
10. Used as a trade item for other groups. GT

Table 7.1: Indicators used to measure the cultural importance of a species. CV indicates listed by Cristancho and Vining (2004), and GT marks indicates listed by Garibaldi and Turner (2004a).

7.3 Cultural significance of thuya to artisans

So far this thesis has focused on thuya artisans, as many of the conservation problems of thuya are attributed to this group. If thuya is of strong cultural importance to the carpenters over and above the economic, then it could be assumed that this perception can be harnessed in future conservation efforts. However, unlike previous studies of cultural significance that have focused on small subsistence communities, the thuya

carpenters are an urban commercial group of skilled craftsmen. This poses the question of whether thuya is a culturally significant species, or whether it is merely economically important. The answer to this question has fundamental implications for the conservation and management of the species.

At first glance it would appear that thuya is highly significant to the artisan community: thuya occurs locally in Essaouira Province, although historical mismanagement has resulted in the need to import thuya from other regions; unsurprisingly, all thuya artisans name the species as the most important, as it is the basis of their craft; the wood is used constantly and in high quantities; and if the many techniques and products are to be considered, thuya does have multiple uses. Further, there are many terms that have developed to describe thuya wood and the tools and techniques required to work it, it is essential to the transmission of knowledge regarding thuya carpentry, and its products are one of the major local trade commodities.

The wood forms the basis of their craft, and there are no suitable local replacements. This makes thuya very different from other woodworking crafts. Most wood carving traditions around the world use many tree species or have replacement species available if needed. For example, 31 different species are recorded as used by the wood carvers of Bali (Rohadi et al. 2005:123), each one with its own particular qualities making it suitable for the production of different items. Other carvers have been forced to seek out alternative species when their preferred species was over harvested. In India, carvers have switched from *Diospyros ebenum* (ebony) to *Dalbergia latifolia* (rosewood), and then again to *Dalbergia sissoo* as the rosewood was depleted. Depletion of the latter caused a crisis forcing the closure of many sawmills. But new species have been introduced, including several plantations species (Chatterjee et al. 2005:112). However, there are no local species that could replace thuya in southern Morocco. The Junipers (*Juniperus* spp.) are the most similar, but are generally too small and gnarled to be used in carpentry. There is an increase in the amount of inlay work using mahogany species, but these are all imported.

7.3.1 Spiritual and religious importance of thuya to artisans

It is unsurprising that thuya fulfils the above-mentioned criteria of cultural significance, as any craft or trade can be expected to be highly dependant upon the raw materials they utilise, and where this raw material is confined to a single species, that species will have an unusually high salience and value in the perceptions of users. However, there are otherwise few clues as to whether thuya is more than merely an economically important plant. The last two criteria regarding the spiritual and religious importance, and origin stories, of thuya could provide evidence that thuya is more than just a raw material to carpenters.

African artisans have been described as being commonly associated with spiritual or mythical forces, either directly, or by the nature of the materials they utilise (Dilley 1997b). However, I found very little evidence to suggest that thuya has a religious or spiritual value to artisans, who, despite extensive questioning, could relate no stories, myths or songs connected with the species. This is in strong contrast to other crafts, for example among the Tukolor weavers of Senegal, who regard the fundamental tool of their trade, the loom, as a sacred space (Dilley 1987a).

Thuya artisans do sometimes use the leaves of the tree in medicine and *bakhor*, but it would appear that this use has no connection to their use of thuya in woodworking. *Bakhor* is magic, religion, or simply incense, depending on who you ask. It is a mixture of minerals, herbs, spices, and animal parts, and varies widely depending on its purpose, which can range from creating a nice smell in the home, making a blessing in the mosque, or conjuring a spell. One common use of *bakhor* is against the evil eye. The mixture is thrown on a fire in a small clay burner, and the smoke is wafted through a building, or a person may walk over the smoke. Thuya leaves are very aromatic when burnt, and are a common addition to the *bakhor* mixture. On several occasions I have seen thuya artisans burning *bakhor* containing thuya leaves in their workshops. One artisan, Mohamed, does this regularly. He claims its purpose is to eliminate the damp from his workshop and to make it smell nice, and denies any further importance of the thuya leaves.

Another potential source of evidence is whether the designs used in thuya woodworking hold any symbolic meaning. There does appear to be a universal pattern used in radial inlay designs (see Chapter Six, section 6.9.1) used on tables. The centre of the design is marked by a small round *adsa*; in older tables this central point was often a coin. The area around the central *adsa* is often turned into what is called a 'flower' or 'sun' design. This is surrounded by a radial geometric design. The spaces created by the design outline are termed 'houses', and each one must contain a *tureq* shape within them that compliments the shape of the house. Surrounding this design are one or more radial lines, one of which is usually a two-toned *t'reefat*. Outside of this border may be an arabesque design followed by another radial border. Next are the *sharafa* which resemble castle crenellations. Finally, the edge of the table has a two toned border inlaid into it, called *hashia* (plate 6.20).

It could be argued that this pattern is derived from the organisation of Moroccan settlements. The houses in the design represent real houses in a *mdina*, and the encircling floral design represents the gardens and fields surrounding the dwellings. Often, a protective wall was built around traditional settlements in Morocco, within which lay both houses and fields. In the inlay design this crenulated wall is signified by the ring of *sharafa* running around the outermost edge of the design. Although this appears to be a good explanation of the symbolism of inlay designs, despite extensive questioning I found no evidence to support it. When artisans were asked for an explanation for inlay designs and why certain rules had to be followed, the only answers received were that 'it was just like that', or 'because it looked good like that'. The only two suggestions of any meaning in inlay designs were one, that of the independence 5-point star design common in the 1950s, and two, six-pointed radial designs which are sometimes said to be Jewish in origin.

7.3.2 Origin stories of thuya

There is no apparent link between the origin of the thuya tree or the thuya craft and the origin myths of local or general Moroccan culture, including its Berber, Islamic, and Arabic aspects. The absence of origin myths for thuya could be explained by the relatively recent origin of the craft, which enable its history to be traced back to particular

people. The origins of other recent woodworking crafts in other parts of the world are also related to historically-known individuals, for example, the Kenyan commercial woodcarving industry is traced back to one man, Mutsiya Munge, who copied the carving techniques from Tanzanian carvers (Choge et al. 2005:32). Likewise, the origin of Mexican *alebrije* carvings is attributed to two men, Manuel Jimenez and Isodoro Cruz (Chibnik 2003). In contrast, the creation myth of the long tradition of weaving by the Tukolor in Senegal, tells how Juntel Jabali, the mythical ancestor of the weavers stole the craft from bush spirits (Dilley 1987). Likewise, the present day wood carving skills of Bali are said to have been copied from stone carving, a much older craft which was closely linked to religious traditions (Rohadi et al. 2005:121).

There is, however, a particular discourse regarding the origins and birth of the thuya craft industry in Essaouira. Chapter Three outlines the history of the thuya profession, largely as told by local historians Oqba and Sibony, and the last *amin* of the thuya profession El-Hemri, a skilled and highly respected *mâalem* (in Sibony 2005). Thuya artisans have far less to say on the history of the profession, and a standard response was often to tell me to read Sibony's book or speak to one of the three contributors above or another artisan who was considered more knowledgeable in the subject. These 'experts' would refer me back to the above book, and even El-Hemri would refer me back to books in which he appears (c.f. Ingold 2003, Sibony 2005).

Artisans speak of the craft originating at the end of the nineteenth, or start of the twentieth century. They acknowledge the influence of outside knowledge, often quoting Andalucian immigrant artisans as the first carpenters. The French influence is also recognised, with most artisans mentioning Monsieur Brosse, but none know any more about the man apart from attributing to him the introduction of burl wood.

Artisans commonly say that thuya wood was discovered to be beautiful thanks to its method of transport to Essaouira. Transport at that (unknown) time was by camel, and the thuya beams were strapped across their backs to be transported from the surrounding region into the town. As the camels swayed back and forth in their rhythmic gait, the

beams of wood rubbed together, and were slowly polished, thus showing their potential aesthetic qualities. This story differs from the written account by Oqba, who wrote of a carpenter who used scrap thuya wood from house construction to make a marriage chest, which was much admired and which created more demand for thuya products (Oqba in Sibony, 2005).

Written accounts mention the original *maâlmîne* who were working in the first two decades of the twentieth century. They also mention Brosse, the elusive Frenchman. This is where the written accounts stop, and there is no continuation after this cohort of 'original' artisans. By contrast, oral accounts by thuya artisans emphasise a different generation of '*grands*' masters. These are the *maâlmîne*, the masters and teachers, of the artisans who are currently considered the most skilled in the profession. Artisans who were taught by one of these elite are proud to state the fact, and more than one artisan is willing to stretch the truth a little and claim he was taught by one of them. Many artisans believe that the *grands* masters were the last 'true' *maâlmîne*, that is the last artisans who were genuinely skilled and knowledgeable in the craft, and the passing of these artisans marked the decline of the profession. The *grands* masters were in their prime between the 1960s and the 1980s, and most are now retired or dead. Most of them had workshops in the Skala, which is perceived to have been the heart of thuya carpentry knowledge in that era.

This history is incomplete, and there is a long break between any stories about the original artisans and recent history. Very few artisans can trace back thuya carpenters in their family beyond the previous generation (father or uncle), highlighting the recent rapid expansion of the trade. It was not possible to discover anything about the artisans between the 1920s and the 1960s. This demonstrates a disinterest on the part of current artisans about the history of their trade. Recent history is important to them when it serves to increase their status (for example if they were taught by one of the *grands* masters), and only a vague knowledge and interest exists of the crafts' origin.

7.3.3 Non-craft uses of thuya by artisans

Although thuya is the basis of their trade and therefore of their public social life, it, in contrast, it occupies a very small space of the private domestic life of artisans. If you enter an artisans' house, you are likely to discover few, if any, thuya products. The most that you usually find are old damaged items that have been discarded from the workshop, such as small boxes. You may also find small thuya frames holding family photographs. The absence of thuya items may be indicative of the generally low economic status of artisans, who cannot afford to have thuya products in their own home, even those they have made themselves. Several artisans, when they succeeded in securing the financial resources required to renovate their homes (through savings, credit, or other means), chose to furnish the main living area in thuya furniture. In these cases the artisans made the Moroccan sofa bases and tables themselves. All of these artisans were generalist thuya artisans, who were knowledgeable about inlay and veneer work, and usually made furniture items. A specialist artisan in lathework or mass production of small items could not be expected to have the necessary knowledge and skills to do this, and I met no examples of this.

7.3.4 Perceptions of the thuya profession

The common response of a thuya artisan when asked their profession is to hold up a hand, showing an unpleasant scar or remains of an amputated finger. The accompanying verbal response is a "I'm a thuya carpenter of course!" This reply refers to the grim fact that carpenters regularly injure their hands. The majority of these injuries arise from electric table saws, and often result in the loss of a digit. This reply is therefore a comment on the often dangerous working conditions of the thuya artisan.

A second meaning to this reaction refers to the quote given at the start of this chapter. Essaouira experienced a serious decline in all its industries throughout the 1980s, with the closure of most of its factories (see Chapter Two, section 2.4). The two remaining industries were, and still are, fishing and thuya woodworking. To say you are a thuya woodworker is therefore to say that you are not a fisherman. Likewise, if you were to ask a fisherman what he does for a living, he is likely to point to his rubber boots in response.

The economic dominance of the thuya craft in Essaouira implies that a significant proportion of the population are directly or indirectly dependent upon it for their household livelihood. This fact is often used to argue that thuya is an extremely important species, both socially and culturally, for the town. This view implies that thuya is embedded in local culture and that the locals would feel a great loss in its absence. If true, one would expect the trade of thuya woodworking to be held in high esteem, for young men to want to enter the profession, and for parents to actively encourage their sons to do so.

In contrast, very few parents today want, or encourage their sons, to become a thuya carpenter, even fathers who are themselves carpenters. The common stereotype of the thuya artisan is a man of few morals, who remains poor because of his vices of smoking (cigarettes and marijuana) and drinking (alcohol), all of which are forbidden in Islam. Throughout my fieldwork I was regularly chastised by female and non-thuya artisan friends of mine for spending so much of my time with the immoral artisans. The more positive perception is one of a hardworking man, but one who will remain poor due to the dominance of the shopkeepers and traders who pay little for the artisans' products. The image of the carpenter is therefore one of low social status, either of poor morality, or of the economic underdog. The following excerpt from my field notes highlights a middle-aged woman's feelings regarding the thuya craft:

Nejma was talking about thuya *najaras*. She said, only people who don't want to study go into thuya work. She got onto this by talking about Said [a 19 year old local boy], who has just flunked out of university. She joked, "now he will become a *najar*, like Abdu - he went to university then left and became a *najar*". She said Abdu was bad, "all his other friends have got good jobs, they are doctors or have proper jobs, but he just sands thuya". (23/06/06).

Thuya artisans were not always regarded in such a negative light. At the birth of the craft, and into the middle of the twentieth century, they were considered highly skilled experts and held in high esteem. Parents would seek out a well-regarded artisan and entreat him to accept their son as an apprentice. This esteem was reflected in artisan income, and they enjoyed well-respected, middle class lives. Their status appeared to decline as the craft

expanded in the 1970s and 1980s, and the orientation of thuya woodworking changed from a specialist to a mass market.

In light of the current negative attitude towards thuya carpenters, the question arises as to why a young man would choose to enter the profession. Very few artisans say they are in the craft because they like thuya wood and working it, and little evidence was found to suggest that the thuya craft was a family tradition. Likewise, few parents now apprentice their sons to artisans. Throughout my fieldwork I encountered only two young men who had been apprenticed to thuya artisans by their parents. One of these had been apprenticed by his mother, a single parent, who was desperate for an extra income, no matter how meagre, to the household. The artisan, a neighbour, implied that he had only agreed to take the child out of compassion for the mother. The second boy, Moustapha (described in section 6.4), was from a rural area, where there were no opportunities for work outside the household. He was therefore sent to Essaouira to learn a trade. You can read more about Moustapha in Chapter Six, section 6.4.

The older generations of thuya artisans had little choice concerning selection of livelihood when they were young. Most were apprenticed at a very early age by their parents. Often, the *mâalem* of the boy had a workshop in the same street as the family, and so the *mâalem* was well known to the parents, maybe even a distant relative such as an uncle. The boy himself would have spent his early years playing in the street by the workshop, and so was familiar with the craft.

For the younger generations, the reason why they become a thuya artisan again lies in the chapters' opening quote: "I didn't want to go to sea". Education (beyond age 16) and employment opportunities are very limited in Essaouira, and many see their career as a simple choice between the sea and a thuya workshop. Fishing is an extremely difficult and dangerous job, so it is unsurprising that so many choose the 'easier' option of woodworking. For many school leavers in Essaouira, the first choice is either to continue education, or to find a job that brings in a good income. Jobs are chosen that bring in the most income with the minimum effort, for example working in a shop. Apprenticeships

are not chosen as they involve several years of hard work with little or no economic return. For this reason, young men entering the thuya trade will choose to spend a few weeks or months learning the few simple skills required to work in the mass production of simple objects or lathework. Therefore now, those choosing to learn the full repertoire of carpentry skills, including inlay work, tend to be older males in their twenties. These men have chosen woodworking because it interests them and because they enjoy working with thuya wood.

