

THE FANY BOUTARI FOUNDATION

The santorini of Santorini

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“wine from Santorini, doing honour to the crystal”

Nikos Kavvadias

In the international wine trade, certain wines are known by geographical names which indicate their origin. All of these come from viticultural zones which have been defined by legislation and lie within the geographical limits of the regions of the same name, the place-names of which have been recognised as ‘appellations of origin’. These wines are produced under conditions which have been laid down separately for each ‘appellation of origin’ by the legislation of the country where they are produced.

For the name of a region to be recognised as an ‘appellation of origin’, the legislator takes into consideration a large number of natural and human factors which contribute to the shaping of the quality and individuality of its wines. Among the natural factors, the leading role is played by the vine varieties cultivated in the region and its soil and climate conditions. This is because quality wines are produced only from select vinifera varieties well adapted to the ecological environment of each viticultural zone. The grapes are then endowed with certain constituents of quality which, when inherited by the wines produced, contribute to the forming of their organoleptic characters and determine the particularity of each ‘appellation of origin’.

This natural wine potential is affected, positively or negatively, by the cultural practices used by each vine-grower in his vineyard and by the technology applied in all the phases of the production process by the various wineries of the region. For this reason, particularly in viticultural zones where ‘appellation of origin’ wines are produced, the human factor – the viticulturists and wine-makers – have their own contribution to make, by their experience and their craft, if all the wealth of the constituents of quality with which the natural factors have endowed the grapes of their region is to reach the glass of the consumer.

It was from an assessment of all these factors that in 1972 the ‘Santorini Appellation of Origin of High Quality’ was brought to birth by legislation. Now that twenty-two years have passed and the place-name ‘Santorini’ is an established ‘appellation of origin’ in the wine market, the public-benefit Fany Boutari Foundation has decided to devote the first volume in a series on Greek wines with geographical names of origin to the wealth of nature and history of Santorini, whose name denotes an island of outstanding beauty and a product which has sprung from that island: santorini wine.

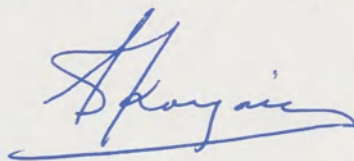
Fig. 1 Imerovigli, built on the edge of the caldera, with its vineyards on the slope of the prehistoric volcano. In the background are Akrotiri and the islet of Aspronisi, with the Kammenes, the volcanic islands, in the middle of the caldera.

It this double meaning of the place-name and the fact that in many cases the first letter of a geographical name is written with a capital letter when we are speaking of a region and in lower case when it denotes the product of its vineyards which suggested the title of this book: 'The santorini of Santorini'. In fact, the title was 'born' a hundred and forty years ago and we owe it to the pen of the talented Edmond About, a fellow of the French Archaeological School in Athens, who drank only santorini wine during the two years that he lived in Greece. As a Frenchman, and an archaeologist, he was well aware that since antiquity, quality wines had been known on the markets of every age by the names of the regions where they were produced. For that reason, in his book La Grèce Moderne, published in Paris in 1854, 'santorini' was the name he gave –prophetically– to the dry wine of Santorini, a good hundred and twenty years before 'santorini' was recognised by national legislation.

On this island, referred to in foreign travel books as having the best vineyards in Greece, a type of sweet wine made from sun-concentrated grapes was produced; this was the most authentic continuation of 'pássos', the name given in antiquity to these wines, for which the islands of the Aegean were famous. In the Middle Ages, the ships of the merchants, the pilgrims and the crusaders, on their way to Constantinople, the ports of the White Sea, the Venetian markets and the Holy Land, took on supplies of this sweet wine when they put in at the island of Santo Erini – Santorini, as volcanic ancient Thera, the island scarred by the "fires of hell", had been renamed, clearly by Italian mariners, in the Dark Ages. From the first part of the island's new name, the pássos of Thera received the name of 'santo', and it was under that name, 'vino santo - vin santo', that it became famous during the years of Latin rule in the markets of Venice and throughout the eastern Mediterranean. Its name, written in the Greek alphabet – βινσάντο – has survived down to our own times. It means simply: wine of Santorini, and denotes the traditional wine, made from sun-concentrated grapes, of the island. Thus it is a 'historical appellation of origin', one of the few to have remained 'alive', and as such is protected in Greece.

The present volume is available in three languages, Greek, French and English, and its ambition is to familiarise the reading public with the Santorini which we have come to love – the "daughter of supreme wrath", as the Nobel prize-winning poet Odysseus Elytis called the island born from the volcano's rage – but also with the offspring of its vineyards "doing honour to the crystal". It is dedicated to the vine-growers of the island, who, down the centuries, have kept viticulture alive on this rock of Aegeis.

Stavroula Kourakou-Dragona



President
The Fany Boutari Foundation





Santorini of water and fire

Stavroula Kourakou-Dragona

*Its high mountains eagle-shaped,
its volcanoes all vines in rows,
and its houses the whiter
for neighbouring near the blue!*

*Odysseus Elytis**

From the summit of Profitis Ilias in the south of the island, which is Santorini's highest point, "one's gaze is drawn, enchanted, over a great expanse of vines covering almost the entire island, and wanders over three charming plains framed by smooth hillsides or hedged in by steep mountains semi-cultivated and semi-wild... . In summer they make up a superb picture, as the green of the vines makes a pleasing contrast which the yellow colour of the fields dotted with the ripe ears of rye... . Santorini provides a fascinating variety of contrasts: there are the mountains, volcanic and rocky, half cultivated and half burnt rocks, some beautiful and some frightful; there are the terrible chasms which break up the plains and the fertile hillsides, laden with vines; there is the proximity of the sea, which embraces the island on every side, like a vast plain... . This is, after such great devastation, the enthralling spectacle provided by the remains of the mutilated ancient Kalliste... they make it possible for us to guess easily at the beauty which the island must have possessed as a single whole, before the natural disasters which broke it up and tore it apart on every side... . Finally, what serves to complete these impressions is the view out over the islands round about. The first to meet the eye are the Kammenes, looking like ships in the middle of the gulf in which they were born."¹

In a little while, the gaze of the beholder will pass from the red and black craters of Old and New Kammeni, will rest on the small rocky cone of Aspronisi, which looks exactly as if a dense flock of white birds has been petrified on the rock, will rest on Therasia and "will look out to the boundless horizon, where a host of islands and rocky islets seem to wander, like a scattered fleet, over all the expanse of the sea, as if they had been thrown at random around Santorini... . From Crete, whose mountains appear to the south as a long line and are lost in the distance, the east and west, it will turn to enjoy the islands closer at hand, Samos, and those places which are at a short distance from Attica and the Peloponnese... . I have to say that this view afforded by Profitis Ilias has always created in me a feeling of elation. I would advise those who visit Santorini to climb this mountain, particularly at the season when the vines are green, in order to enjoy this unique spectacle, which delights the eyes and the soul."²

Fig. 2 Aerial photograph taken from above the present-day volcano on the islet of Nea Kammeni. On the left is one of the natural harbours, while in the background are the walls of the caldera, crowned with dazzling white of settlements.



This description, written by a foreigner who lived for many years on the island in the early 19th century, identifies Santorini for us: it is descended from Aegeïs, it belongs to the island complex of the Cyclades, which occupy almost the centre of the Aegean Sea north of Crete, and is the product of a titanic battle between the two basic elements of creation: water and fire.

Everything started millions of years ago, when the mainland Greece of today was joined to Asia Minor and Crete, forming a greater geographical area, which the geologists have called Aegeïs³. Since the earth's crust was weak in the region now occupied by the Aegean, Aegeïs was fragmented and many pieces of it were separated; some sank, while others rose higher. These ruptures, submergences and shifts continued during the geological eras which followed and lasted for many centuries⁴. The large depressions were inundated by the sea, while the higher peaks of what had been the mountain ranges of Aegeïs remained projecting above its surface. Thus, with the passage of time, the Aegean Sea came into being, with its three thousand islands, which were to serve from prehistoric antiquity to the early 20th century as the bridge between mainland Greece and the western shores of Asia Minor.

In the place occupied by present-day Santorini, a small island remained, a relic of the eastern Egyptian mountain range, with geological fissures of great depth, through which the white-hot magma from the pit of a volcano passed to reach the earth's surface. It was thus that the Santorini volcano first became active. Later, other smaller volcanoes came to life in the surrounding area.

Fig. 3 Vines and barley, crops cultivated since remote antiquity in the dry warm bioclimate of the Cyclades, create colour contrasts in Santorini's summer landscape.



Fig. 4 The scorched rocks of Santorini.



CARTE DE
L'ARCHIPEL

Presentée à Monseign^r
le Comte de Maurepas,
Par le S^r Gognard Pilote
Entretenu au département
de Toulon.
1745.



APPROBATION.

J'ai examiné par ordre de M^{onsieur} LE COMTE DE MAUREPAS, la Carte de l'Archipel présentée par le S^r Gognard, Pilote du département de Toulon, et j'ai vu qu'elle paraît être de quelque utilité pour la Navigation et en conséquence je lui ai fait accorder un Depot des Cartes Plans et Journaux de la Marine, à Paris le 15 Septembre 1745.

Rene BELLEIN Inspecteur du Roy
et Hydrographe de la Marine.

ECHelles

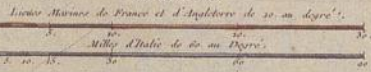


Fig. 5 Map of the Archipelago. Copper engraving by F. Gognard, 1745.

As the ejecta of these submarine volcanoes accumulated, their cones projected above the surface of the sea and formed, together with the original prevolcanic islet, a large, almost round, single island: a multiform volcanic mountain, surrounded by sea, which had as its highest peak, virtually in its centre, the cone of the large volcano. After centuries during which the volcano was quiescent, the island acquired soil, was covered with dense vegetation, and later, around the end of the 5th millennium BC, was inhabited. It was originally called Strongyle ('Round'), because of its shape, and later Kalliste ('Most Beautiful'), because of its beauty.

Today, this natural beauty can be enjoyed in the incomparable wall-paintings dating from the 2nd millennium: olive-trees, mastic-trees, palm-trees, together with other warm-climate plants, and thick woods covered the island⁵. In among them grew wild flowers, lilies and crocuses. There was also a wealth of fauna: luxuriantly-feathered birds, swallows which brought the spring, deer, ducks, roe-deer, wild sheep. "Our knowledge of the Aegean flora and fauna gained from analyses of the palaeozoological and palaeobotanical material recovered from the site is corroborated by the wall-paintings with their representations of corresponding animals and plants... . The flora and fauna illustrated in them fill out our knowledge of the climatic conditions of the time, which seem to have changed little to the present day."⁶

These idyllic surroundings and the wealth accumulated by shipping and trade were living on top of a volcano. The ejecta, petrified centuries ago, are shown in certain wall-paintings, in red-black, yellow and grey-blue shades, an unexpected picture of the island's volcanic origin⁷. Yet in the bowels of the earth the volcano was boiling, and the moment came when, around 1700 BC, it became active again, hurling out its ejecta from many craters⁸. The viscera of the island became hollow, its central part sank below the waves and the interior of the volcano, the 'cauldron', which in international geological terminology is called the 'caldera'⁹, was revealed. The sea penetrated through the fissures and filled it almost up to the middle. This eruption of the volcano, known as the 'pumice eruption', threw out vast quantities of pumice and volcanic ash, which formed a layer on the island 30-40 metres thick, destroying all active life and burying any trace of civilisation.

The complex of today's islands of Thera, Therasia and Aspronisi, which form a ring round the caldera, is all that is left of Strongyle-Kalliste. Later, at different periods, two small islands, the Kammenes, rose to the surface almost in the centre of the caldera; on one of these, Nea Kammeni, is the present-day crater of the volcano¹⁰. All together, they constitute in geological terms the 'Santorini volcano'. The Thera-Santorini of today, with a landscape marked by major geological devastation, is the largest remaining piece of Strongyle. In the south of the island rises its only mountain, Profitis Ilias, with its outcrops, Platanymo and Mesa Vouno. Together with the region of Pyrgos, Athinio and Monolithos, these formed the islet which predated Strongyle and continue to be the remains of the eastern Egyptian mountain range of Aegeis, now incorporated into the terrain of Santorini. To the north there are two hills, Little Profitis Ilias and

Fig. 6 For protection against wind erosion, whole hillsides have been laid out in stepped terraces.





Fig. 7 On the volcanic rocks of Santorini today the colours and patterns of the volcanic rocks of Kalliste, as shown in wall-paintings of the second millennium BC, come to life again.



Fig. 8 Detail from the 'Spring Wall-Painting' (second millennium BC). The petrified ejecta of the volcano are depicted centuries later in shades of red-black, yellow and blue, a picture from an unexpected source of the volcanic origin of the island.



Fig. 9 'River'. Miniature frieze (second millennium BC.). Excavations at Akrotiri, Thera.

Kokkino Vouno, and three small hillocks, on the Akrotiri promontory: these are the remains of the volcanic cones which once formed Strongyle. The rest of the island consists of land with a regular surface, which descends at a slight incline from the height of what were once the slopes of the central volcanic cone of Strongyle to the island's outer coastline and has on the north, east and south sandy beaches and shallow sea. By way of contrast, on the inner side, that facing the present-day volcano, the land comes to an abrupt end and plunges almost vertically into the sea of the caldera, which is 390 metres deep at its deepest point. When you sail across the caldera, you are in the 'cauldron' of the great volcano, with its walls rising around, almost vertically, to 140-330 metres. On these can be seen the successive strata of slag, tuff and lava deposited by the volcanoes of the earth's prehistoric period. On top of these lies the white ash and the pumice, ejecta of the great destructive eruption of the modern geological period, c. 1700 BC.

From that time until now, every inch of the land which could retain fine-grained material has been covered with volcanic ash and pumice and it is these materials which make up the terrain of the island. Such terrains, which cover large areas in Africa and other continents, are not to be encountered anywhere else in Greece¹¹. The only area of the island which escaped the wrath of the earth's violent forces was the ancient peaks of Aegæis: Profitis Ilias and its outcrops (Mesa Vouno, Platanymo). Since the volcanic ejecta did not reach them, they are virtually the only parts of the island which retain their pre-volcanic rocks and terrain¹².

Some three centuries after this major devastation, the island was re-inhabited. Wherever the new settlers came from, they had to survive on an island which was without trees, without water, buffeted by the wind, with little rain and a hard and compact terrain which, when dug, became like sand and was swirled into eddies by the wind, as if in the desert. However many hands the island has passed through during the 33 centuries which have elapsed since then, the

natural environment has remained the same. The 'Santorinians' of all ages have learnt to live with it. Nature has forced them to find ways of coping with their essential needs and they have done this in a unique way – because the conditions which they have been faced with were unique.

It is with the island's soil, the *áspa* as the islanders call it, that traditional building and the crops of Santorini are interwoven. "In the architecture of Santorini, the behaviour and turns of the material which give rhythm to space hide, behind their matchless plastic merit, a dramatic beauty: the beauty of the work which has emerged from the sacred toil of simple folk in living on their land and in existing... . Because in this place, the perfect composition of stone and air has nothing about it which is arbitrary or gratuitous; on the contrary, it works to inviolable mandates of nature and for the vital needs of man."¹³

Lack of timber and the sparsity of other building materials, the attempt to save as much land as possible for cultivation and the need for protection from the strong winds and, later, from pirates led the island's inhabitants to set up their homes on steep hillsides, opening up arched galleries in the *áspa*, which is soft to dig, but compact and solid. It is for that reason that most of the island's settlements whose nucleus consists of such dug-out dwellings have a linear layout on the lip of the caldera or in small ravines, in locations, that is, where the layer of *áspa* provides a face which can be 'burrowed'. Later, churches, as well as *cánaves* and storehouses were built in the same way. In the *áspa*, often above the houses, the church or the *cánava*, the islanders used to cultivate whatever plants could survive in Santorini's dry warm climate, together, of course, with vines. In order to protect the soil of the vines from erosion by the strong winds, whole hillsides have been shaped into stepped terraces by the building of dry stone walls made of pieces of petrified black lava, which in summer are crowned with the green of the vine shoots and warm up their juicy fruit. Here we have a combination of volcanic gloom and Dionysian hope: the twin contrasts of an island unique in the world.