There is also little loyalty to the craft. When new income opportunities arise, many artisans will leave the workshop and change jobs. This casual attitude towards work can be explained by the informal nature of much of the local economy, and the absence of job security. What is important though, is that men value other jobs above thuya woodworking, and will happily leave the trade to do something else, only returning when the preferred work ends. This pattern is most prevalent for the younger generation of artisans, with the most preferred employment lying in the tourism sector, for example restaurant or hotel work, or shop work. Those who can permanently leave the craft do so, and many younger men view the craft as a means of making money to enable them to move on to better things. One of the most popular alternative jobs during my fieldwork was that of taxi driver. Many taxi drivers had previously worked with thuya, and many young artisans had aspirations to gain their driving license and permit to become a taxi driver.

7.3.5 Artisan views of thuya conservation

One major shortfall of the quantitative indices and assumptions made concerning cultural significance is that they were all devised using small, rural “traditional” communities who live closely with their natural resources. Indeed, to date, there are very few attempts to measure the cultural importance of natural resources in more complex communities (for example, Platten 2006). By contrast, thuya artisans live in urban areas a long way from the resource and have little or no connection to the thuya forests. Rather than living within thuya forests and harvesting the trees themselves, artisans purchase the roughly cut wood from a wood depot, little different from the purchasing of any shop commodity.

As a result, thuya artisans perceive forest management as having very little, or nothing to do with them, and do not consider themselves as holding the responsibility for effective harvesting and management. Instead, this responsibility is viewed as belonging to the state Forestry Service, and it is they the artisans blame for problems concerning the supply of thuya wood.

One attempt was made by the NGO ENDA to involve the artisans in thuya conservation through a tree-planting project. A coach was hired and carpenters invited to come along on the day trip. Around 30 thuya artisans took up the offer, and, alongside ENDA workers and Forestry Service officials and local dignitaries, six hectares of trees in the Imn Tlit region south of Essaouira was planted with thuya saplings. Although the artisans who attended the event perceived it a successful and pleasant day out, it did nothing to change their views and working practices. If anything, the day was detrimental to the Forestry Service, as they failed to manage the replanted site, resulting in the death of the saplings from grazing of goats. This has increased the artisans' negative feelings of the Forestry Service and their perception of forestry officials as incompetent and lacking motivation for real change.

7.4 Consumer perceptions of thuya

The second group of people who could be expected to have a distinct perception of thuya, are the consumers of thuya products. This group is actually an amalgamation of a range of consumer types, including tourists, locals, and different types of exporter. By far the largest group of thuya product consumers are tourists, both Moroccan, and foreign. In Summer 2006 I carried out a questionnaire of visitors to Essaouira in order to gauge their perceptions of thuya.

The majority of foreign tourists were European, mostly British (35% of informants) and French (31% of informants), with small numbers of Americans and Canadians and other Europeans. Over two thirds of the Moroccan visitors originated from Casablanca (37%) or Marrakech (33%). Two of the Moroccans lived abroad (in Italy and Copenhagen respectively). For the majority (80%) of foreign visitors, this was their first visit to

Essaouira. In contrast, Moroccans were more likely to be repeat visitors, and one half of them had visited Essaouira more than ten times.

7.4.1 Consumer knowledge of thuya

Nearly all (96%) Moroccan tourists could correctly name thuya, as opposed to half (50%) the foreign tourists (figure 7.1). This may be partly because Moroccan tourists are far more likely to be return visitors to Essaouira, while most foreign tourists are visiting Essaouira for the first time. Despite Moroccans being familiar with the name thuya, Moroccans and Foreigners alike were equally poor at correctly identifying the difference between trunk and burl wood (figure 7.2). A variety of misconceived answers were given concerning the two woods, including the misidentification of one or both of them as walnut, cedar or pine.

Only half the Moroccans and one third of foreigners had heard about thuya prior to visiting Essaouira (figure 7.3). Moroccans had learnt about thuya from friends, shops in other towns, from direct experience with thuya forests, and from the television. In contrast, over a half of foreign tourists who had prior knowledge about thuya, gained that knowledge from travel guidebooks.

7.4.2 Tourist aesthetic preferences

The majority of Moroccan tourists said they preferred burl wood to trunk wood (88.5%), as opposed to foreign tourists who showed an equal preference for the two (43%) (figure 7.4). Moroccans and foreign tourists also differed in terms of which technique they found most aesthetically pleasing. Figure 7.5 shows the results of a consensus analysis of the ranking of thuya techniques by tourists in terms of preference. Tourists were requested to rank, from highest to lowest, eight photos showing each of the techniques used in thuya woodwork, with the exclusion of carving (see plates 5.1 to 5.6 for some of these photos). Informants were asked to rank the techniques according to four criteria, aesthetics, skill, tradition, and price. The technique which scored highest for each criteria, that is, most aesthetically pleasing, most skilled, most traditional, and most expensive, were given the

value of '1', and the lowest '6'. However, the high variability of responses within each group (indicated by the p-value) suggest that these data are not entirely accurate.

These ranking results highlight two patterns that are apparent in all the ranking tests. First, there is a clear differentiation made by tourists between geometric and floral inlay, a perception also held by thuya artisans. Second, both Moroccan and foreign tourists tend to group metal incrustation, painted metal incrustation, and floral inlay together. This contrasts with artisans, who would group the first two techniques together, but would place floral inlay closer to geometric inlay techniques, as both involve the inlaying of wood, not metal.

Both types of tourist thought that simple and lathe work were the least aesthetically pleasing. The inlay and incrustation techniques were grouped by both in the middle of the ranks. The two tourist groups varied most on their favourite techniques: geometric inlay for the Moroccans, and fretwork for the foreigners. The Moroccans ranked fretwork sixth. A reversal of tastes is also seen in the veneer technique, which is ranked second best by Moroccans, and sixth by foreigners. As I will later show, these views on aesthetics do not correlate with the products tourists actually purchase.

7.4.3 Tourist perceptions of technique

Three features of tourist perceptions were examined: (a) the amount of skill involved, (b) the traditionality of a technique, and (c) relative price (figure 7.6). As with the aesthetics ranking tests, we must place a relatively low level of confidence in the accuracy of the results due to high variability within the three groups of respondent. All results for 'All Informants' showed higher consensus than for the separate groups. This indicates that there is more than one population within each tourist group. There are many potential factors that could be responsible for these differences, including age, sex, nationality, place of origin, economic status and education. Further research is required to understand fully the demographics of tourist perceptions and their interaction with knowledge behaviour.

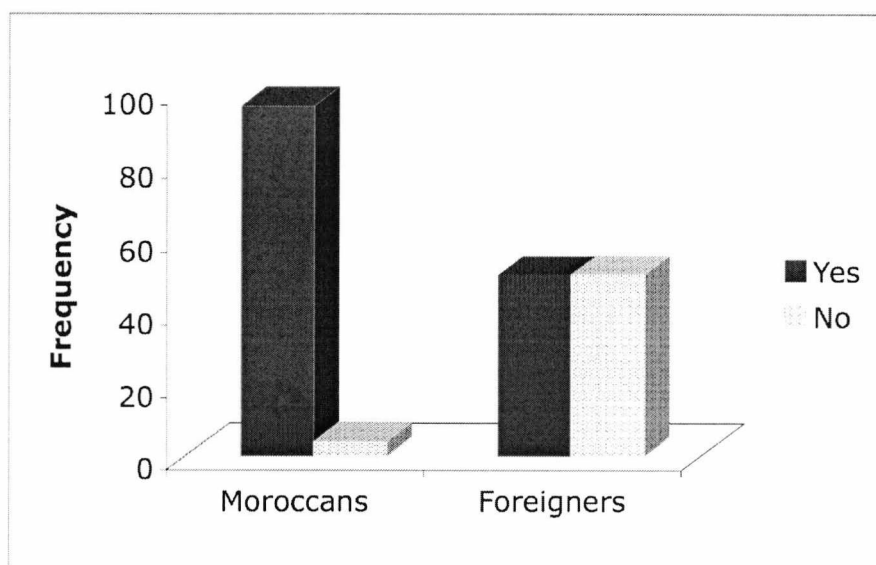


Figure 7.1: Percentage frequency of tourists who know the name of thuya wood.

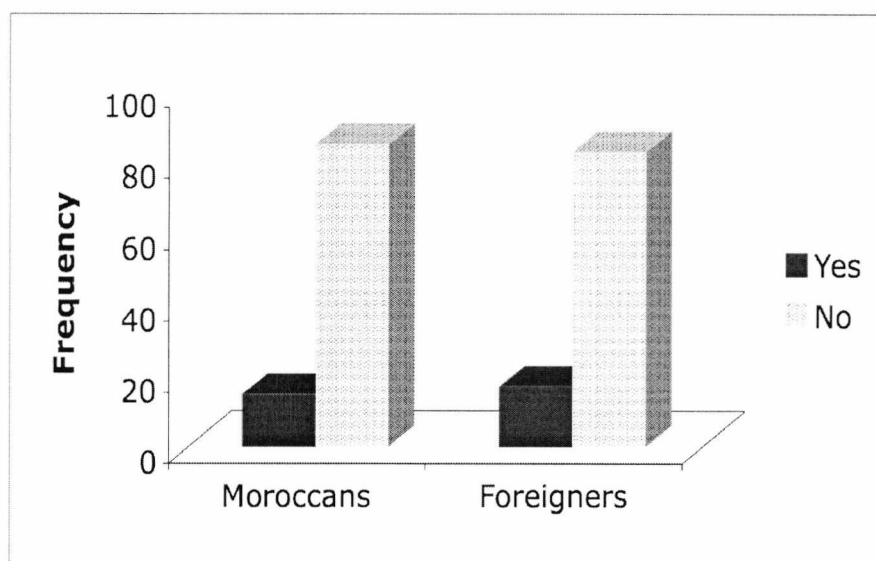


Figure 7.2: Percentage frequency of tourists who knew the difference between trunk and burl wood.

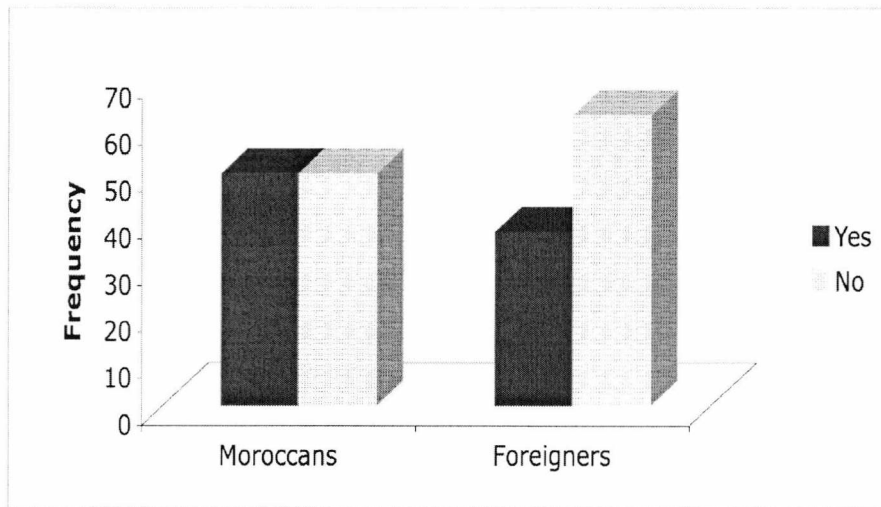


Figure 7.3: Percentage frequency of tourists who had prior knowledge of thuya wood before coming to Essaouira.

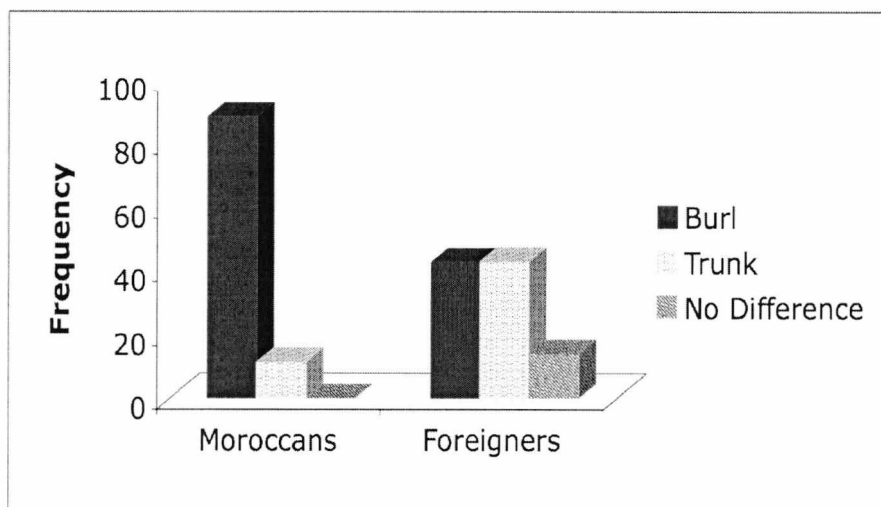


Figure 7.4: Percentage frequency of preference for thuya wood type.