Fig. 10 Most of the island's settlements have been laid out in linear form along the edge of the caldera.

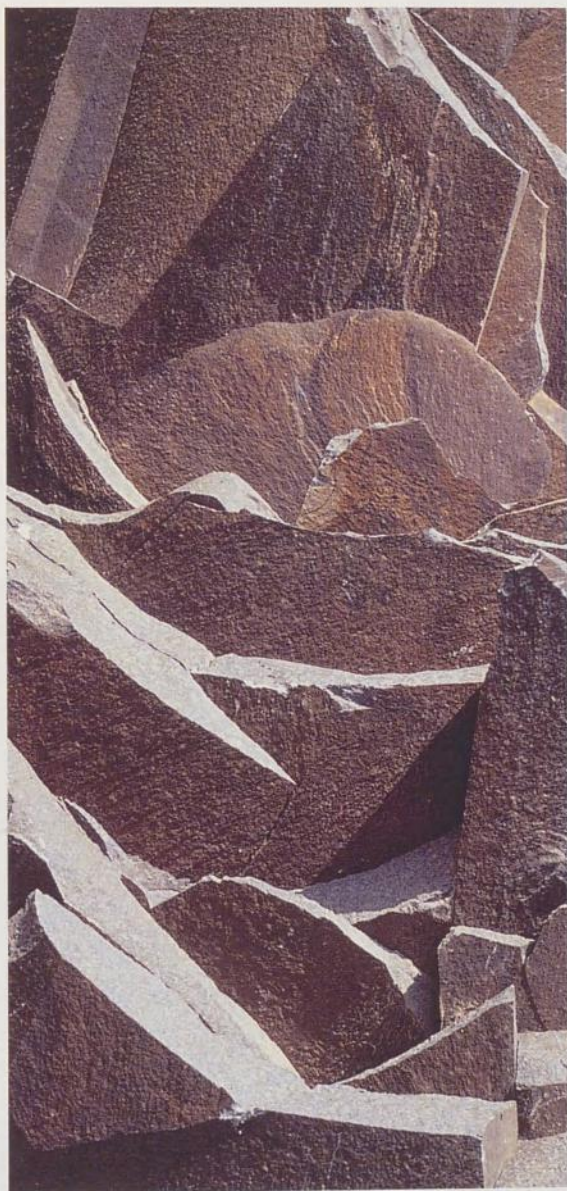


Fig. 11-12 Volcanic rock formations on Santorini.





Fig. 14 Dry-stone walling with petrified lava, crowned with ampeliá. A marriage of the gloom of Hephaestus with Dionysian hope; twin contrasts of an island unique in the world.

Fig. 13 The Kammenes, the volcanic islets which rose from the depths of the sea in the middle of the caldera.



A historical review

Christos Doumas

Santorini as early as the end of the fifth millennium BC was playing its part in the cultural developments which were taking place in the Cyclades. The small neolithic site near what is today the village of Akrotiri developed during the Early Bronze Age (third millennium) into a settlement of importance, as we can see from the Early Cycladic marble vessels and figurines brought to light by archaeological excavations. In the next phase, the Middle Cycladic (first half of the second millennium BC), there was a city of some importance at Akrotiri, with a major commercial harbour which developed relations with Crete and the other islands of the Aegean, mainland Greece, Egypt, Syria, Palestine, and perhaps with the western Mediterranean. The development of these commercial and shipping activities led to the evolution of an early urban society on the island, which in turn contributed to its rapid cultural development. The town plan of the settlement, its drainage network, its large multi-storeyed buildings, the wall-paintings and its wealth of household vessels are evidence of the high level of civilisation which the island had reached. The abundance and wide distribution of wealth and of works of art which is evident, the absence of buildings which could be described as the seats of centralised power are indicative of the liberal character of the society of Thera, as that had been shaped by shipping and trade.

In this prehistoric phase of the island's history, before the great eruption of the volcano, there is no lack of evidence and testimony of the cultivation of the vine and of wine-making. Finds include not only charcoal from vine wood in the excavations at Akrotiri, but also grape pips scattered among the ruins of the settlement. Moreover, bunches of grapes were used as ornamentation for the pottery of the period. Certain types of storage jar with a spiggot near their narrow base and a mass of stirrup jars, vessels which were designed *par excellence* for the transportation of liquid products, serve as evidence for wine-making and the wine trade. Of this early type of vessel, Thera has provided at least 50% of the examples which have been found in the whole Aegean area.

The life and further development of the society of Thera came to an abrupt end with the eruption of the volcano around 1640 - 1620 BC (until recently this eruption used to be dated to c. 1500 BC). The vast quantities of pumice and volcanic ash which covered the whole island buried every trace of human presence, but also preserved the ruins of the city at Akrotiri, to be revealed by the archaeologist's spade during the last 20 years. Some centuries seem to have passed before, at the end of the 13th century BC, the island was colonised anew, as evidenced by the Mycenaean remains found in the Monolithos area.

The statement of Herodotus that Phoenicians, led by Cadmus, settled on the

Fig. 15 The grapes of the Stavrochiótis variety ripen on a stone wall on Santorini.

island, which was then called Kalliste, perhaps reflects this first re-settlement after the great eruption. After the Phoenicians, according to Herodotus' account, came the Lacedaemonians, led by Theras, from whom the island took its ancient name. From the 9th century BC Thera had a Dorian character and was one of the way-stations between the Aegean and the eastern Mediterranean.

Together with Crete and Milos, Thera was, around the end of the 9th or the beginning of the 8th century BC, in the vanguard of progress, with the introduction of the Phoenician alphabet for the Greek language. Nevertheless, in their settlement on the rock of Mesa Vouno the people of the Thera formed a society which was conservative and frugal. In the Geometric period (9th and 8th centuries BC), the burning of the dead was the prevailing funeral custom.

In spite of its relations with the outside world during the Archaic period (7th and 6th centuries BC), Thera remained conservative and its inhabitants did not develop other activities going beyond their agricultural economy. However, prompted by a need created by prolonged drought, as Herodotus tells us, the bolder of them emigrated to Africa and founded their only colony, Cyrene, in 630 BC. In the 6th century BC, Thera struck its own coins with two dolphins as their emblem. The large marble *kouroi* of the period, which adorned the tombs of what were obviously rich landowners, are an indication of the hierarchical structure of the society of Thera. In the Classical period (5th and 4th centuries BC), Thera does not seem to have played a particularly important role in the affairs of the Aegean. Its mint ceased to function during the years of the Persian Wars and only came into operation again after the end of Athenian supremacy (mid 4th century BC).

We have no direct evidence for viticulture on the island for the Archaic and Classical periods. It would, however, be curious if the people of Thera had not cultivated the vine on terrain which was so suitable, and it is difficult to see how there could have been prosperous landowners on Thera if the product which they cultivated had not provided generous profit margins, and up to now the only product which has been shown to have been capable of this is wine¹.

During the period of the successors of Alexander the Great, and because of the competition between them for control of the Aegean, Thera acquired particular importance because of its strategic position. The natural fortification of Mesa Vouno and its favoured position between two natural anchorages, Kamari and Perissa, were duly valued by the Ptolemies, who made the island a naval base for their fleet. During this period, the city developed on the ridge of Mesa Vouno, was fortified, and was adorned with fine public buildings. The more important of these were the Temple of Apollo Karneios, the Temple of Dionysus and temples of various Egyptian gods, the 'Governor's Palace', the Agora, the Gymnasium of the Epheboi, and the theatre.

The contribution of Thera to the political and military affairs of Byzantium was insignificant. From the time of Justinian (527-565) until the time of its abolition (1207), the bishopric of Thera held fifth place among the 12 bishoprics which were subject to the Metropolitan of Rhodes. The most important Byzantine monument on Santorini is the Church of Our Lady 'Episkopi' at

Fig. 16 Aerial photograph: the ruins of ancient Thera on the inaccessible rock of Mesa Vouno, with its pre-volcanic limestone terrain.







Fig. 18 Storeroom with rows of jars (pithoi) set into benches and beside them conical rhytons for the scooping, measuring and transferring of liquids from the pithoi to smaller vessels. Excavations at Akrotiri, Thera.

Gonia. It was founded by the Emperor Alexius I Comnenus, probably as the principal church of a monastery, on the site of an early Christian basilica.

After the Fourth Crusade (1204), Thera was incorporated into the newly-founded Duchy of Naxos (1207) under Marco Sanudo and was given the name of Santorini, obviously from the Church of Santa Irini at Riva on Therasia. It was ceded as a fief to Giacomo Barozzi and constituted one of the Duchy's four Latin bishoprics, to which the Roman Catholic population introduced there belonged. With a small intermission in 1296, when it was liberated by the Byzantine Likarios, Santorini remained in the hands of the Barozzi family until 1335. In the meantime, together with the other islands of the barony, it was at the mercy of the rivalries between the local ruler and the Duke or between the Duke and the Turks, who plundered Santorini in 1328. Following the expulsion of the Barozzi (1335), the barony came under the direct rule of the Duchy, of which it was to remain a part for more than a century. During that time, the Sanudo dynasty lavished particular care on the island, encouraging the cultivation of cotton, for example. In 1336, the fortress of Akrotiri (Punta) was ceded to the Gozadini of Cythnos. In the course of the struggles between Venice and Genoa, the Genoans took Santorini (1354) and made the Duke their prisoner. They set him free the next year, having first compensated the Barozzi for Santorini.

←
Fig. 17 Miniature frieze, detail (second millennium BC). The city of Akrotiri on Thera welcomes back its seafarers. This idyllic environment and the wealth which shipping and trade brought to the island were sitting on a volcano.

After the murder of the last of the Sanudo family, Nicola Della Carceri, the Crispi dynasty succeeded to the Duchy (1383). Particular interest in Santorini was shown by Duke Giacomo I (1397-1418); he studied the volcano and carried out experiments on the crater. During the course of the Venetian-Turkish war (1469-1479), the island suffered repeated disasters and ravages. In 1480, Santorini came into the hands of the Duke of Crete, Domenico Pizani, as dowry on his marriage to the daughter of the Duke of Naxos, Giacomo III Crispi. A new bishop was appointed under the protection of Venice and support was given to agriculture, cotton-growing and viticulture being especially favoured. Santorini was to change hands once more and to return by force to the Duchy of Naxos before being annexed to the Republic of Venice, together with the whole of the Duchy (1487). The vicissitudes of the islands under their various rulers and because of piracy had resulted in a dramatic reduction in their populations. In the particular case of Santorini, we are told that at that period, together with Ios, its population numbered no more than 800. Under Venetian rule, the islands became the object of exploitation of various adventurers, who, sometimes as agents of the Sultan and sometimes as representatives of Venice, imposed burdensome taxes. The final annexation of the islands to the Ottoman Empire came in 1579. The fortress of Punta – of Akrotiri on Santorini, that is – alone held out until 1617.

The absence of any large areas of arable land contributed to the fact that Muslim populations were not brought to the island. The people of Santorini organised their local communes on democratic lines and, taking advantage of the peace which reigned in the Aegean after the Ottoman conquest, developed, as in prehistoric times, trade and shipping. Alexandria, Taganrog and Constantinople were the major centres to which large quantities of Santorini wine were exported. The prosperity of this period is reflected in the rich mansion houses, which even as ruins of the 1956 earthquakes are imposing, in the wealth of carved wooden screens in the churches of Santorini and in the generous votive offerings of its faithful abroad (Russian candelabra and bells, hanging lamps and patens and chalices, sacred vestments, etc.).

Production of and trading in wine in modern times contributed to the development of a new activity – carpentry – which at first sight is difficult to explain on an island where wood is a rarity. It did not pay the Santorini caïques which carried wines to foreign markets to bring back the empty barrels. They filled their holds with other goods (e.g., corn) and loaded wood on to the deck for the making of new barrels. Thus, thanks to the development of coopering, the Santorinians became so familiar with wood as a medium that even today major furniture-manufacturing companies are in their hands.

Documentation of the long centuries of the island's history is preserved today at the archaeological sites of Akrotiri and Mesa Vouno, in the archaeological museums of Thera and Athens (Thera exhibition) and in the Megaro Gyzi. But then the whole island, with its caldera, its volcanic rocks, its settlements in the vernacular architecture, its towers and its Byzantine churches, is living historical testimony.



Fig. 19 'The prochous with the grapes'. A pottery wine-jug found in the excavations of the city of Akrotiri, dating from before the great eruption. It has on it three large bunches of grapes in a chestnut brown colour (2nd millennium BC).



The historical testimony of the ampelies

Stavroula Kourakou-Dragona

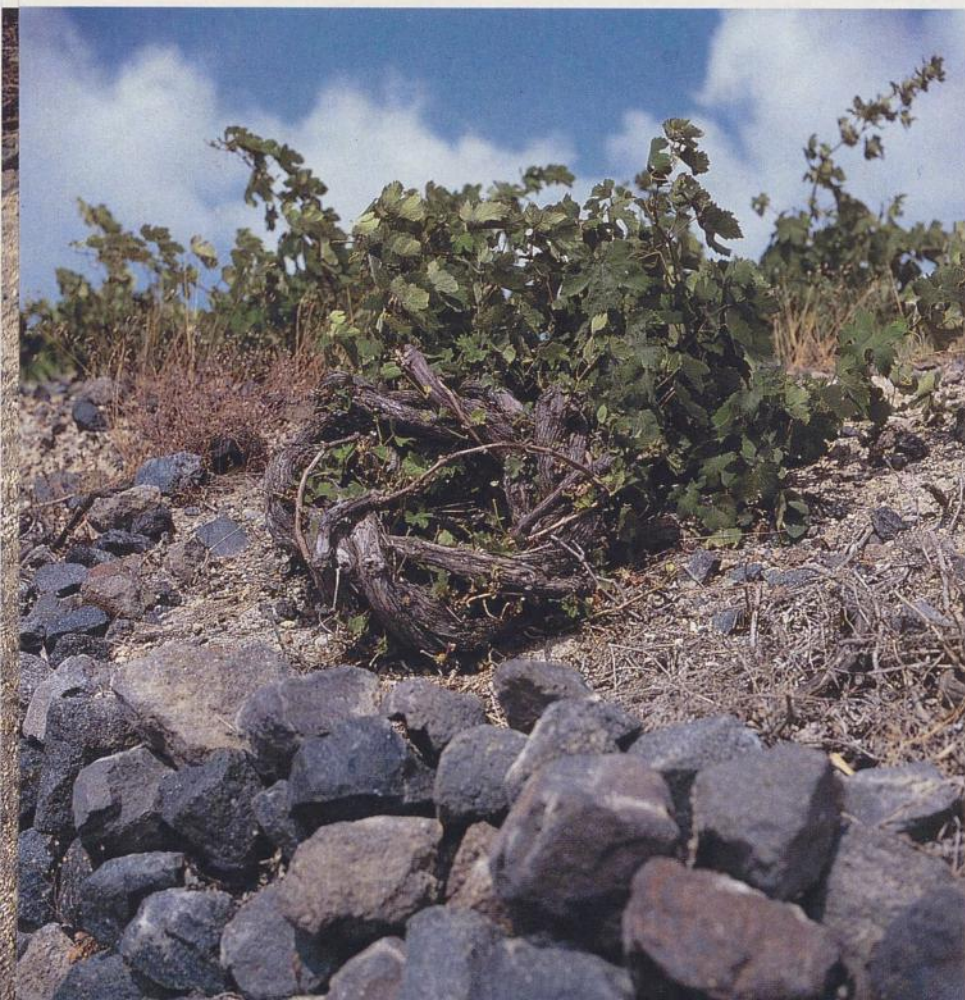
A stranger visiting Santorini in the early spring, when the vines have not yet awakened, or late in autumn, when the leaves have fallen, is surprised by the 'baskets' which he sees scattered over the bare earth. The smaller of these look like storks' nests which have fallen from some bell-tower. Closer inspection only adds to the surprise: these 'baskets' turn out to be deeply rooted in the earth. They are what are known as *ampeliés*, the fruit of the patient and age-long experience of the island's vinegrowers. In summer the 'baskets' are covered in green, as the annual shoots of the *ampeliés* stand upright. In their embrace, in each 'basket', the grapes ripen, protected from the blasts of sand which, whipped up by the strong south winds, would damage the fine-skinned berries.