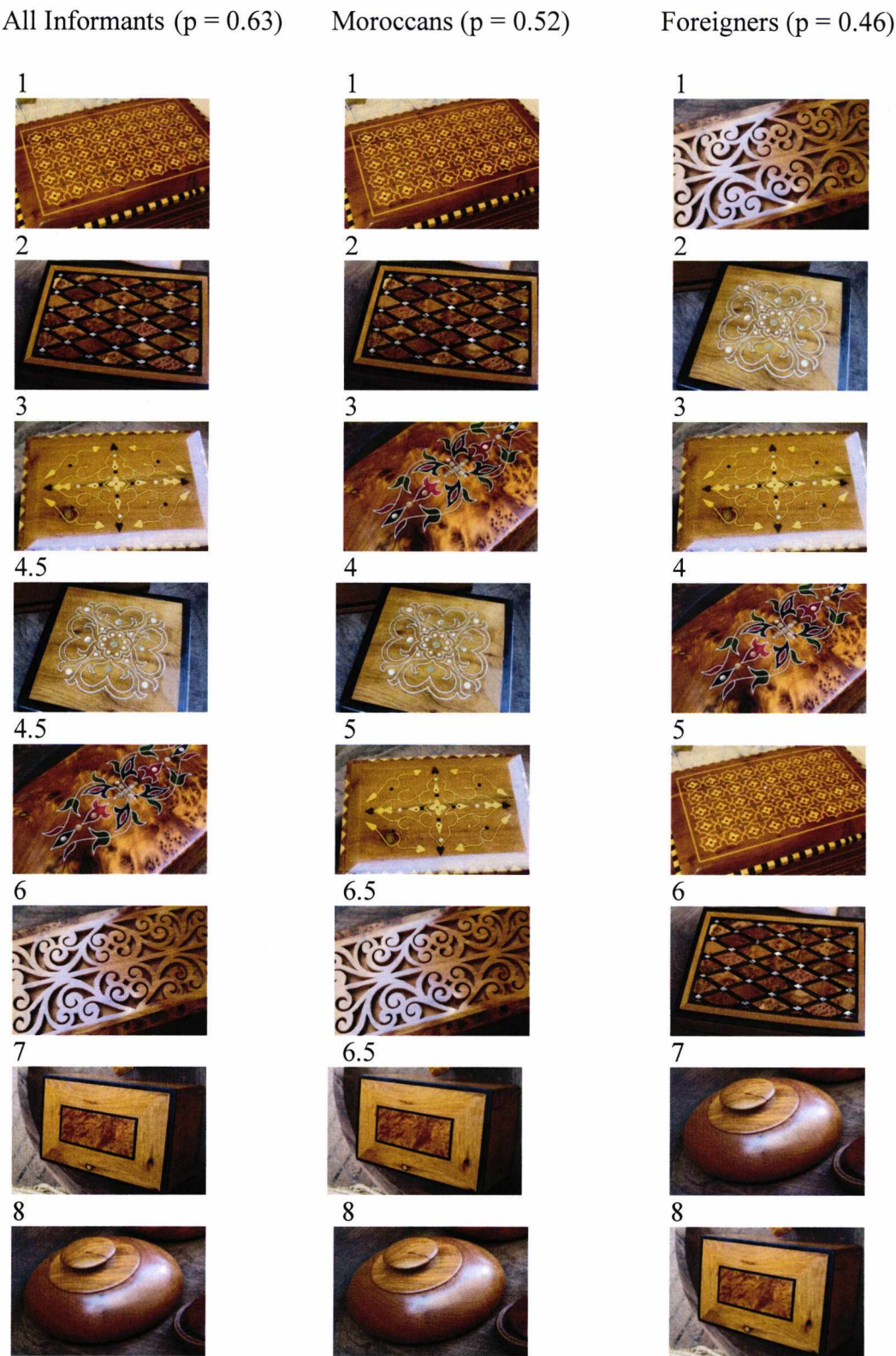


Figure 7.5: Ranking results for aesthetics preference. The most preferred are at the top, and least preferred at the bottom. The p values are the indicators of agreement between informants.

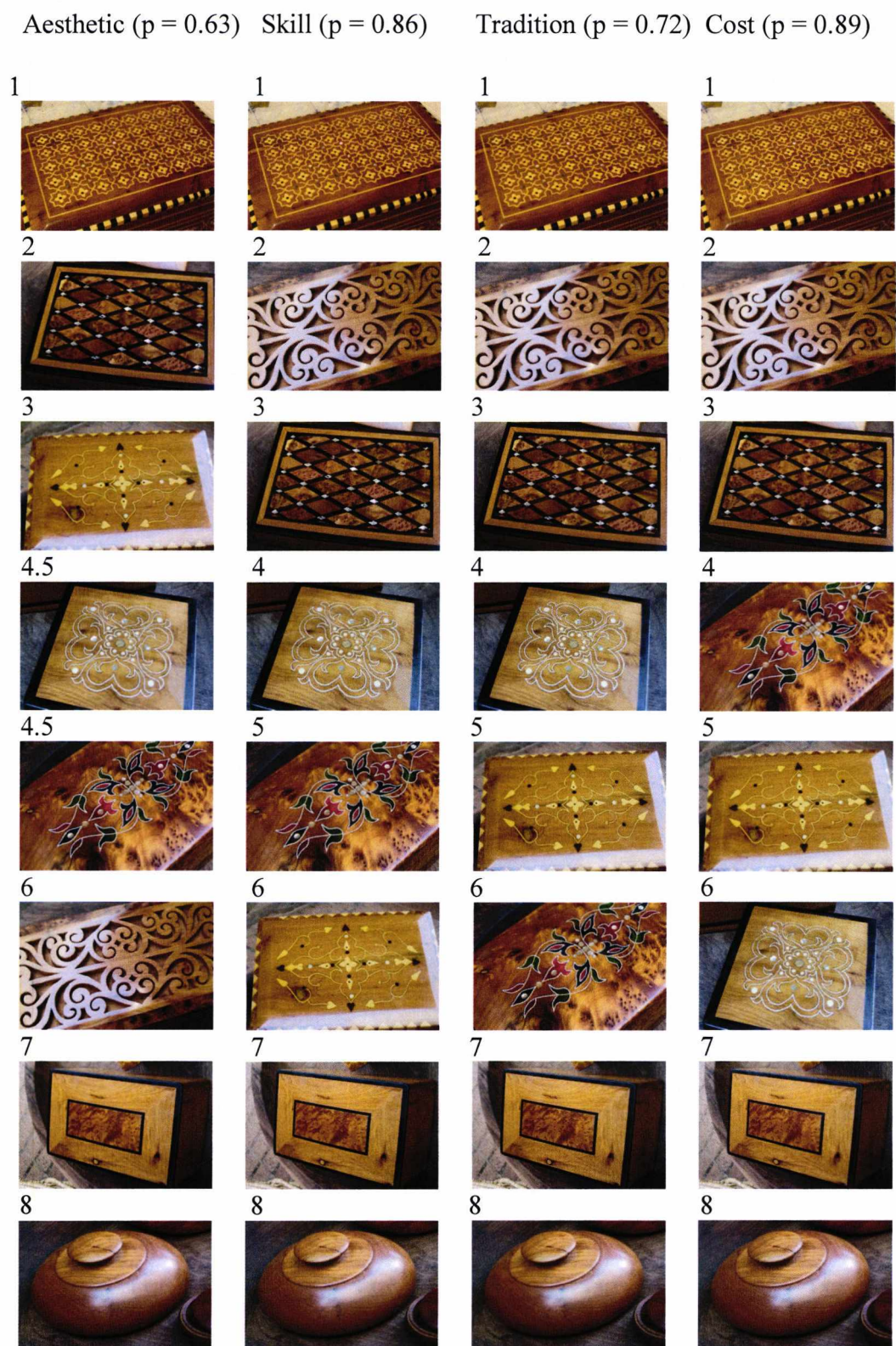


Figure 7.6: Ranking results for all informants for each criterion. The most preferred are at the top, and least preferred at the bottom. The p values are the indicators of agreement between informants.

Perceptions of skill, tradition and price were very similar between all tourists, and there was agreement between Moroccans and foreigners. Geometric inlay always scored highest, followed by fretwork, and then veneer. The 'simple' technique and lathework always scored lowest. The two incrustation techniques and floral inlay varied slightly, but always scored between fourth and sixth.

7.4.4 Perceptions versus purchasing preference

Although floral inlay was regarded fairly highly (third) in aesthetic terms by tourists, it was ranked lowest (fifth and sixth respectively) in tradition and skill. This is opposite to local views, which consider both floral and geometric inlay as defining the thuya craft, as the most traditional techniques requiring the greatest skill. This suggests that the concept of what is *authentic* in the craft differs greatly between artisans and tourists. Tourism has been widely described as a 'quest for the authentic', and the souvenir is the ultimate expression of this. To find this authenticity, "some tourists focus on the product in terms of its uniqueness and originality, its workmanship, its cultural and historical integrity, its aesthetics, and /or its functions and use" (Halewood and Hannam 2007). However, my data illustrate that a tourists' perception of authenticity is not necessarily the same as the artisans'. A second example is that of fretwork. Although this technique scores second highest for skill and tradition by consumers, it scores overall lowest for aesthetics. This indicates that even if a particular product or style is considered original and authentic by consumers, it does not immediately make that product aesthetically pleasing to them.

The data also suggest that Moroccans from other parts of the country do not share local perceptions of thuya, and so any local perceptions of thuya as culturally important cannot be extrapolated out to the entire nation.

7.4.5 Consumer choices

Three quarters (77%) of all tourists said they had either already purchased a thuya product, or planned to purchase a thuya product before they left Essaouira (figure 7.7). Nearly all the Moroccans said they had bought, or would buy, compared to just over one half of foreign tourists. The reason for this could be cultural differences in consumer habits, but may also be due to the high percentage of repeat visits by Moroccan tourists to

Essaouira. The few informants who had not, and would not, purchase any thuya products, said that either thuya did not interest them (one Moroccan and one foreigner), that they had bought too many other items (two foreigners) or that they had chosen to buy different products (one foreigner). Tourists mentioned 15 criteria used when purchasing thuya products (figure 7.8). Moroccans and foreigners tended to agree on the main criteria: price, quality, size, traditionality, aesthetics, and suitability as a souvenir. Three further criteria were mentioned only by Moroccans: artisanal product, technique and something special. Foreigners mentioned six further criteria: form of the wood, design, function, ethics, authenticity, and to return money to Essaouira.

The most commonly purchased thuya items were boxes, with almost half of Moroccans and foreign tourists buying these. For the remainder of purchases, however, there was a significant difference in consumer choices between Moroccans and foreigners (figure 7.9). The majority of items bought were small, and therefore suitable for travelling and for gifts (over half of thuya products bought were as gifts).

The list of purchased items indicates a discrepancy between what tourists say, and what they do. From the type of product purchased, it would appear that the majority of purchases are of small, cheap, low quality, non-traditional items. This is in contrast with the data given concerning purchasing criteria, where quality and traditionality rank highly alongside price and size. Similarly, the ranking data show the simple and lathe techniques to be least aesthetically pleasing. However, when the products actually purchased are analysed by technique (figure 7.10), simple appears as the most commonly purchased technique (almost 70% of purchases). Lathe work is next, followed closely by carving and inlay. It should be noted that the class 'inlay' in this analysis is not the same as that used in the ranking, and includes all incrustation and inlay techniques. This grouping of techniques further highlights how infrequently they were purchased. Last comes veneer, which rated second in the ranking exercise. None of the informants had purchased any fretwork.

This discrepancy begs the question as to why tourists claim to find certain products and techniques appealing, but choose to purchase different items. The data suggest that despite the aesthetic appeal, quality and perceived traditionality of certain products and techniques, tourists (both Moroccans and foreigners) are in practice using the criteria of price and size to choose their purchases. In the words of Graburn (1976:15) “souvenirs or trade objects for the mass market must be a) cheap, b) portable, c) understandable, and d)...durable!” The comments made by foreign tourists when asked why they did not buy any thuya products largely confirmed this statement. These comments included that they had bought too many things already, and that they had chosen to buy products other than thuya, highlight the limited purchasing power of tourists, especially foreign tourists who are constrained by the amount of baggage they can personally carry on their travels, and airport baggage allowances. This limits foreign tourists to small items. Moroccan tourists on the other hand, are more limited by cost, and will choose very cheap products to purchase. As over half of purchases are destined to be gifts to friends and family, this also determines that they not be too big or extravagant.

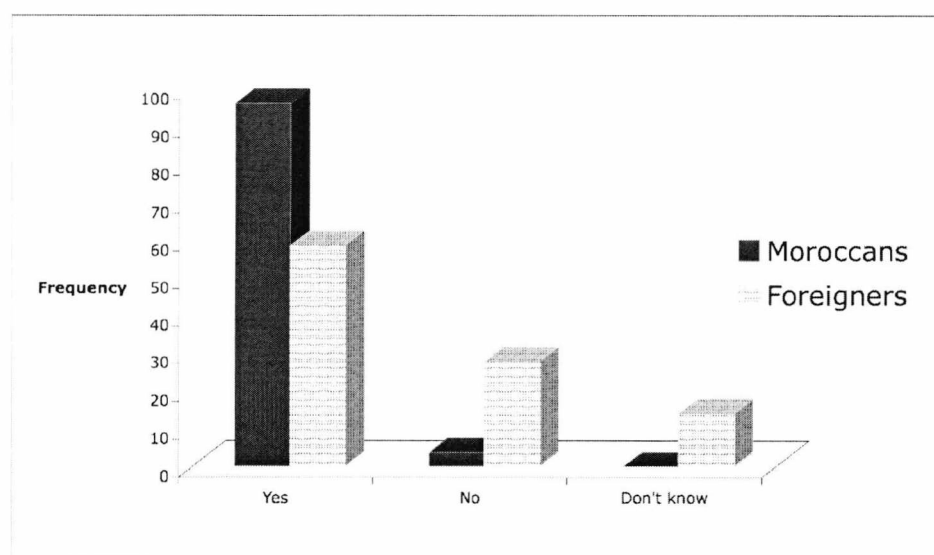


Figure 7.7: Proportion of tourists who had bought, or indicated that they would purchase, a thuya product.

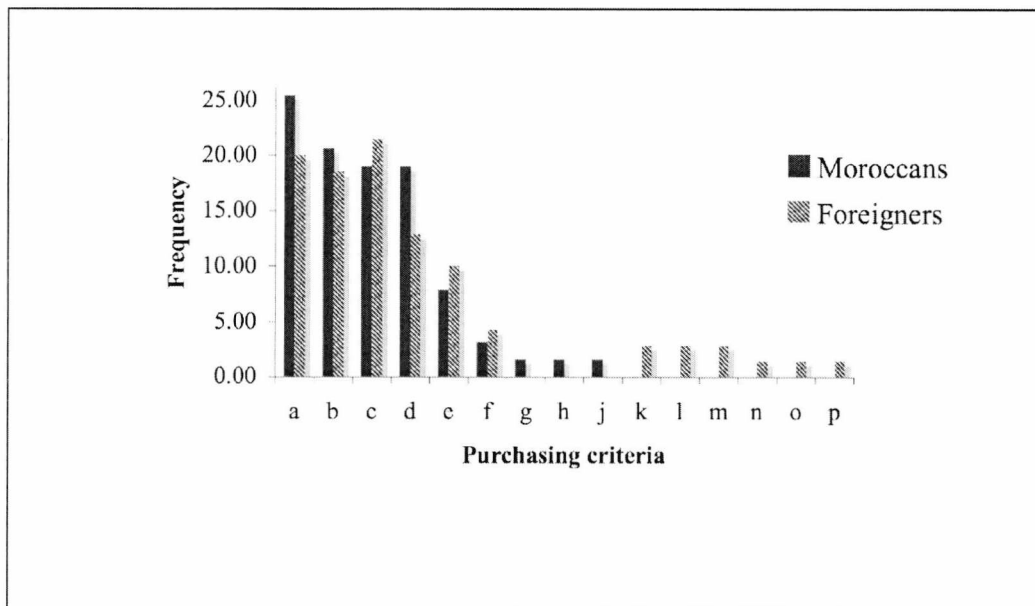


Figure 7.8: Criteria used by tourists when purchasing thuya products.
 Key: a = price, b = quality, c = size, d = traditionality, e = prettiness,
 f = souvenir, g = handmade/artisanal, h = technique, j = special item,
 k = colour/form of wood, l = design, m = functional, n = ethics, o = authentic,
 p = to return money to Essaouira.

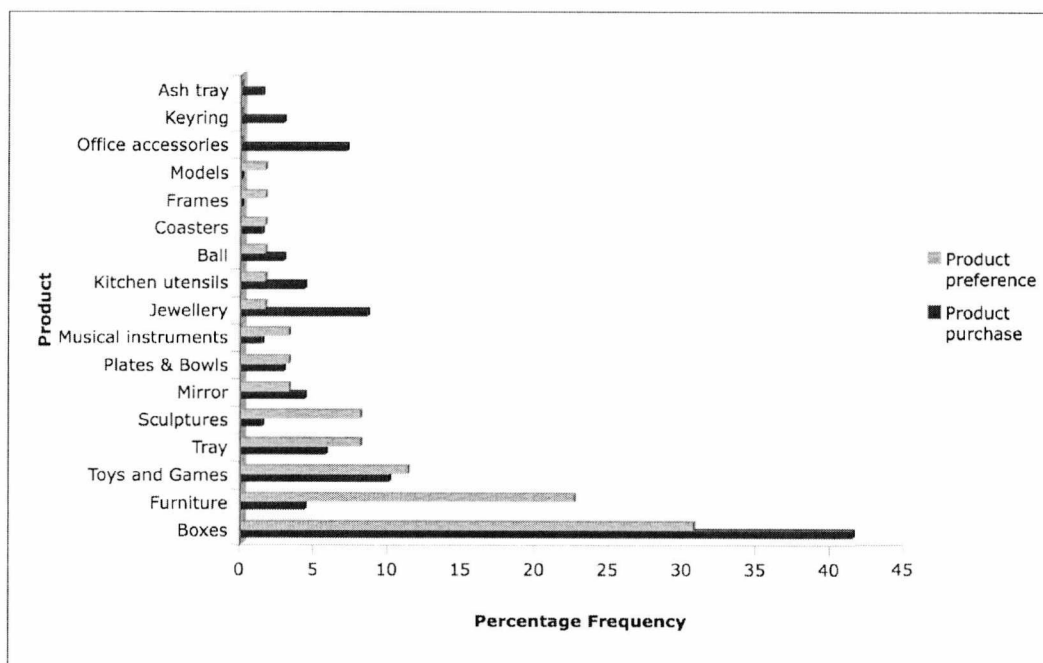


Figure 7.9: Tourists self-stated preferences for products compared to actual purchases.

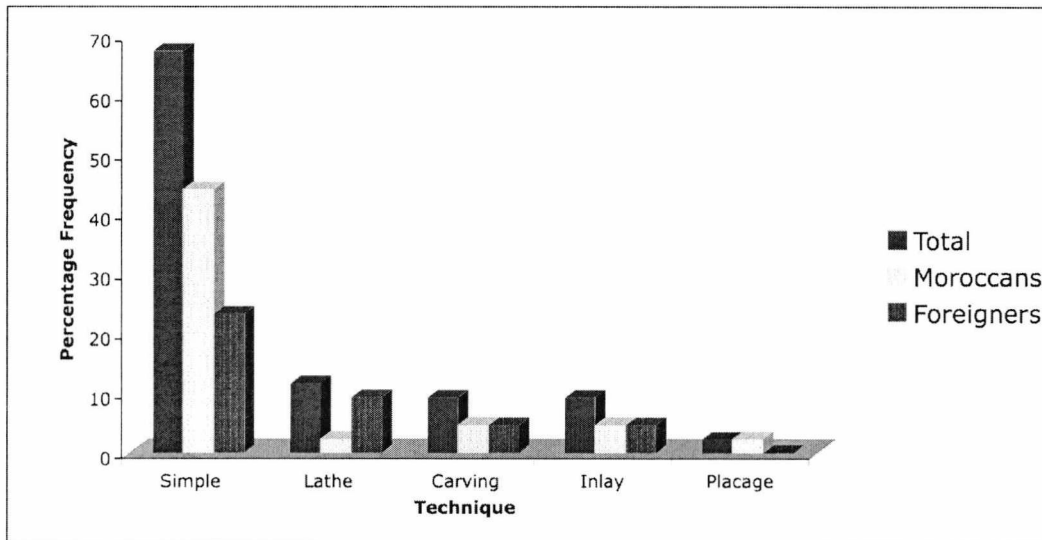


Figure 7.10: Tourist product purchases, by technique.

7.5 Rural perceptions of thuya

Data collection on rural utilisation and perceptions of thuya was carried out in two areas. The first, Ait Ahmed, is a small village (population around 1500) about 45km south of Essaouira. It lies on a minor metalled crossroads, about 5km from the protected Amsittene forest, which is roughly composed of 50% thuya, and 50% argan (*Argania spinosa*). The second village is located in the Aoulouz region, and lies within a thuya forest area where thuya harvesting for the woodworking craft is carried out (I refer to this as 'commercial' harvesting). The village is situated in a narrow valley about 11km from the nearest tarmac road. I refer to this village as Tamadout, which is not its real name. Both general locations (see Amsittene and Aoulouz) are shown on figure 1.1.

The household economy in both villages is orientated predominantly towards subsistence agriculture. Animal husbandry, predominantly of goats, is very important, followed by arboriculture. The major tree crop is argan, the nuts of which are processed into oil within the household. Olives (*Olea europaea*), almonds (*Prunus amygdalus*) and carob (*Ceratonia siliqua*) are also important. Crops are also grown, including barley, maize and vegetables. Ait Ahmed has better access to larger villages and towns, so more people work outside the household than in Tamadout. Ait Ahmed also has a successful argan co-operative in the village where up to 30 women work, and a small honey co-operative.

7.5.1 Domestic utilisation of thuya

There is a clear differentiation between male and female utilisation of thuya. It is generally the women and young goatherds who will collect fuel wood (although men will also collect if they are in the forest) and once in the household it is the women who utilise it. However, it is the men who harvest timber that is used for household construction or commercial sale. It is principally the women who utilise the leaves and fruit of the tree in medicine and magic.

The utilisation of thuya in each village is shown in table 7.2. It would appear that thuya is routinely utilised by villagers, and it has multiple uses. Thuya use fulfils basic needs of the community: fuel wood, construction, forage, and medicine. All of these, except forage, are relatively easy to replace with alternatives: gas for fuel, concrete and bricks for construction, and modern pharmaceuticals for medicine. However, although the general trend is towards alternatives, these substitutes are not always easily available, especially in remote villages. Where substitutes are locally available, they may not be accessible to villagers due to their high cost. Thuya therefore illustrates the problems of trying to quantify the value of 'hidden harvest' natural resources (Campbell and Luckert 2001).

	Ait Ahmed	Tamadout
Household fuel	+	+
Public bakery fuel	+	NA
Public <i>hammam</i> fuel	+	NA
Construction	-	+
Forage	+	+
Medicine	+	+

Table 7.2: Domestic utilisation of thuya in two villages. NA = not applicable.

According to informants, thuya was only used as a domestic fuelwood in Tamadout. This was visible in the smoke blackened walls and ceilings of the kitchens. Informants in other rural areas said they do not use thuya wood for cooking due to the thick black smoke it emits. Informants in Ait Ahmed claimed that the forest was too far away for the women

to go and fetch the wood. However, one woman said that people buy thuya from men who harvest the wood. The wood is bought at around 30Dh for a donkey pannier load.

The two public bakers gave contrasting responses when asked if they use thuya wood in the bread ovens. The first replied that he didn't as the wood produces thick black smoke and burns at a low temperature. The second admitted that he did use thuya, and collected it himself from the forest. He said that thuya is the best locally available wood as it burns hot. One family also use thuya wood to heat their *hammam* (wash-house). The owner also said that thuya was the best wood because although it is smoky, it burns hot. It is likely that the denial from one baker that he used thuya as a fuel was due to fear of reprisals because it is illegal. Ait Ahmed has been involved in several projects over the past few years aimed at thuya conservation, and it is close to the protected forest area. Inhabitants are therefore likely to be exposed to the activity of conservationists and possible prosecution. A similar denial was given by some residents when asked if they used the wood for cooking, but others admitted to using it. It is likely that the use of thuya wood is more widespread than informants were prepared to admit.

Thuya is no longer used in construction in Ait Ahmed, unlike in Tamadout where a house was in the course of construction during fieldwork. The house owner had harvested some of the wood himself from the forest, or purchased harvested wood informally from other men in the village. Large timbers are used for supporting upright beams, and smaller rods and poles are used in the traditional ceilings. The workers were all very nervous, and admitted their fear of being caught and fined by the local authorities.

Both villages relied on the forest for livestock forage. Grazing is restricted in many areas of the Amsittene protected area in order to encourage forest regeneration, but locals still illegally enter these areas to graze their animals. Tamadout residents also cut large amounts of forage material from the forest in winter to feed to their stabled herds.

There was a consensus between the villages concerning the use of thuya leaves in medicine. The leaves are used against fever, either drunk in water, or applied as a

poultice. The leaves are also ground and drunk in water or *leben* (fermented milk) to cure stomach troubles, especially nausea. The cones are ground and eaten to cure stomach aches. In addition the resin of the tree is used to heal wounds. The tar produced from heating the wood, called *qatran*, is used as an antiseptic in livestock. The tar is also painted around the top of water containers to keep the water fresh, and around the bottom of doors to repel snakes and scorpions.

7.5.2 Narratives involving thuya

Three thuya based proverbs are commonly used in both villages. The first is in Tachelhit Berber, and uses the Tachelhit term '*azouka*' for thuya.

Kul maiskar aghad ro zouka, reti sofgha adabagh ghilamins

All that *azouka* did to the goats, it will repay in leather

This proverb is similar to the English 'what goes around comes around', and is used when you do something bad or are acting lazy. It is thought to have originated from the use of thuya leaves in the processing of leather, especially for leather water bags.

A second common proverb is:

l'ârâar makhelii ar

Thuya gets rid of all bad things

This phrase refers to the use of thuya leaves in *bakhoor*, when it is thrown on a small fire to produce smoke that is thought to expel the evil eye and bad magic.

The third proverb was only recounted in Ait Ahmed. Several women said that if someone is acting in a pretentious manner, then that person is said to think they 'are better than thuya'. This proverb is interesting as it suggests that thuya is held in very high esteem, above all other plants. However, thuya is not attributed such status today, suggesting that

maybe this is a very old proverb which arose in a previous era in which there were different perceptions of thuya and other plants.

I found two references to songs that mention thuya. The first of these came from a group of elderly female informants in Tamadout. They gave no response to my questions at first, so in an attempt to elicit stories and songs from the group, my translator made up a song refrain and sung it; "my son went down to the forest to collect thuya...". He was instantly responded to in song by one old woman; "...the Forestry Service went and caught my son and took him away". Both refrain and response were spontaneous improvisations and bore no relation to any older song. However, the response demonstrates the conflicts between local users of the forest and the Forestry Service officials.

The second reference came from three old women in Ait Ahmed. The song tells the story of a woman whose husband beats her. She runs away to the forest and climbs up into a thuya tree to hide. But when the husband goes into the forest with his herds, his dogs find the woman. They lead the man to the woman and he takes her back home. The women were too shy to repeat the song or explain its meaning, if any.

7.5.3 Harvester knowledge

There is no special term used to describe men who harvest thuya trunk and burl wood for sale destined for the woodworking craft. Thuya harvesting is carried out by peasants living in thuya forest areas seeking additional household income, and does not constitute a specialised role in rural areas. Household livelihoods are diverse, but dominated by subsistence agriculture. Surplus crops are sold to obtain cash for household necessities. In addition, children may be sent to distant towns to seek employment, or sent to university, with the expectation that they will send money back to the household. Therefore the harvesting and selling of thuya wood is considered one of a variety of diverse methods of obtaining income for the household.

Harvesters have a deep understanding of thuya ecology and management, as well as knowledge of its utilisation. They appear to manage the forest to the best of their ability, carefully selecting the harvesting area and individual trees to be harvested. This knowledge is not particular to thuya, and similar methods are used for juniper and oak in other areas.

There are three main methods of tree management. To encourage a tree to produce a tall, straight trunk suitable for construction, then the side branches are lopped (plate 7.1). To encourage re-growth of timber, the tree is coppiced at the base. When timber is harvested from a coppiced tree, only one or a few trunks are removed, leaving at least one trunk to continue growing (plate 7.2). Lopping off the tip of a trunk also encourages re-growth from the base of the tree (plate 7.3). With this method, the tree also regenerates at the side of the trunk, resulting in a bushy structure suitable for animal forage. This method is also believed to encourage the main trunk to grow wide and strong, providing good timber for central supports in construction, or for the thuya trade.

Harvesters are aware that if trees are managed poorly then they will die. This can occur through root damage, either by cutting them or exposing them to the air, or by shaking the tree trunk. Trees can also be killed by removing the bark. Time of year is not perceived as affecting regeneration of trees. However, the best time of year to harvest is considered to be the end of summer (September to November) when the wood is at its driest.

Harvesters in the village of Tamadout did not think that thuya regenerated from seeds. Instead, they thought the tree regenerated from the extensive root systems. In this way, trees growing several metres apart may be clones from the same root stock. I was told that the same reproductive method appeared in argan, and I was shown an example of an argan tree whose roots system had partially been eroded away by a stream, which did appear to be doing as they claimed. However, I could not determine if this was occurring in thuya. When I asked if anyone had ever seen a thuya tree grow from seed I was

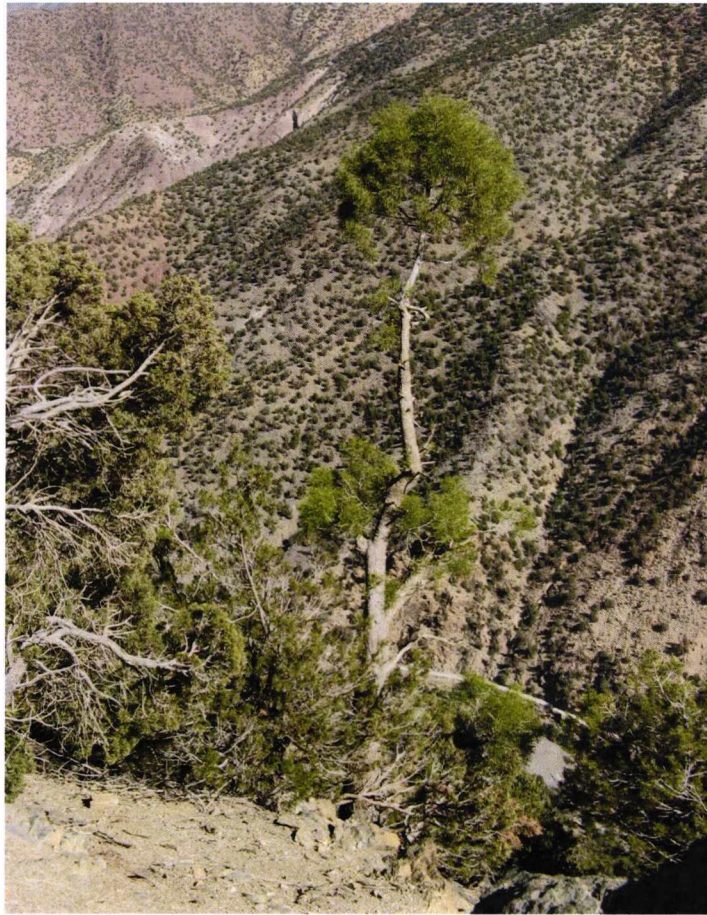


Plate 7.1: Lopped thuya tree, around 4m in height – the side branches have been cut away to encourage tall, straight growth of the trunk.

answered; “no, the people here are not interested in growing thuya, it is not that important to them”, and had therefore never experimented with seeds.