In order to form the protective vegetal baskets, the vinegrowers of the island practise a system of pruning, a description of which is preserved in the book written by Abbé Pègues, Prior of the Lazarist Convent at Thera (1824-1837). He describes it as a curiosity - something which he has not seen anywhere else in the world.¹ It is indeed a primeval system (p. 115-117) which is not applied in any other part of Greece and which is not mentioned by the ancient Greek and Latin writers on agriculture. It must have been used initially in countries with large vinegrowing areas with semi-arid, sandy terrains without water available for irrigation (Asia, Africa).

The only area in Europe, apart from Santorini, where this primeval system is encountered is Pantelleria, a small Italian island to the south of Sicily, very close to the shores of North Africa, once under the sway of Carthage. In ancient times this was called Cossyra, a colony of Carthage, which was founded by the Phoenicians in the 9th century BC and, cultivating the vine on a large scale, had a flourishing wine trade. The area of Pantelleria is roughly the same as that of Santorini (approximately 80 sq. km.), its centre is made up of an extinct volcano and the vines cultivated in its semi-arid, sandy soil are shaped into baskets.

It was the Phoenicians, according to Herodotus, who were the first to settle, many generations after the great volcanic eruption of the 17th century BC, on Kalliste. Here too they encountered sandy, arid soil which, bare of vegetation, was swept by the winds, just like the sandy areas of south-western Asia, their homeland. According to mythology, new colonists, coming from Sparta around the 11th century BC under the leadership of Theras, from whom the island took its new name, later joined the Phoenicians. However, no trace of the presence of the Phoenicians has so far been found on Kalliste - Thera - Santorini.² On the other hand, around the late 9th or early 8th century BC, Thera, together with Crete and Milos, was among the first to import the Phoenician alphabet (p. 22), a fact which provides some evidence of a connection with the Phoenicians, at a period when Carthage and Cossyra were being founded. Objects in the Thera Archaeological Museum, imported from regions of the eastern Mediterranean

Fig. 20 a-d The vine plants of Santorini, pruned according to a primitive method of great antiquity, look in winter like baskets scattered over the ground.



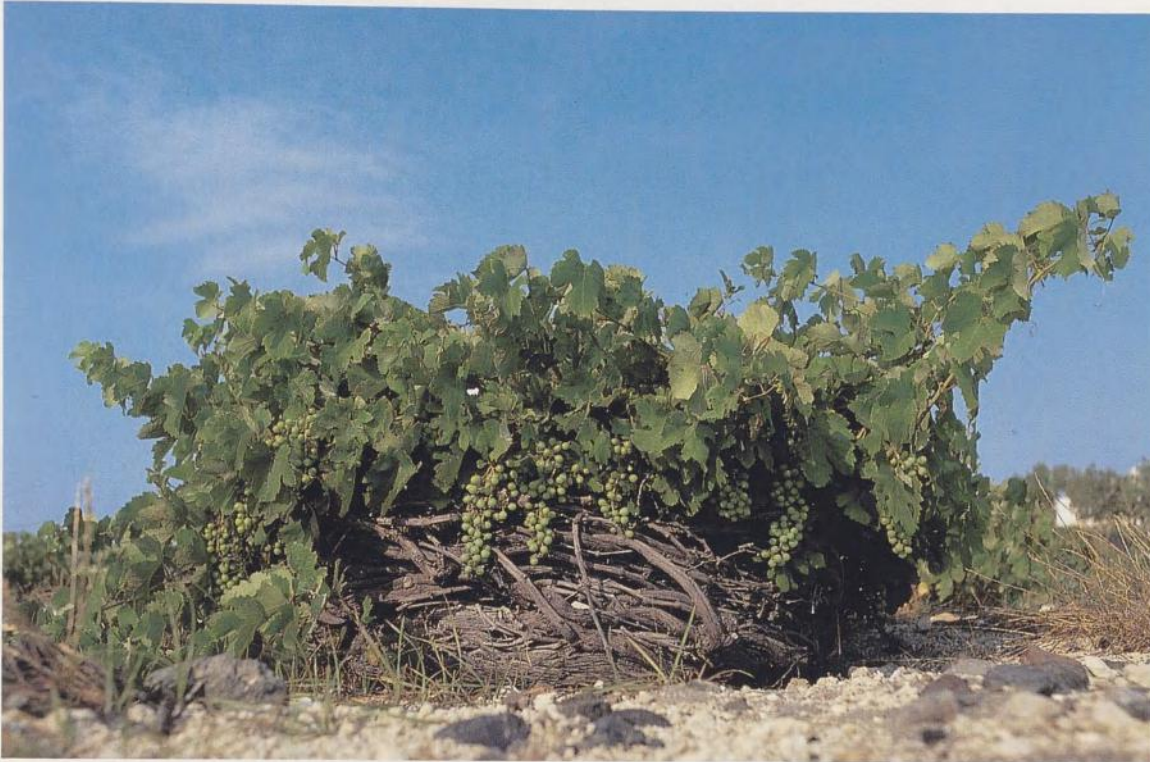


Fig. 22 In summer the grapes ripen in the embrace of the ampelić, protected from the winds and the sting of the sand.

(Syria, Palestine) confirm the relations which the island had with this world.

However, at an earlier period, before the ‘explosion of the pumice’, relations between Strongyle - Kalliste and various regions of Asia and Africa were equally close, as is demonstrated by objects which have been found in the excavations at Akrotiri. “The realistic portrayal of elements of the flora and fauna of these regions bears witness to direct contacts and the actual presence of Therans there. The painters must have studied the animals and plants they depicted in some detail, in order to render them so accurately”.³ The most striking piece of evidence, however, is a fragment, known as the ‘wall-painting of the African’, on which is preserved the head of a male figure with markedly African features in front of a palm tree; he is wearing a large ear-ring, just like one of the boxers in the ‘boy boxers’ wall-painting. “Where they strangers, merchants passing through, or did they belong to the permanent population? Or perhaps to the dynasty? Tradition, which is almost always right, relates that the island was inhabited by Membliarus together with some of Cadmus’s men.⁴ Later, tradition repeats that Boeotian Minyans colonised the island. There is an element of historical value in these myths”.⁵

It is now accepted that the Phoenicians, seafarers and merchants, made a significant contribution in antiquity to the vitivincultural colonisation of the Mediterranean: they promulgated vine varieties, they imported systems of pruning into Egypt and taught, even beyond the Mediterranean, the southern Asian and Mycenaean systems of training the vines.⁶

Fig. 21 a-d In spring the vegetal baskets sprout and bear fruit.