7.5.4 Argan: the tree of life

It has been argued that if a plant species is held to be of cultural importance to a community, then it is likely to be managed in a sustainable manner by its users (Garibaldi and Turner 2004a). For the rural communities in this study thuya appears to be of high cultural value, with the tree providing a range of basic needs for the community. However, although the locals in both villages describe thuya as an important species, they



Plate 7.2: Base of a coppiced thuya tree showing new tree re-growth. Note that one of the trunks was left standing on the tree.

rank it lower than argan¹. The argan tree is described as a 'tree to live by', whilst the thuya tree is regarded as a 'tree to utilise'.

Argan (plate 7.4) is endemic to southwest Morocco, and covers an area of 320,000 square miles. Although slow growing, argan plays an important role in preventing soil erosion and in maintaining soil fertility (Charrouf and Guillaume 1999). Throughout its range, argan is associated with thuya (Boudy 1948:143), and the two trees form an integral part of rural livelihoods.

¹ When I asked several informants what they considered to be the most important trees, they replied in order: almond, olive, argan, and carob. Only after a pause for thought did they then mention thuya.



Plate 7.3: Young thuya tree showing a lopped tip. Note the vigorous re-growth of new shoots around the cut.

The primary uses of argan are oil, for cooking and cosmetic purposes, fuel, and grazing. The integration of these uses ensures that there is no wastage of argan resources. For example, the oil is produced from the nut of the tree and is interlinked with goat grazing. Goats climb into the spiny trees to graze the leaves and fruits, and on return to their stable they excrete the indigestible nuts that are then gathered by their owners. The nuts are cracked to obtain the kernels, which are roasted, ground, and kneaded with water to extract the oil. The nut shells are used as a fuel, and the waste ground kernels are used as soap or fed back to livestock (Ahmed 2003, Morton and Voss 1987).

In addition to supplying basic utilitarian needs, argan holds a deep spiritual value. Individual argan trees are often venerated due to their association with local saints or *jinn*, and may become sites of pilgrimage, ritual and sacrifice (Mackenzie 2003, Simenal 2005). In the Haha region (the southern half of Essaouira Province), every village was



Plate 7.4 Argan tree with browsing goats.

found to have at least one venerated argan tree (Mackenzie 2003:2). During my fieldwork, some female friends took me to visit one such tree in the hills south of Essaouira. The tree sits partially hidden behind a huge rock, beneath which is said to lie a dead giant (also a *jinn*). I was told that if you make an offering beneath the tree, or tie a piece of your clothing to a branch, then you will find a husband or get pregnant. My friends laughed about the stories of *jinn* and magic, but each individually disappeared behind the rock to the tree, and they were all insistent that the rock must be climbed.

Following scientific studies demonstrating the beneficial nutritional and cosmetic properties of argan oil (Charrouf and Guillaume 1999, Morton and Voss 1987), attempts have been made to commercialise its production. This has been largely successful, with the creation of several cooperatives in rural areas. There have also been positive social consequences, as the cooperatives have given women the opportunity to work outside the household and obtain a cash income. However, there have been claims of over-harvesting of fruit, preventing regeneration of argan forests (Lybbert and Barrett 2004). It is more likely that the primary reason for the decline of argan forests is the clearing of land for agriculture and development.

7.5.5 Landscape management and perceptions of landscape

The contrasting perceptions of thuya and argan are best illustrated by looking at the local landscape, in particular the distribution of thuya and argan forest around the village of Tamadout. Different zones are visible in the landscape that relate to the different usage of each species (figure 7.11). Immediately surrounding the village are enclosed fields where the crops are grown. The only trees present here are fruit and cash crops. Beyond these enclosed fields are open, stony fields where barley is grown. Scattered argan trees occur throughout this area. The open fields merge into the forest edge, consisting of thuya trees intermingled with scattered argan and acacia. Both thuya and acacia are heavily grazed and harvested, resulting in small, scrubby bushes. The acacia is harvested to make dead hedges, and the thuya is cut for fodder in winter when the animals remain in the village. The next forest zone is used primarily for construction materials. This area is dominated by thuya, nearly all of which have been managed in some way, by lopping-off side branches or coppicing. Regeneration of trees is high, including young saplings, indicating that grazing is controlled in this area. This area continues up the hillside, gradually merging into denser thuya forest along the ridges where the main activity is grazing.

A small *oued* runs down the hill towards the village, dissecting the forest in two. The near-side bank of the river displays the pattern described above. The opposite bank of the river has a different pattern. On the lower slopes, opposite the open fields is an open argan forest, which I term argan savannah, consisting exclusively of widely spaced argan trees. Further away from the village and up the hill, this changes to a mixed forest of argan and thuya. Unlike the managed construction zone on the opposite bank of the stream, thuya is less frequent than argan in this area. The thuya trees here are not managed for regeneration, and there are many dead stumps and hollows from uprooted trees. Commercial thuya harvesting in this area is carried out to supply the woodworking trade, as opposed to the construction zone, which is managed for local community use only.

Forest management is also closely related to ownership of resources. The forest is owned by the state, which imposes restrictions on resource use, for example, restricting

harvesting to dead wood. Despite this, branches and wood are regularly cut from thuya trees for forage, fuel, and for sale. These breaches of the law are largely tolerated by the local forestry guards, although they periodically impose small fines on harvesters. This is not a completely open-access situation, as the local population has developed informal rules to control resource access. For example, they regulate levels of grazing in the different areas to enable tree regeneration. They also have the power to control outsider use of their local forests. One example of this relates to camel herders who periodically pass through the area. Although the local population has no power to initially deny access to these outsiders, if the herds are perceived to be over-grazing, then the local population will complain to the authorities who may then order the camel herders to move on.

There is a significant difference in the ownership customs of argan trees compared with thuya trees. In the case of thuya, there is no exclusive ownership of the trees. Therefore, when an individual manages an individual tree in order to obtain a particular type of re-growth (for example cutting side branches to encourage tall, straight trunk growth), there is no guarantee that they will be able to gain the product of their work, as anyone can come and cut that tree at any time. The general rule is that forest resources do not belong to a person until they have been removed from the forest. In sharp contrast to this is the situation regarding argan. Unlike thuya forest, which is considered exclusively state property with only grazing and dead wood collection rights officially allowed to locals, the Forestry Service has recognised ownership of argan trees. Argan areas are divided up and allocated to villages. These areas have either communal access for grazing and fruit harvesting to all villagers (*azroug*), or individuals or families have usufruct rights over each tree, giving them exclusive rights to harvest the fruit (*agdal*). Unlike thuya, there is an opportunity for long-term management of argan trees with guaranteed returns (Ahmed 2003).

The local population itself describe how the whole area, up to the edges of the village, was once thuya forest. The thuya trees were all harvested, leaving the scattered argan trees. They claim that the argan cannot be cut, due to its life giving properties. This indicates a significant difference in local perceptions and valuation of the two trees; argan

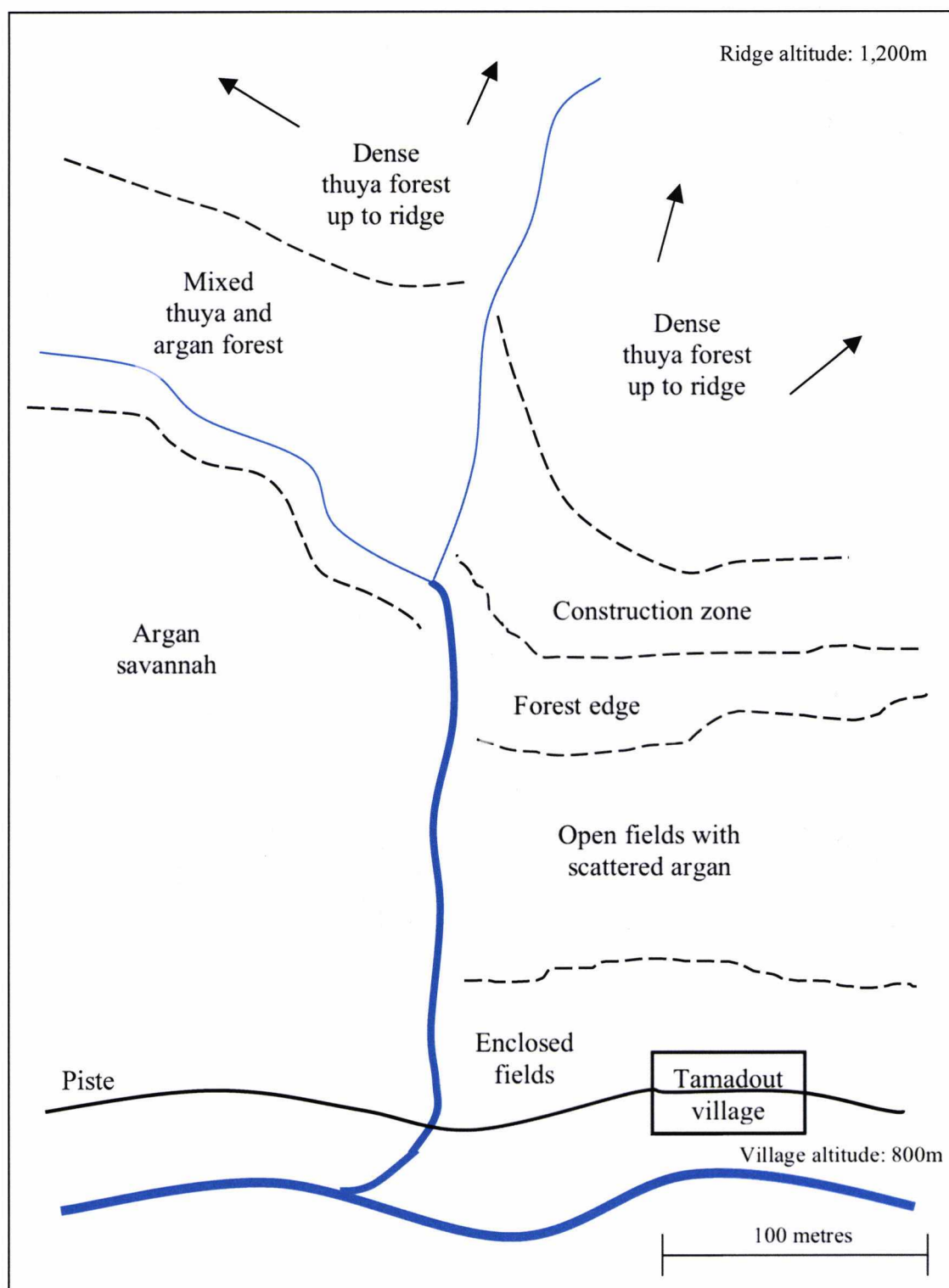


Figure 7.11: Landscape zones surrounding the village of Tamadout.

has an important socio-cultural role while thuya has a utilitarian and economic role. These values are inextricably bound-up in (and may even have originated from) the different kinds of products obtained from the two trees, and the interaction of the two has resulted in the current landscape.

7.5.6 Commercial thuya harvesting

A further implication of the local perceptions of the landscape and its management lie in the harvesting of thuya wood for commercial sale to the woodworking craft. In some areas, harvesters of thuya timber destined for trade clear-fell an entire area leaving a degraded landscape. However, in the study region, harvesters have taken a different approach to commercial harvesting, incorporating it into current perceptions and practices.

The majority of harvesting of thuya for commercial sale in the study area occurs in the mixed argan-thuya forest, not the pure stands of thuya that are managed for domestic use. In this way, the locals are protecting and ensuring the continuation of the forest areas essential to their subsistence livelihoods. At the time of study, there was evidence of a mixture of timber and burl harvesting, only the latter of which requires the killing of the tree to dig up the burl. However, many of the tree stumps harvested only for the timber (the burl were too small to be economically viable) were dead, implying that correct coppicing methods had not been used.

The irresponsible management practices used to commercially harvest timber are not the result of loss of traditional knowledge, or of the power of the market to over-ride sustainable practices. Rather, they are part of the long-term landscape perceptions of the harvesters. Locals spoke of how the long-term trend for thuya-argan forest is conversion to argan savannah. In this way, the locals use the thuya wood for essential household needs, and create an essential permanent argan orchard for future generations. In this way, state owned forest is converted into quasi-private property. This traditional perception has been adapted to incorporate commercial thuya harvesting. Instead of local

use, the timber is sold to merchants. It is therefore more useful for this forest to be converted to argan savannah than to remain as mixed woodland.

7.6 Conclusions

This chapter has examined the perceptions and cultural significance of thuya for three types of stakeholder: artisans, tourists, and rural communities. The last of these includes thuya harvesters. It is clear that these represent three very different groups of people, each with their own ideas and expectations of thuya. Cultural significance was assessed with reference to the criteria described by Cristancho and Vining (2004) and Garibaldi and Turner (2004a).

Artisans fulfilled nearly all of the criteria, suggesting a high cultural significance. However, there was no spiritual or religious value, and no stories relating to the tree. It is unsurprising that thuya is of significance to artisans, as they are a body of craftsmen whose profession is based upon this natural resource. For this reason, I argue that the value of thuya is uni-dimensional, being predominantly economic. This is because of the low opinion of the craft among the inhabitants of Essaouira, and because most men now enter trade due to low employment opportunities in other sectors. I argue that where species have a significance that is determined uni-dimensionally, and primarily through recent economic significance, they are unlikely to meet the model of multi-dimensional significance portrayed in cultural keystone species models.

Despite extensive marketing attempts to sell Essaouira as the town of thuya marquetry, few tourists have prior knowledge of the craft before visiting the town. Even then, knowledge is largely limited to its name. This ignorance is shared by Moroccan tourists, suggesting that there is no national perception of thuya as an important species. Although a high proportion of tourists purchase thuya items, and claim to prefer high quality, traditional items, in practice they choose cheap, low quality, simplified objects. The only criterion that is fulfilled by tourists is the role of thuya in trade, and even then data suggests that its role as a souvenir is easily substitutable. I would argue that there is no cultural significance therefore of thuya to consumers in the form of tourists.

Thuya has a high utilitarian value in rural areas, although increasing distance from the forest, and conservation projects, have caused a decline in some areas. Thuya is used to supply basic, multiple needs of the community, and alternatives are limited due to the limited access of villagers to the cash economy. Those people who harvest thuya have a high level of knowledge concerning the species' ecology and management and utilisation, for example in medicine. Although no spiritual or religious value of thuya was found, there were several proverbs and one story involving the tree. Knowledge and perceptions of the tree remain principally utilitarian, as demonstrated by the diachronic management patterns of the local landscape: thuya is regarded as the 'tree to use', as opposed to argan, which is considered the 'tree to live by'.

Chapter Eight

Conclusions

Last question of the evening... I ask Mohamed if there are any songs or proverbs about thuya. "No, there are none", he says. I use a different word, tareekh, which means story or history. He laughs, but in a sad, ironic way. He says, "the tareekh is that I am doing the same as all my ancestors: cutting wood in the forest and burning it to make pottery".

(Excerpt from a conversation with a potter, who uses thuya and juniper wood to fire his ovens, 12/11/06)

8.1 Defining sustainability

Roy Rappaport has famously argued (e.g. 1999:427) that the more symbolically or rhetorically important an expression in maintaining an ideological or religious system, the more vague and multivalent its meaning. He was thinking particularly of words such as 'democracy' and 'liberty' in the context of late twentieth century political narratives, but the idea applies equally well to words such as 'sustainability' in the context of the increasingly hegemonic global discourse of political ecology (Blaikie and Brookfield 1986, Dove 1988, Stott and Sullivan 2000). There are many conflicting definitions of sustainability. Peters (1988) writes "there is a considerable degree of confusion of what the word actually means". Robinson (1996) describes the term "sustainable use" as "loaded", taking on a different meaning and form depending on the intentions of the user (see also Dobson 2000:55, McNeill 2000:19). It is now widely accepted that there are three dimensions of sustainability: ecological, economic, and social/cultural. It is the different approaches and aims of each of these that sets-up conflict between them (Cunningham 2001:6, Hall and Bawa 1993, McNeill 2000:16, Robinson 1996:5).

Ecological sustainability has been defined as resource extraction that has "no long term deleterious effect on the reproduction and regeneration of populations being harvested in

comparison to equivalent non-harvested populations. Furthermore, sustainable harvest should have no discernable adverse effect on other species in the community, or on ecosystem structure and function.” (Hall and Bawa 1993:235). There are several mathematical models that are used to determine whether a resource is being extracted in an ecologically sustainable manner (for examples see Hillborn et al. 1995, Sutherland 2000). Despite the complexity of some of these models, the basic underlying assumptions are simple: sustainable extraction depends on the existence of a reproductive surplus in the population, allowing individuals to be removed at the rate at which they would otherwise increase (Hilborn, Walters, and Ludwig 1995, Sutherland 2000). However, often even the minimum data required to perform these calculations are unavailable, and sustainable yield models tend to overestimate yields, thus resulting in over-extraction. Cunningham (2001:147) addresses this problem by suggesting a set of criteria which he terms ‘ecological filters’, that indicate whether a species is likely to be vulnerable or resilient to harvesting.

Ecological sustainability is not necessarily the same as environmental conservation, as it has an emphasis on the reproducibility of the system and not necessarily the preservation of its parts. Thus, a protected area may conserve habitats in a desired form but may inevitably alter a wider ecological dynamic by preventing certain processes. Nevertheless, the notion of ecological sustainability privileges the concerns of ‘the environment’ above the needs of individual human populations. By contrast, economic and socio-cultural sustainability models do the reverse. If we accept the common definition of economics as about the interaction of individuals behaving in a rational, self-interested manner, the environment is merely a constraint or material resource to be utilised (McNeill 2000:15). The market and household economics, of course, play an essential role in harvesting patterns. For example, whether plant resource extraction is for the purpose of large scale i.e. international, or local, use and trade will have an impact on extraction. Plant populations often become over-extracted as trade increases in scale (Lange and Schippmann 1997:105). Harvesting for large-scale trade is far more likely to involve non-locals, and people who are dependant upon harvesting for their income. Thus, in his study of commercialisation of wild medicinal plants in South-west Puebla,

Mexico, Hersch-Martinez (1995) discovered that commercialisation had resulted in non-locals - who showed little knowledge of many of the plants - seeking employment as collectors and traders, gathering often being initiated by external request. Dependency on the income generated from plant collecting can encourage harvesters to disregard traditional plant conservation or management practices, and instead focus on maximising income. This problem is exacerbated as many collectors are from low-income households, often women and children, and prices paid by commercial operators tend to be low. This can result in the tendency to 'mine' rather than 'manage' natural resources (Kuipers 1997:47). Higher prices can also attract more outsiders, therefore leading to greater harvesting levels.

In socio-cultural sustainability models, the objective is to maintain and reproduce a desired social and cultural order, often perceived as a 'traditional' way of life. The environment is considered as a resource or constraint, but in addition a locus of meaning (McNeill 2000:15). Social organisation and local traditions have been shown to have a strong influence on utilisation of natural resources. For example, some traditional institutions control and regulate harvesting of resources thus preventing over-harvesting (Berkes and Folke 1998, McCay and Acheson 1990). However, the maintenance of a traditional way of life may be compatible with high levels of environmental change, if this does not threaten valued cultural features and social arrangements, for example the preservation of culturally-valued glutinous varieties of rice alongside increasing productivity through a move to high-yielding varieties in Java (Soemarwoto 2007). Sometimes, rapid environmental and economic change allows for higher levels of investment in traditionally valorised practices, such as feasting or ceremonial exchange, as we know from the history of the potlatch in the American northwest at the end of the nineteenth century (Codere 1950). However, paradoxically, such deliberate investment in traditional forms of practice at higher levels of output often led to eventual major changes, and sometimes system collapse.

Despite the considerable differences between them, the three kinds of sustainability are in constant interaction, and have a significant influence on each other. For example,

traditional land tenure systems tend to break down in the face of commercialisation, especially when demands for resources are high (Hersch-Martinez 1995). Likewise, extreme climatic events such as drought can result in crop failure, which may increase dependence on wild resources for household income. The essential need to attempt to address all three dimensions leads to a constant unresolved dilemma in sustainability studies. One such attempt is that of 'sustainable development', although this too has its own internal conceptual contradictions (Redclift 1995). Sustainable development has been defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland 1987:8). Similar to socio-cultural sustainability, the emphasis is also on the development of human populations, but often irrespective of the potential impact on the environment (Dobson 2000).

Not only are there a multitude of sustainability discourses, each with their different emphases on the balance between ecological, socio-cultural, and economic success, but we constantly need to pose the question "sustainability of what?" (Dobson 2000:55, Redclift 2000:3). In the case of thuya, there are three potential answers to this question: sustainability of the thuya craft and artisan livelihoods, sustainability of rural livelihoods dependant upon thuya forests, and sustainability of the thuya forests themselves. The first two are more concerned with the economic and socio-cultural dimensions of sustainability, whilst the third is primarily concerned with the ecological dimension. I shall consider each of these in turn.

8.2 Sustainability of the thuya craft

In emphasising the embeddedness of artisans within a larger network of those involved in the thuya industry, this study has highlighted several basic and pervasive assumptions in our understanding of sustainable resource use that are fundamentally flawed, namely that:

- 1) traditional craft workers are physically close to the natural resources they use;
- 2) where a craft is considered traditional the natural resource upon which it depends will be highly valued and therefore managed sustainably;

- 3) where there is a large body of local knowledge relating to the resource then it will be sustainably harvested; and
- 4) where a species has 'cultural significance' it will be managed sustainably.

Let us examine each of these in turn.

8.2.1 The assumption of closeness to natural resource

Within the development and conservation field there has long been an emphasis on 'traditional' crafts: "for decades, commercial crafts production has been viewed by donors and rural development agencies as an important means for poorer rural people, often from remote areas, to enter a cash economy" (Belcher et al. 2005:4, Cunningham 2001:5). These crafts are perceived as sustainable due to a sense of their authenticity and traditionality (under the tourist gaze), and due to the apparent closeness of the crafts-people to the natural resource (Kerr 1991, Garibaldi and Turner 2004a). Inevitably, this is a view fostered by a romantic vision of how traditional peoples live and the 'green' credentials of their worldviews (Ellen 1986, Ellingson 2001, Hames 2007). This view has created a tension between ecological and economic notions of sustainability, as livelihood sustainability through craft production (especially in periods of growing demand due to export opportunities and increased local consumption driven, for example, by tourism) often leads to destructive harvesting. This has led to unresolved, and perhaps unresolvable, dilemmas in development projects that encourage utilisation of a natural resource in their attempts to achieve livelihood sustainability.

However, studies have shown that often, neither ecological nor livelihood sustainability is achieved under such conditions. For example, in their study of Zimbabwe carvers, Standa-Gunda and Braedt (2005:72) show that competition between carvers results in very low wages with limited or no opportunities for long-term investment, thus highlighting the low value of carving, as most carvers only turn to the craft when other livelihood options fail, or during the quieter agricultural periods (Jacobsen 1999:30, Shackleton 2005:83). Also, increased pressure on resources has led to a decline in wild populations of useful timber resources through over-extraction for craft woodworking, here and elsewhere (eg. Mexico: Purata et al. 2005:147; Kenya: Choge et al. 2005:31;

India: Chatterjee et al. 2005:103). These studies show how a decline of favoured wood species has instigated a variety of responses, including substitution of other species (either wild or cultivated), implementation of sustainable forest management plans, government afforestation projects, and the migration of carvers to new resource rich regions.

The thuya craft in Essaouira well exemplifies the assumption of closeness to resource. The craft is described (by the state, local NGOs and traders) as traditional, and therefore something to maintain and encourage. Likewise, forest decline is blamed on the artisans, in particular on the mass production of poor quality items, and the high level of wastage. Consequently, most projects aimed at addressing the thuya conservation problem have focused on the artisans. However, contrary to this assumption, I have demonstrated in Chapter Four how the artisans are embedded in a complex web of actors, extending from the thuya forests of the High Atlas mountains, to tourists of European and north American origin. The position of artisans within this network restricts and influences the options available to them and the choices they can make in regard to how they practice their craft.

Artisans are spatially and organisationally distanced from thuya forests. Wood supplies are purchased from wood depots in Essaouira, so artisans have no direct influence over forest management. This means that there are no feedback mechanisms in place to effectively control extraction of thuya in the interests of the craft. For example, there is no effective way an artisan can express his desire to utilise only legally and sustainably harvested wood. Only a fraction of thuya is legally extracted and bears the Forestry Service stamp, but the supply and level of quality of this wood is irregular, and an artisan cannot afford to wait for new stocks to arrive. In addition, stamped wood is more expensive, so only more economically advantaged artisans can afford it. During fieldwork I never encountered an artisan who sought to purchase stamped wood, for reasons of sustainability or otherwise. The current economic, social and political situation provides no incentive to act in a sustainable manner. On the contrary, economic insecurity, and lack of regulatory values and mechanisms within the craft, encourages an

individualistic and opportunistic market-driven ethos. Even if an artisan decides to restrict himself to 'good' wood, there is no guarantee that this has been sustainably harvested, due to the corruption in the issuing of logging permits, the absence of accurate forest surveys and management, and the faking of stamps of authentication.

The social and economic embeddedness of artisans and their isolation from the natural resource distinguish the thuya case described here from other studies of artisans utilising natural resources who harvest the resource themselves (Omeja et al. 2005, Standa-Gunda and Braedt 2005, Shackleton 2005). The assumption that users of natural resources are located physically and spatially close to the natural resource cannot always be made, and most likely increasingly so in a number of situations worldwide. One outcome of this oversimplification has been to blame artisans for forest decline, when they are in fact relatively weak, having little power over the resources they use, and to ignore the more serious issue of poor harvesting and management.

8.2.2 Knowledge and sustainability

The assumption concerning tradition and authenticity is associated with a third, namely that if a large body of knowledge exists pertaining to a practice this will encourage sustainable management of the resource upon which it depends (Berkes 1999:59, Ellen 2000, Garibaldi and Turner 2004a). This study has shown that two distinct semi-autonomous bodies of knowledge exists, one regarding the harvesting of thuya, which I will discuss in section 8.3 and 8.4, and the other regarding its utilisation in the thuya woodworking craft.

Knowledge of thuya is unrelated to its sustainability for two reasons. Firstly, as argued above, in the case of thuya artisans, knowledge of how to *use* a natural resource has little relation to its extraction, as artisans are isolated from, and have no power over, the process of harvesting. Secondly, knowledge appropriate to sustainable management, whether through reduction of workshop waste, engaging in the production of small quantities of high quality products, or selection of Forestry Service stamped timber, does not necessarily lead to optimal behaviour. Rather, behaviour derives from the

instantiation of selected knowledge in a particular situation. Exactly what knowledge is instantiated is the outcome of the personal choice of an individual actor made within the limitations of external factors. In the case of thuya artisans, these factors are market-driven rather than reflecting an ethos of sustainability. As Dove (1988:15) argues: “the importance of incentives in peasant conservation of the environment is routinely overlooked”. The importance of incentives in conservation is discussed in section 8.3.

A further issue is that even if an artisan wants to behave in a sustainable manner, he may not have the necessary ‘instantiation knowledge’ (Fischer 2005, Read 2000; cf. Ellen 1993:229) required to do so. Instantiation ‘links the ideational level of cultural constructs with the phenomenological level of behaviour’ (ibid:4), so that an artisan may know that if he practices woodworking in a particular way then he can reduce wastage, but he may not possess the necessary skills and knowledge to implement the required practices. This problem of instantiation knowledge is increasing, as new apprenticeships do not teach all the necessary skills to allow an artisan to adapt and apply his skills to new situations.

8.2.3 Cultural significance and sustainability

There is an assumption within the cultural keystone literature that if a species has ‘cultural significance’ then it will be managed in a sustainable manner. This has led to various attempts to quantify the level of significance of a species for a particular group of people, of which a good understanding and level of knowledge, as discussed above, is considered one aspect (Christancho and Vining 2004, Garibaldi and Turner 2004). As discussed in Chapter One, one of the primary problems in defining cultural significance is identifying the community or population for whom the species is important. In the case of thuya there are many different groups of stakeholders involved in the harvesting and trade of the wood, and in production and consumption. The thuya tree holds a different, and often conflicting, value for each of these groups.

Chapter Seven showed that determination and quantification of cultural value is difficult and subjective, even with the use of transparent and measurable criteria. Early indicators of species importance focused too heavily on economic use, and cultural keystone

attempts to correct the balance have overstated ideology and cosmology at the expense of utilitarian and economic values (Platten and Henfrey in preparation). None have succeeded in addressing the value of a species for a group of specialist resource users, such as woodworkers. It is clear that thuya is of importance to the artisans of Essaouira, yet this value is primarily economic. For many artisans, woodworking is a means of employment, and entered into due to lack of alternatives rather than a love of the craft (Jacobsen 1999:30, Shackleton 2005:83). The difficulty is distinguishing between the culture of thuya woodworkers and their economic dependence upon the craft.