Fig. 23 'The African'. Part of a wall-painting (2nd millennium BC). Excavations at Akrotiri, Thera.

Their works on agriculture were translated into Greek and Latin and influenced the Latin writers, particularly Columella.⁷ Their colonies, all along the shores of North Africa, cultivated vines with techniques which were adapted to the conditions of terrain and climate of the African continent.⁸ These were undoubtedly followed by the Therans when, in the 7th century BC, they founded, in what is now Libya, their sole colony, the renowned Cyrene, the "earth bearing abundant fruit" of Pindar and the land "rich in fine fruit" of Strabo. The vegetal baskets, the creation of a primeval technique of training the vine plants, which have survived on the sandy soils of the islands of Cossyra - Pantelleria, a colony of the Carthaginians, and Kalliste-Thera, mother-city of Cyrene, provide valuable testimony to the viticultural colonisation of the Phoenicians and a proof that perhaps the information given by Herodotus about the first inhabitants of Kalliste after the great eruption is not merely myth, but reflects the 'vegetal' colonisation of the island by the Phoenicians.

Whatever route, however, this viticultural technique followed to reach Kalliste - Thera, one thing is certain: the *ampeliés*, an extremely ancient system of training the vines, improved by the vinegrowers of the island over the centuries, are particularly suitable to wind-swept regions with soils of fine sand, as is Santorini. As long as there are Santorini vinegrowers bending over them with devotion and subjugating the canes with their experienced hands, the *ampeliés* will continue to be a part of the viticultural tradition of Europe as a whole.

The wine of Santorini

Testimony in the writings of foreign travellers

Stavroula Kourakou-Dragona

Thera appears for the first time under its new name of Santorini in the work of the Arab geographer Edrisi, who travelled in Greece in 1154¹. It is supposed that it was given this name by Italian seamen, crusaders and pilgrims who, on their way to Constantinople and the Holy Land, passed through the “narrow seas of the Aegean” and the Cyclades, where they could be assured of calm seas and frequent ports of call for revictualling. Since Thera itself was not suitable for dropping anchor, “they put in” at Therasia, in a bay in front of the Church of St. Irene². It was from the Saint’s little harbour that the island took in nautical language the name of Santorini as witnessed, *inter alia*, by the twin name of Santo Erini - Santorini appearing on maps of various periods.³ Following the taking of Constantinople in 1204 by the crusaders and the fragmentation of the Byzantine Empire, the Barozzi, who ruled the island, were accustomed to use the grandiloquent title of *Dominatores insularum Santorini et Therasiae* (Lords of the Islands of Santorini and Therasia)⁴. Thus the new name became official in the 13th century, and was to undergo a number of variations in different foreign languages⁵ during the eight centuries of the vicissitudes of the history of Thera-Santorini.

Following liberation from the Turkish yoke, the Greek State resurrected the ancient name of the island: Thera. But its use was confined to the language of bureaucracy, since in the minds of the local people the name of the island has remained Santorini⁶. It is for this reason that contemporary wine nomenclature has recognised as an ‘appellation of origin’ of the island’s wines the living place-name of Santorini⁷. Even the use of part of this name is prohibited on the labels of table wines⁸, since the legislator has accepted the view that in regions with a history stretching back over the centuries, geographical names, not only of vine-growing areas, but also of certain ports of loading⁹ indicate, even in a corrupted form, the same origin as wines of that name¹⁰. This is the case with the name ‘Santo’, which indicated for centuries in the markets of the East and in the great Venetian markets in Italy the origin of the traditional sweet wine which the ships of the crusaders, the pilgrims and the merchants were already loading at the island of Santorini in the Middle Ages.

The wine of Santorini in the Middle Ages

The setting up of Latin states in what had been the Byzantine provinces of the East and the establishment in Syria of Frankish knights gave a fresh boost to trade with the eastern Mediterranean, and through it with the Indies; it also provided increased guarantees of protection for travellers against piracy.

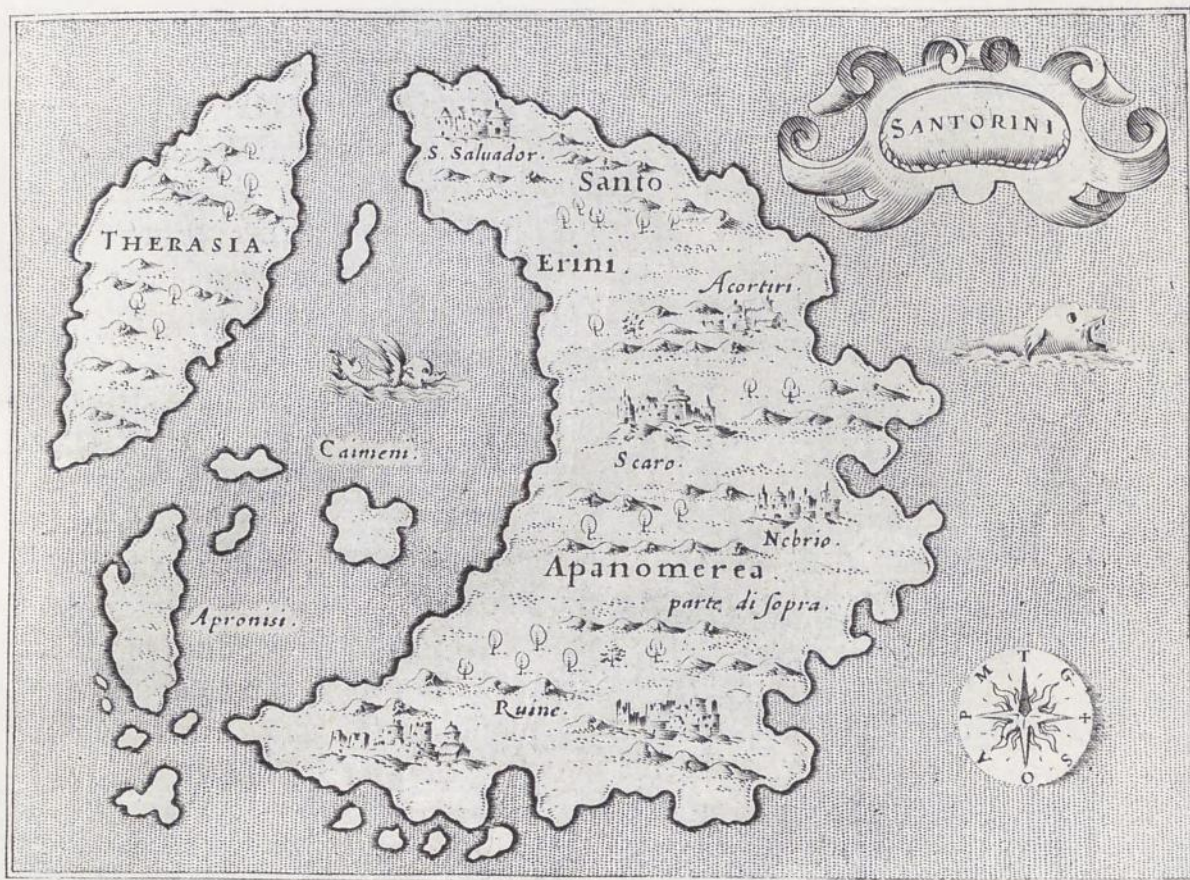


Fig. 24 Map of Santorini, with name 'Santo Erini' marked on the northern part of the island. Thomaso Porcacchi. Venice 1576.

Venice, which had a large number of vessels for all the ports of the East, became virtually the sole port of departure for the thousands of travellers who went on pilgrimage to the Holy Land. 'Travel agencies' were set up, and the pilgrims signed contracts with the shipowners as to the obligations of each of the parties during the course of the voyage¹¹. It can be concluded from documents in the archives of Venice that Santorini served as a basic stopping-place for vessels from Venice bound for Crete and the Middle East¹². Given that the island had no large, safe harbour, that its deep waters were not suitable for anchoring, that there was little drinking water and that corn was a scarce commodity even for the local population¹³, the fact that of all the Cyclades, Santorini was chosen admits of only one explanation: the island's only marketable product – wine – was for the sorely-tried traveller more precious than water in those days, when good drinking water was hard to find and various epidemics such as the plague decimated whole populations. This also explains why the Venetian rulers of the island favoured viticulture for as long as Santorini was under their occupation, and to the extent that wars and piracy permitted.

What was Santorini wine of that period like? First of all, it must have been sweet. This was the type of wine which was in great demand: the *malvasia* of Crete, the *ariousios* of Chios, the *koumandaria* of Cyprus were sweet wines which

were made from sun-concentrated grapes, as were all the famous wines produced in antiquity on the islands of the Aegean. In the medieval Venetian voyage contracts mentioned above there was a term to the effect that a glass of Greek wine should be provided before breakfast, precisely because the wines of the Greek islands were sweet and strong, that is, they had a high sugar and alcohol content. They were thus a tonic and a restorative, food and medicine together, as they had been pronounced to be by Galen, a Greek physician who lived in the 2nd century and who was regarded as the voice of authority in the West throughout the Middle Ages and during the Renaissance. They had the same calorific capacity, as we should say today, as raisins and dried figs, concentrated foods rich in sugars, and essential supplies for long journeys of uncertain duration.

The wine of Santorini on the markets of the 'White Sea'

After the Fall of Constantinople in the ill-fated year 1453, Venice agreed, by the treaties of 1464 and 1479, to pay tax to Turkey in exchange for the right granted to the Venetians to trade in their merchandise freely throughout the Ottoman Empire, without tariffs, and for the ships under the flag of the *Serenissima* to put in at all Turkish ports. As a result, the wine of Santorini, then in the hands of the Venetians, continued in the 15th century to be sold on the same markets as it had been before the dissolution of the Byzantine Empire.

However, in the 16th century, time began to run out for Venice, mistress of the seas. She was outflanked by the French, who managed to establish more favourable economic relations with Turkey. The domination of the French flag in the Mediterranean began with the French-Turkish treaty of 1536. This was the century in which the islands of the Aegean were passing one after the other under Turkish occupation, and France, as a great power, undertook the protection of the Catholics in the East and the Aegean. The rule of Venice came to an end in 1579.

During the long Frankish occupation (1207-1557), with the exception of some sporadic periods of brilliance, Santorini in the end shared the fate of the majority of the Aegean islands. Their populations dwindled and many were laid waste and abandoned as a result of the catastrophic wars of the Venetians, the Genoese, the Turks, and the Byzantines between themselves and their local rulers of the day, but also because of epidemics and the constant raids of the pirates, who had established their headquarters on the deserted islands (Paros, Ios, Kimolos, etc.)¹⁴ or used the small natural harbours of the volcanic islets of Santorini as anchorages. Migration to Crete, which had begun at the end of the 14th century, took on in the 15th the form of a mass exodus – particularly from the islands of Tenedos, Euboea and Santorini¹⁵. In the early 16th century the island's population numbered no more than a few hundred.

After the Turkish fleet had established its mastery of the Aegean, and since the period 1577-1644 passed without any serious episodes at sea between the Venetians and the Turks, the scene changed. Large numbers of vessels with French crews put into port in the Cyclades, and chiefly at Santorini, for wine

throughout the 17th century¹⁶. The production and sale of wine was now in the hands of the island's inhabitants, Orthodox and Catholic, since, as was the case more generally in the Cyclades, Turkish feudal lords did not settle on Santorini and the population remained essentially Greek and self-governing¹⁷. In order to deal with the great demographic decline in the Aegean islands and to restructure their economy, populations were transferred there from other Greek regions and the *devshirme* – the tribute of Christian children – and the stationing there of janissaries were forbidden. In time, these measures altered the demographic picture of Santorini and in the mid 17th century its population had reached 7,000¹⁸.

It was at this time that we have the first references by travellers to Santorini's vineyards and wine. These are to be found in the travel writings of François Richard, who came to "Sant-Erini" in 1644, two years after the establishment on the island of the Jesuits, travelled to various other islands of the Cyclades, and published an account of his experiences in 1657 in Paris. At the same period, in 1653, Jean de Thévenot, then only 20 years old, began his travels in the East. He devoted 48 pages of his travel book, published in Paris in 1665, to Greece. These two texts deal with a period when the whole of the Aegean was living in the shadow of the Venetian-Turkish war for Crete, which had begun in 1645 with the taking of Chania. In 1648, the siege of Venetian-held Candia (Irakleio) began. The simultaneous presence of the two fleets in the Aegean was the cause of many hardships for the populations of the islands, some of which, including Santorini, were temporarily re-taken by the Venetian fleet, in an attempt to create bases for the victualling of its crews and to serve as a diversion for the Turkish fleet. There were even cases where the unfortunate inhabitants were forced to pay taxes twice over – one set to the Venetians and one to the Turks¹⁹. The poverty of the island at that period, the dramatic struggle of the Santorinians for survival, but also the dominant position of the vine as a crop and of wine as merchandise stand out from the pages of these two travellers' texts.

The young Thévenot, making the journey from the castle of Skaros, once the residence of the island's Catholic rulers, to the castle of Pyrgos, at a season when the vine was turning green the waterless earth of Santorini, has left us a simple, but very characteristic, description of a panoramic view of the island's vineyards: "To go from Skaros to Pyrgos, you have, with much toil, to climb a mountain, from which you see the whole of the island and the plain cultivated and planted with vines, but with very few trees, apart from fig trees and white mulberry trees". The author draws particular attention to the lack of trees, because he had been struck by the contrast with Ios, "... a fertile island, covered with oaks and other large trees, which the inhabitants cut down and trade in. The timber is taken chiefly to Santorini". It was to this deficiency that he attributed the fact that the people of Santorini baked bread only twice a year: "The Santorinians live very frugally. Their bread, which they call *schizes*, is a kind of rusk, half wheaten and half barley, as black as pitch and so hard that there is no eating it. They light their ovens only twice a year. They bake their bread and take it to their houses with reverence. This is, perhaps, due to the fact that there is no



Fig. 25 Map of Santorini, with the name 'Santo Erini' marked on the upper part of the island. Dapper Olfert. Amsterdam 1703.



Fig. 26 "A vine pruned in the traditional system on Santorini can go on for more than a hundred years and form a trunk thicker than any I have seen anywhere." Abbé Pègues. Paris 1842.

wood on the island. It is brought from Nios... . Meat is not to be found, only chick-peas, eggs and dry bread. There is no fruit, but in summer they have many grapes...". The only saleable product which the earth produced was wine: "From the vineyards they produce plenty of wine for local use, but also to load on to the ships which sometimes put in to the island. They take it to Chios, Smyrna and other parts"²⁰.

The fleeting glance of the youthful Thévenot was not deceived either about the vines and the wine or about the frugal life of the islanders, but it was hardly possible for him to grasp all that Richard, who lived for many years on the island (1644-1675) saw and set down: "The poverty of the island is the reason why

there is no idleness here. Everyone, down to the very youngest, works; and the women outdo the men, given that they hardly ever stop work. They weave cotton fabrics, while the men take them to sell in Chios and Venice, or even engage in the cultivation of the land... . It cannot be denied that this island is poor. It produces no corn to nourish its inhabitants apart from barley, nor green herbs in any quantity to feed its animals, nor is it watered by any brook or spring. All the drinking water which they have comes from the heavens and is collected in cisterns. If there is no rain, the people die of thirst or will drink brackish or half salt water which comes from wells near the sea. As long as summer lasts, the land has no need of rain... . The nature of this land is such that the whole of its surface is bone-dry, as if burnt. In spite of this, as if nature had made special provision, the earth retains and holds the moisture which it has within it so that, together with that which it receives from without, from the dews of the night, it produces much barley of good quality, beans in plenty and certain other pulses which they call *araká*, and the Italians *favetta*... . They also gather millet, sesame, gourds, cucumbers and melons very gross and heavy... . Their common food is the rusk, which is made from barley from which only the thick husk has been taken. These they make three times a year... . Together with these rusks, which many soak in water before their meal, they eat vegetables, their customary diet, given that they very rarely taste meat, with the exception, of course, of the rich... . Since the island produces barley, the inhabitants keep large numbers of chickens... . In autumn they kill many turtle-doves and catch in their nets great numbers of quail... . You would say in truth that Divine Providence has seen fit to make the birds pass over the island, in order to bestow upon its poor and hungry inhabitants a savoury food. When the season of the birds is past, Divine Providence sends them another food, fish, which they relish even more, since its season lasts longer... ”²¹.