Even when thuya can be shown to have a high cultural value for artisans this does not automatically induce sustainable behaviour in the way suggested by proponents of cultural valuation (Christancho and Vining 2004, Garibaldi and Turner 2004). As in the discussion concerning knowledge and its instantiation, the behaviour of an individual need not be directly related to that individual's value system, and values and ideals can diverge markedly from practice. Artisans are too dislocated from the forests, and too weak within thuya networks, to have any influence over resource management. Even when artisans do highly value thuya and care about the future of the forests, they are prevented from acting in ways that may promote better forest management by the social and economic factors restricting their actions.

8.2.4 Traditionality and emergent authenticity

The thuya craft originated towards the end of the nineteenth century, and as such represented a break with traditional patterns of utilisation. Instrumental in its creation and development was the French colonial administration, whose primary aim was economic development; but the craft was also influenced by techniques and designs imported from Spain, Algeria, Syria, and from generic Islamic art. Therefore, in the form we see it today, the thuya craft can be considered an 'invented tradition' (Hobsbawm 1983) and its products display what Cohen (1988:379) terms 'emergent authenticity'. This study has shown how such emergent authenticity can become a tradition, and subsequently essential to the socio-economic survival of an entire town, and a source of cultural pride for its inhabitants.

The thuya craft is now considered, in local, national and international arenas, as the unique authentic tradition of Essaouira. This idea of authenticity is used as a marketing tool for artisans and traders alike, as well as a device within conservation projects. Crafts are often perceived idealistically, and a knowledge of the craft that is considered 'unchanging' is often confused with sustainable resource use (see section 8.2.1). The perception of natural resource users in this way has led to their derogation when it is subsequently discovered that their management practices do not match perfectly what is considered (by conservationists) as sustainable. Although the development literature is increasingly realistic when it comes to its use of the conception of 'traditionality', the human-centred conservation literature has tended to reproduce these discarded and naïve notions.

Although now considered a tradition, the assumption that if something is traditional then the resource will be highly valued and therefore managed sustainably, is quite untrue for thuya. In fact, it appears that a common property of invented traditions is that they are determined more by economic factors rather than socio-cultural values, as argued in Chapter Six. As tools to assist sustainable development of the craft, the tradition and authenticity debates are redundant; firstly because of the dynamic character of tradition, and secondly because there is no single definition of what constitutes an 'authentic' item (Wang 1999). Each of the groups of stakeholder involved in the thuya nexus hold different beliefs as to what is traditional and authentic (or not) about the craft. Perceptions vary even within these groups, for example between artisans who consider accuracy in design detail as truly authentic, and others who see authenticity reflected in the type of design used. To quote Cohen (1988:374): "'authenticity' is a socially constructed concept and its social (as against philosophical) connotation is, therefore, not given, but 'negotiable'".

Furthermore, determination of what is authentic is not helpful as a tool to control the craft in terms of quality of production. This is because consideration of a product, for example, as authentic, does not necessarily induce a customer to purchase it. This is illustrated in the tourist survey data presented in Chapter Seven, in which foreign tourists regarded

geometric inlay as the most authentic woodworking technique, yet chose to purchase objects made using different techniques. "The vast majority of tourists do not demand ... a 'total authenticity'" (Cohen 1988:378), as well as taking other factors such as cost and size into account when purchasing souvenirs. Likewise, perceptions of authenticity do not induce an artisan to produce a particular item, as illustrated by the hundreds of artisans who choose to make 'inauthentic' items. Again, other factors such as economics, social background and personal choice are more important than a desire to be loyal to perceptions of authenticity.

8.2.5 The market cycle of invented traditions: *alebrije* carving in Mexico

This discussion has shown how thuya artisans are unable, through limits imposed by their economic or social organisation, to purchase sustainably harvested wood, or have no incentive to do so. Thus, as with other new crafts, the thuya craft is motivated and controlled by economic factors. The economic situation in Essaouira is becoming more difficult, as European immigrants and national and global trends inflate living costs. Many young men enter the thuya craft due to an absence of employment alternatives. These men are more likely to become 'new' apprentices and enter mass production, making low quality goods with high wastage. This, in addition to the dominance of traders, has led to a decline in profits and status for artisans. Those artisans who are already struggling to make enough money to feed their families will be pushed further into debt relations with traders. In this way a positive feedback loop occurs. The economic difficulties of the craft have compelled many artisans to leave the craft, and tourist development in Essaouira is providing increasing opportunities to do so. It is usually the less interested, 'new' apprentices and mass production artisans, who will leave the trade if they can.

I suggest one possible outcome from this market-driven craft: as less motivated artisans leave the craft there will be a decrease in the overall number of artisans. This will result in a greater proportion of artisans who are more dedicated to the craft, and who are more skilled. This in turn will cause a decrease in the quantity of products on the market, but a rise in quality. Within this scenario the craft would contract in size but return to a more

sustainable situation in which a few high quality craftsmen enjoy a high status and good economic return for their work. However, the craft is also heavily influenced by tourism, and if this latter continues to increase, then mass production could force traditional artisans out of business, resulting in a loss of high quality skilled work. This scenario would eventually destroy the craft as wood supplies continue to decline.

A close parallel to the thuya example is *alebrije* carving of *Bursera* spp. in Mexico (Chibnik 2000, 2003). The *alebrije* carving industry originated in the 1950s in three small communities in Oaxaca, and can be traced back to three men. So like thuya, it can be described as an invented tradition. However, the rise of the *alebrije* industry has been even more rapid than that of thuya. Aided and encouraged by a national agency, the 'Fomento Nacional de Artesania', the craft flourished in the 1980s when American wholesalers began visiting the artisans to purchase their products. The craft expanded, the increased demand and competition initiating a transition from family based production to hired labour workshops. *Bursera* populations also suffered.

The artisans responded to competition by specialising. This took the form of representation (form of product), physical characteristics (materials, size), carving and painting style, or price, and enabled the artisans to create a niche for their work (Chibnik 2003:130). Specialisation was encouraged by state agency sponsored carving competitions and an increase in handicraft shops selling carvings. Specialisation has also occurred among thuya artisans, although for different reasons. *Alebrije* artisans specialised in order to define an individual niche for themselves and produce unique products. In contrast, thuya artisans who specialise often make mass-produced, identical items such as boxes, domino sets, or bowls. This type of work often requires fewer skills on the part of the artisan, as opposed to the greater skillbase required for innovation. It is usually the older 'true' *maâlmîne* who maintain a wide diversity of skills and products. One reason for this is that unlike *alebrije* carvings, which attract good prices, the thuya artisan receives relatively little for his work. Diversity of production is a way of reducing risk and increasing resilience of that artisans' livelihood.

A second important difference between Mexican carvers and Moroccan thuya carpenters is their attitude towards copying and innovation. In Mexico, *Alebrije* artisans typically innovate and develop specialities in their attempts to establish niches for themselves in a complex economic environment (Chibnik 2000). I argue that in the case of thuya artisans, innovation is generally avoided. This disparity cannot be explained by differences in the cultural significance of each craft: both crafts are relatively recent and have been deeply influenced by outside forms. However, where as in Mexico an increase in copying of successful products caused artisans to increase the complexity and elaborateness of their work so that copying became more difficult, in Morocco widespread copying has dissuaded artisans from innovating. Here, artisans complain about the extent of the 'theft' of ideas and would rather hide their creativity than have someone else steal their ideas. Again, this difference can be explained in part by economics. In Mexico *Bursera* wood and other materials are cheap, and labour costs low, so it is economically viable to experiment. In contrast, thuya artisans often cannot afford the initial costs of wood and materials, instead relying on cash advances from the client, and production is slow, requiring several days or weeks to produce one item. They therefore cannot afford the costs of spending time and money experimenting and innovating.

Using product life cycle theory, Chibnik (2003:125) describes the *alebrije* industry as near the end of its late growth stage, or maturity stage. Product life cycles consist of five stages: introduction, early growth, late growth, maturity, and decline. The first is characterised by a few pioneer producers, followed by rapid growth of the industry and number of producers. The late growth phase sees a reduction in the number of producers as the strong force out the weak, and is characterised by product differentiation and market segmentation. This levels out in the maturity stage as sales level off. The last stage is characterised by a decrease in sales, ending in a withdrawal of the product from the market. Chibnik argues that the later stages of product life cycles is characterised by market segmentation as artisans specialise in an attempt to create a niche for themselves, and this is what *alebrije* artisans have done. However, the number of artisans has not decreased as the model predicts. The thuya industry has experienced the introduction phase and the slow growth phase. The 1980s saw the start of the late growth phase, with a

rapid increase in producers and competition. Unlike the Mexican example, recent years have seen a drop in the number of artisans, as big workshops have forced out smaller workshops and individual artisans. But instead of specialisation the market has become dominated by mass-produced items as the result of the dramatic increase in the number of tourists.

8.3 Sustainability of rural livelihoods

In addition to woodworking artisans, the thuya industry also plays a significant role in the lives of rural forest dwellers. This role is two-fold: firstly through income gained from harvesting and selling timber, and secondly through the effect of harvesting on the forests, on which local communities are dependant for many of their basic needs.

I showed in Chapter Seven how thuya harvesters in the Aoulouz region possess the necessary knowledge, and are very capable of, managing their local forest resources in a way that current models might describe as ecologically 'sustainable'. Forest inhabitants in Morocco are well aware of their dependence on the environment, that thuya is a finite resource, and that any over-extraction or habitat damage is detrimental to their own wellbeing. They have, therefore, a strong incentive to engage in sensitive management practices. In this sense, they are behaving as the peasant folk-model of 'limited good' that Foster (1965) predicts. Consequently, forest users implement a range of management practices to ensure regeneration of the forest resources they harvest.

However, contrary to Foster's treatment of the peasant community as a closed system, peasants in Morocco are very alert to their position in a wider society. Thus, household livelihood strategies often include one or more members out-migrating from the village in order to seek cash employment. Likewise, forest users are aware that the state own the forests they live within, and that they have limited rights over forest resources. Despite this, a situation in which resources are considered open-access to all is not entirely a 'tragedy of the commons' (Hardin 1968). Locals *want* to harvest wild resources in a sustainable manner, as survival of their culture and communities is dependent upon just that. There is evidence throughout the landscape that local people are utilising natural

resources to the best of their abilities. They do this by excluding outside resources extractors, rotating harvesting and grazing areas, and managing trees for regeneration. All of the management methods described for thuya in Chapter Seven are also used for other commonly used trees, including *Juniperus phoenicea* (phoenician juniper), *Juniperus oxycedrus* (prickly juniper), and *Quercus rotundifolia* (holm oak), illustrating a broad body of environmental knowledge. It could be argued that, as in the case of the Nuaulu in Indonesia, communities of thuya forest dwellers have co-evolved with the forest, which is consequently “the product of many generations of selective human interaction and modification (deliberate and inadvertent)” (Ellen 1999:137). Considering the 100 year long suppression of traditional management practices, including local institutions and land usufruct and ownership rights under the French Protectorate and in the independent Moroccan state, this might be regarded an impressive achievement.

As in all cases of natural resource use, the issue is far more complex than at first appears. Although one area of thuya forest might appear to be sustainably managed for local consumption, other areas, where commercial harvesting occurs, show that mixed thuya-argan forest is being slowly converted to argan savannah (see figure 7.11). This process is obviously unsustainable for thuya, but according to the Brundtland definition of sustainability (see section 8.1), it could be argued that the people are behaving in a sustainable manner in the sense that they are managing and maintaining their local landscape for current and future local livelihoods. However, this does not necessarily have the effect of maintaining thuya forest. As argued by Ellen (2000:178), “sustainability of a productive system must not be confused with conservation of a particular habitat” and what is sustainable for a thuya ecologist is not equivalent to what is sustainable for someone interested in development. As Dove (1988:15) argues, local people usually have a rational basis for behaviour perceived to be destructive by outsiders. This transformation further illustrates the dynamic and adaptable character of local knowledge.

This is not to say that all thuya harvesters in every community across Morocco behave in a similar manner. Each community exhibits different social and environmental conditions

and encounters different influences and incentives. It is also important to acknowledge that this situation is not necessarily stable or resilient, and may be subject to ecological, economic and social change. If people are to continue sustainable management practices there must be continuous and clear incentives for doing so. As argued in section 8.2.2, the existence of knowledge of sustainable management alone does not necessarily lead to implementation of that knowledge. This is especially true where local resource users have been denied access to their traditionally used resources, for example where states appropriate forest lands and subsequently award logging rights to outside, urban, enterprises. In such situations, traditional users of the forest may resort to destructive practices (Dove 1988:15, Nygren 2003: 33).

Dove (1988:15) mentions two examples in Indonesia regarding lack of incentives and rational 'destructive' behaviour that are relevant to the thuya example. In the first, he describes the burning of reforested state lands by peasants. Perceived by the state as environmental destruction, the peasants were actually re-asserting their traditional rights on lands that had been appropriated by the state. The extraction of thuya from mixed thuya-argan forests leading to the creation of argan savannah shows parallels to the Indonesian example. This process converts state forest (previously appropriated from local communities), where local people have little rights of extraction of resources, to a productive landscape in which the state acknowledges certain usufruct rights.

The second example involves the different attitudes of the state towards local timber harvesters and commercial logging enterprises (Dove 1988:16). Peasants are blamed for destructive logging, whilst forestry officials accept bribes to allow private businesses to pursue their operations unhindered. In response to this blatant corruption, local people may attempt to grab the resources before the outsiders do. This process has also been recorded for ironwood extraction in West Kalimantan (Peluso 1992). The same problem can be seen in Morocco with the extraction of thuya wood, as well as medicinal plants. For both of these resources, local people are officially excluded from extraction of the resource from state forests (although harvesting at low levels is tolerated by forestry guards), yet blamed for over-harvesting. At the same time, private enterprises are

awarded licenses by forestry officials in exchange for informal payments to strip an entire area of plants or timber. No ecological assessments are carried out prior to extraction, and there are no requirements for sustainable extraction practices or regeneration afterwards. It is unsurprising that in such an event in their local area, a villager will accept payment for employment as a harvester, as even a small payment is some recompense for loss of their local resources.

8.4 The sustainability of thuya forests

Although most modern ecological studies tend to focus on mathematical population models, I wish to argue that it is also necessary to consider current and historical human influences on landscape in order to gain a more holistic, diachronic understanding of landscape processes. In other words, I argue in favour of an approach from historical ecology (eg Balee 1998, Crumley 1994, Leach and Mearns 1996). Two themes arise: the received wisdom that Morocco is a desertified and degraded landscape, and the absence of analysis of the role state mismanagement has played in the loss of Moroccan forests. Although these themes are inter-related, for the purpose of this discussion I shall address each in turn.

8.4.1 The myth of Morocco as a degraded landscape

There are just a few accurate and independent studies of arid-land forest landscapes that address this for Morocco. Even Forestry Service statistics, which are difficult to obtain, vary in their calculations, as we have seen in the conflicting estimates given for thuya forest cover in Chapter Two. Likewise, my attempts during fieldwork to establish links with the Forestry Service with the aim of carrying out ecological assessments of thuya forest met with fear, suspicion and an absence of cooperation. It is therefore currently impossible to assess accurately the existing state of Moroccan forests and the impact of current management practices, while the extent to which forests are being effectively managed or mismanaged remains unknown.

A widespread image of the Moroccan landscape is of a landscape degraded and abused by local farmers (Benabid 2000:13, Bennaabane 1997, McNeill 2002:307, Rejdali 2004,

Williams 1995:47). The idea of forest degradation due to the wilful and ignorant practices of poor farmers is, of course, hardly unique to Morocco (see for example Fairhead and Leach 1996 on Guinea, Dove 2005 on Pakistan, Peluso 1994 on Java, Arnold and Guha 1999 on India, Sullivan 2000 on Namibia). In North Africa, the narrative of environmental degradation has its roots in a colonial policy pursued from the first half of the nineteenth century. When the French occupied Algeria in 1830 they implemented the French Forest Code. This code, written in 1827, was based on tropical and temperate forest regions, so it is not surprising that, when applied to the arid and semi-arid North African landscape, it was wrongly depicted as deforested and desertified (Davis 2004). The code was applied in Morocco following creation of the Protectorate in 1912, and with the same consequences. The forest code was more a tool of colonisation and control than one of conservation (Scott 1998:11), used to justify the appropriation of land, restriction of access to forest resources by locals, and forced settlement of nomadic groups. Similar consequences have been recorded following the introduction of European forestry regimes in other former colonial territories (eg. Arnold and Guha 1999, Neumann 1997, Peluso 1994).

Determining historical land-use is often problematic, as it is difficult or impossible to measure the kind and extent of previous land management practices. For example, the twelfth century Tin Mal mosque in the Nfiss Valley south of Marrakech was previously the site of the capital of Morocco. Today, where the town used to stand, there now lies only the remains of the mosque and a small, recently founded, village. There are few other surface indications of the previous town. If the largely forest-free mountain slopes surrounding the modern day village were once forested, then their degradation probably occurred centuries ago, rather than having been engineered by the current residents.

Recent palaeological evidence (eg. Davis 2004) has shown that, although there have been fluctuations in vegetation composition in Morocco over the last 2000 years (mostly due to climatic changes), there has been no strong overall trend of forest loss. Further, prior to the colonial period, the changes that occurred cannot be definitely attributed to human actions. In fact, "by far the greatest proportion of the loss of North Africa's forests took

place within the last century, primarily the half-century between 1890 and 1940" (Davis 2004).

The absence of reliable ecological information on the Atlas region is matched only by the absence of studies on what may be considered an 'acceptable' level of disturbance. In Europe, it is commonly accepted that all our landscapes are managed. They are in fact plagioclimaxes in current ecology succession terminology, that is ecological communities held in check by the activities of humans (Odum 1975:150). However, unlike European countries, in which forest landscape changes of the past are accepted as historical events, in forest and forest-savannah landscapes of the tropics and sub-tropics, and probably all forested areas outside of Europe in which Europeans have settled and administered dependant peoples, science has initially viewed forests as 'natural', ahistorical and un-anthropogenic (Ellen 2006). Consequently, local peoples are regarded as poor managers of this pristine landscape (Agrawal 1996, Balee 1989, Dove 1983, Fairhead and Leach 1996, Neumann 1997, Sullivan 2000). Much of the forest clearance in Morocco actually took place between 2000 and 5000 years ago. Further significant forest clearance phases occurred during the 11th and 12th centuries when areas of forest were cleared to make way for olive orchards, the products of which are now fundamental to Moroccan cuisine, agriculture and trade (Parish 2005:77). Likewise, recent studies suggest that the Moroccan landscape is a great deal more robust and resilient than received wisdom depicts;

these new ecological theories are accompanied by a growing body of physical evidence pointing to the resilience and robustness of much of the arid and semi-arid lands of North Africa and the Mediterranean basin. Research has demonstrated that many landscapes in this region are well adapted to disturbances such as intensive grazing and fire. Many plants, especially (but not only) forage plants, have been shown to have co-evolved with grazing animals, and thus are very resilient and resistant to grazing (Davis 2004:373).

These new findings are only slowly finding their way into the Moroccan environmental narrative. One reason for this is the complex and diverse ecology of the Atlas mountain region. Slight changes in slope, aspect, geology, and climate significantly affect the vegetation, and how it consequently interacts with human management. Extensive studies

are therefore required to gain a firm understanding of forest ecology and its human interactions.

8.4.2 Local management practices and state forest mismanagement

The long history of utilising thuya timber by local people in southern Morocco suggests that there is a strong potential for sustainable harvesting. Thuya is a resilient tree, capable of withstanding coppicing and lopping, grazing pressure, fire and harsh environmental conditions (Boudy 1950:266, Culmsee 2004, Emberger 1938, Farjon 2001). Likewise, commercial harvesting of timber for the Essaouira woodworking craft in itself, does not usually result in net loss of forest, as seen in Essaouira Province. Woodworking requires a certain size, and therefore age, of tree to obtain good quality, useful, timber. Harvesting of timber in Essaouira Province led to the complete extraction of all large-trunked trees by the late 1970s. However, the forest itself remained, albeit consisting of young and small trees. The forest has since been successfully managed, with limitations on grazing and harvesting for domestic consumption. On the other hand, extraction of thuya burl involves the removal of the entire tree, thus preventing regeneration, and so re-forestation is required in order to sustain forests. Re-forestation projects in south Spain¹ and a few sites in Morocco, demonstrate that regeneration can be highly successful. However, many reforestation projects in Morocco are not well-managed or managed at all, leading to the death of planted trees from drought and over-grazing.

Thuya forests have been subject to extraction for thousands of years, maintained by local populations using appropriate silviculture management practices. It has only been since colonisation by the French, that records show a decline in total forest area in the country (Davis 2004). This suggests that any decline or degradation of thuya forests in Morocco has been due to mismanagement by the state, at first under the French protectorate, and later under the independent government.

¹ The entire thuya population lies within the Parque Regional Calblanque, near Cartagena. Designated in 1987, the park covers 2453ha of semi-arid coastal habitats, including scattered thuya scrubland. The park has successfully re-planted several areas with thuya.

The role of the state in the redefinition of forest, the appropriation of native land, ecological transformation, denudation and general 'mismanagement' has been described for many regions of the world, including Indonesia (Dove 1988, Ellen 1999, Peluso 1994), and Pakistan (Parkes 2000). In Morocco, the process began immediately following the formation of the Protectorate, starting with the appropriation of forest lands. Although the excuse for land appropriation was to provide protection against the destructive activities of local populations, the underlying motives were economic and political. The first forests to be assessed by the French were the cork oak (*Quercus suber*) forests near Rabat. De Tarde (1919:21), writing almost a hundred years ago, noted that "from the beginning the protectorate has taken measures to preserve these (cork) forests against the destructive operations of the natives... It has commenced a methodological exploitation of the Mamora Forest...". He thus illustrated the double-edged character of appropriation: ostensibly for environmental protection, but in reality to gain control over extraction of natural resources from previously tribal lands. As Dove (1993:20) has argued of forest resources: "central political and economic interests assume control of it, based on self-interest rhetorically disguised as the common good". As states are seldom inclined to admit to poor management policies, or that management is driven by purely economic concerns, so it blames local forest dwellers for environmental destruction. Dove (1993:19) follows Ohlsen (1930:31) in concluding that a straightforward 'law-and-order problem' (or to put it more broadly a social problem) involving extraction of forest resources and exploitation of local peoples by another dominant state, "is officially constructed as a 'cultural' problem involving the forest dwellers". This same anti-local community mentality can be found in Moroccan ecological writing, for example; "The local community considers the forest as their rightful property. From such a standpoint, the delinquent who clears the forest is merely taking back what belongs to him by right; he is aided and protected by his fellows" (Rejdali 2004:31).

8.5 From sustainability to resilience

The aim of this thesis has been to demonstrate how the organization of a community of artisans, the knowledge practices that they use, transmit and modify, and the changing

social circumstances in which they are embedded, are critical to understanding the management of those natural resources upon which they depend. I have shown how thuya artisans cannot be treated in isolation from the complex web of stakeholders who utilise the tree. Rather, an understanding of all the human actors in the thuya network is necessary in order for conservation efforts to be successful. The position and role of these actors impinges on their valuation of the resource, and has implications for understanding its effective sustainability. Consequently, any attempts to alleviate the problems within the thuya craft must address all stakeholders, and not focus on the artisans, as previous efforts have done.

As argued in Chapter Seven, the importance of thuya to artisans is primarily economic. In the words of a thuya trader;

“It’s like that in Morocco, when one person sees something going well, they all join in until there’s too many. Then it falls apart, and they find something else” (Sanders 2003)

The future of the craft is unknowable, but it may also be contracting as new employment opportunities attract artisans away. It remains to be seen whether the more ‘traditional’ artisans, those with higher levels of skill and commitment to the craft can survive the difficult economic situation until the craft returns to a smaller, more stable, and therefore more sustainable level. A smaller craft composing traditional artisans is more suitable for the introduction of more ecologically sustainable harvesting and supply of thuya. From extensive discussions and conversations, in general this type of artisan does believe in this scenario and is willing to ‘brave the storm’ until socio-economic conditions improve for them.

Forest dwellers have a long history of living within, and utilising, thuya forests, resulting in the development of sustainable landscape management practices. They are aware of their position within the broader Moroccan society, and their reliance upon forest resources for their livelihoods, leading to a desire to maintain these resources. Nevertheless, local forest users, although they have a deep knowledge and understanding of forest ecology and management, cannot be considered in an absolute, ideological or

politically-charged sense as either 'guardians' or 'destroyers' of the forest. Their role in landscape management is rather determined by their structural position between the state (land owners) and forest users (local dwellers and incomers), as well as by the market and subsistence requirements.

There is a pressing need for more public, independent ecological studies and surveys of Moroccan forests. Until this happens, it is impossible to accurately identify the state of forest lands, and factors influencing their functioning. The regenerative properties of thuya and the sensitive forest management practices of local communities prove that sustainable timber extraction is possible. However, what is required is: first, greater control over large-scale timber extraction, including the implementation of regeneration plans following extraction; and second, the Forestry Service needs to take into account local practices. It should be remembered that these 'traditional' practices are fluid and dynamic (Dove 1988:1), requiring an adaptive management approach (Berkes 1999:60). This approach "takes a dynamic view of ecosystems...emphasizes processes...and stresses the importance of resilience".

Regarding thuya extraction and utilisation, the thuya craft, forests, and forest dweller livelihoods all display signs of resilience, by which I mean "the buffering ability of the system to absorb change without breaking down or going into another state of equilibrium" (Berkes 1999:60). However, Morocco is changing rapidly: socially, economically, and, especially as a consequence of climate change, ecologically. These changes are likely to have a significant impact on thuya artisans, harvesting communities and forests. There are thus new challenges in the face of which simple models of sustainability are just inadequate.

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Appendix 1

Inventory of tools used by thuya artisans

Darija Transliteration	English translation
âonq d'jamal	Ratchet brace hand drill ('throat of the camel')
bdbt	Drawing compass / dividers
bomenqar	Gouge for digging out <i>tureq</i> holes
borjeela	One legged seat
douzain	Tools
fdoli	Piece of wood nailed to workbench to use as a brace
gheghar	Cutting gauge
ghormeel	Marking gauge
guid	Guide for electric saw
kutsheeya	Cabinet scraper
lamoon	Hand stone grinder
lemat	Saw blade
lemma	Saw blade
lmjoona	Semi circular chisel for sculpting
lpens	Pliers
lqateena	Long clamp
l'qet/l'qut	Pincers - used to cut mother of pearl shells
l'tour	Electric lathe
m'baaeeda	3 side tool used to clean/sharpen electric saw blade
mâRda	Bastard file - generally homemade from <i>shkrfeena</i>
mbRd	File
mbRd	Triangular file
medwar	Round file
meetro	Ruler
mHeeka	Electric sander
mlk	Sharpening stone
mlsa	Plane
mneeshara	Bow saw
mneeshara dor	Bow saw with thinner blade
mnshar	Saw
mnshar d l'qos	Coping saw - for fretwork
mnshar Hdeed	Hacksaw
monaqeeya	Sheeps wool pad - for applying <i>vernish</i>
mraboâ	Chisel
mribâr ârq	Inlay tool - used for making groove in arabesque patterns
mribâr slq	Inlay tool - used for making groove for metal inlay
mribâr tureq	Inlay tool - used for making <i>tureq</i> grooves
mribâr ziaq	Inlay tool - used for making groove in geometric patterns
mrsham	Scratch awl - single line

**Darija
Transliteration****English translation**

mrsham doble	Scratch awl - double line for geometric patterns
mterqa	Hammer
mnjara	Workbench
nefs dai'ra	Semi circle angle measurer
ntqob	Centre punch
ponceuse	Hand held electric sander
gateena	Long clamp
rkeb	Try square
seenia	Electric table saw
serjwan	Small clamp
sheera	Tenon saw
shkrfeena dai'ra	Half round file
shkrfeena plat	Flat file
shkwadara	Sliding T-bevel
shneur	Hand drill
shneur d do	Electric drill
shrooj	Hand saw
susutose	Hacksaw
tournopees	Screwdriver
trwam	No.6 Plane
vibrose	Vibrating electric sander
zeeaar	Workbench top-mounted vise

Appendix 2

Essaouira Tourist Questionnaire

Respondent No:

1. Age <15 16-20 21-30 31-40 41-50 51-60 61+
2. Sex M / F
3. Nationality
4. Hometown
5. How many times have you visited Essaouira?
6. Why did you come to Essaouira?
7. This survey is about the wood products that are made and sold in Essaouira, do you know what the wood is called?
8. What do you think of the thuya? why?
9. What products do you like in thuya? Why?
10. Have you bought anything in thuya? What?
11. Will you buy anything in thuya? What? (if 'No', why not?)
12. What will you do with these items?
Souvenir for self? Souvenir/present for other? For house? Other?
13. What was important to you when you were buying/when you will buy these products?
 - i. Price
 - ii. Size
 - iii. Quality
 - iv. Traditional
 - v. Other
14. What do you know about thuya?

15. Do you know the difference between these two wood types? (show photo of trunk and burl woods)

16. Which type do you prefer? Why?

17. Did you know about thuya before coming to Essaouira?

18. Where did you learn about thuya?

Look at the photos. They show all the techniques that are used in thuya products.
Can you rank each technique from 1 to 7.

19. Which technique do you like the best? (best=1)

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20. Which technique do you think involves the most skill/is the most difficult to make? (most difficult=1)

--	--	--	--	--	--	--	--

21. Which technique do you think is most traditional? (most traditional=1)

--	--	--	--	--	--	--	--

22. Which technique do you think is the most expensive? (most expensive=1)

--	--	--	--	--	--	--	--

23. Have you heard about any problems with thuya? What? Where?

24. Some people say the forests are decreasing, have you heard this?

25. Do you think it could be right?

26. Does this problem affect your decision to buy thuya wood? How?