Thanks to Richard’s pen, we know today what were the traditional crops of Santorini, the so-called ‘dry’ crops, which survived exclusively because of the capacity of the terrain to absorb moisture in the night. We can also see ample justification for the view that Santorini was chosen by the Venetians as a victualling station for their fleet only because of its wine: it had no other product suitable for victuals, not even drinking water in any quantity. The foreign missionary did not simply view the island’s vineyards from on high: he walked among them and has left us the first description of them: “The grape plants have thick trunks and rise from the earth half a foot. They are planted with a distance of about an ell between them, since if they are close to one another, their roots, which are long, become entangled and they cannot suck up the necessary juices. A part of their wine is sold direct in Chios, Smyrna and, sometimes, Constantinople. Today they take it all to Candia and, since it is of good quality, it sells at a higher price than the wine of Naxos or of Paros...”²².

As for the routes followed by the wine, only the most cosmopolitan ports of the ‘White Sea’, the Aegean, are mentioned in these chronicles: Chios, Smyrna, Candia, Constantinople. It is worth noting further that the port of Candia is described by Richard as the sole destination of the wines of Santorini during the

early years of the Venetian-Turkish struggle for Crete, the period at which his chronicle was written, while it is not mentioned by Thévenot's travel book, which was written when the dramatic blockade of Candia had begun. The war had created a profitable, but opportunistic, market for the Santorini wine trade, which, however, was closed to it in 1669 with the taking of this great Venetian market.

The wine was carried to Candia by Venetian, French, Cretan and Santorinian vessels. In spite of the fact that in the two travel books which we have discussed there is no information as to the nature of the wine of Santorini, that at least which went to Candia must have been sweet, like *malvasia* (malmsey), which was what the Venetians of Crete were accustomed to drink and of which the besieged could no longer obtain supplies, since the hinterland of the island was in the hands of the Turks. Since, according to the travellers, it was of better quality and more expensive than the wine of the other Cycladic islands, it would have been sold at Candia and on the other foreign markets under a name denoting its origin, as has been the custom from antiquity down to the present. But, of course, the name was not the very Greek-sounding *krasí Santorínis*. It would have to have been something euphonious and brief which the purchaser and consumer could understand. We are told the answer by the Prior of the Lazarist Convent at Thera: "In earlier times, their vineyards were not very large and their voyages extended initially only as far as Candia, Chios, Smyrna, Constantinople and some of the neighbouring islands. Little by little, they went further afield: they opened up routes as far as Venice, Ancona, Trieste, and they followed this line for many years, chiefly in order to place their *santo* wine"²³.

The wine was sold, then, under the name of Santo, the first half of the place-name Santorini: vino Santo and vin Santo. This is also proved by the fact that the French-speaking Catholics of the island called the traditional sweet wine of Santorini *vinsanto*, which, written in the Greek alphabet, produced the Franco-Levantine *βινσάντο*. Evidence in this connection is provided by a report of 1729 to the Catholic Bishop of Santorini submitted by master-owners of the island's vessels, listing in detail the damage suffered as a result of various acts of piracy²⁴. One of these had occurred in 1727: a ship under the Maltese flag raided, in the port of Santorini, two of the island's caïques and took, together with other things "ten barrels of wine and five barrels of *βινσάντο*".

Wine production on Santorini in the 18th century

In order to find the first description of the characteristics of Santorini wine we have to move forward to the early 18th century and look at the book which the botanist Joseph Pitton de Tournefort published in Paris in 1717. We also find a reference to another valuable product, not mentioned in the earlier travel books, in spite of the fact that it had been cultivated since the 14th century: cotton. Santorini now had 10,000 inhabitants and produced: "a little wheat, a large quantity of cotton and barley, and abundant wine. This wine has the colour of Rhenish wine, but it is strong and full of spirits. They take it to all the Archipelago and as far as Constantinople. This liqueur and cotton goods are the chief products for trade of the island. The women cultivate the vines, while the

men go off to sell the wines. The finest vines are to be found on the foothills of the Ayios Stefanos mountain; they cultivate them much as they do in Provence... . Fruit is rare, apart from figs. Oil they bring from Candia...’’²⁵. The Santorini wine of that period was, then, strong, rich in alcohol (“full of spirits”) and was the same colour as the wines of the Rhine, that is, the yellow hue of old gold – it was, therefore, produced from white grapes. For it to be described as ‘liqueur’, it must have been sweet. It follows that the type had not changed in the course of the centuries; it was still the Aegean wine from sun-concentrated grapes of Greek antiquity.

The travellers’ accounts do not provide us with information on the area occupied by the vine and by other crops in the 18th century. The gap is filled by a tax register of 1731 in the Archives of the Catholic Bishopric of Santorini, a study of which yields the approximate distribution of the crops in hectares: vines 600, trees 500, arable land 1,300 (barley, wheat, millet, sesame, beans, chick-peas, cotton and garden produce)²⁶. But while vines represented only 24% of the surface area under cultivation, the revenue from viticulture was as much as 50% of the feudal income. The yield per hectare of the vines was calculated at 1,000 okas of wine, which produced an income sufficient to meet the taxes and to cover the deficits from the cultivation of cereals. Santorini continued to practise, in the early 18th century, multi-crop farming and to produce the same traditional products mentioned in the chronicle of François Richard a century before. However, the crop which earned money was essentially the vine. The fact that it did not cover a greater area means that the sale of wine at that time was still on a limited scale.

At the end of the century, however, the picture was entirely different: the vine had elbowed out everything else. Not an inch of land remained unplanted, because the first Russo-Turkish war (1768-1774), the Treaty of Kutchuk-Kainardji (1774) and the commercial treaty of 1783 had changed the geopolitical scene and opened up for Santorini wine the markets of the Black Sea. The Greek sea captains, taking advantage of the favourable terms stipulated in those treaties for Orthodox populations under Turkish rule, now sailed freely under the Russian flag²⁷. In 1791, the *Geography* of Filippidis and Konstantas, written in demotic Greek, was published in Vienna. On Santorini, it provides the information that the inhabitants: “over 10 thousand in number... make it fertile with their labours. Barley is grown there and... much wine, famous throughout Europe, and most profitable for the Santorinians...’’²⁸.

Valuable information on the island’s wine production is given by Guillaume Antoine Olivier. He had led a commercial mission in the last decade of the 18th century which had visited the Ottoman Empire on the orders of the French Government. Six volumes and an atlas, the fruit of that investigative expedition, were published in Paris at the beginning of the 19th century, when Olivier had become a member of the French Academy of Sciences:

“The most famous wine is the so-called *Vino Santo*. It is as sweet as a liqueur, and of medium quality in the first year. When it ages, it becomes very good and preferable to the most select wine of Cyprus. It is almost all exported to Russia.



Fig. 27 Map of the island of Thera or Santorini. Olivier Guillaume Antoine. Paris 1807. When neo-classicism came into fashion, the ancient name of Thera took its place next to the place-name which has its origins in the Middle Ages.

It is produced from very ripe white grapes which are left out in the sun for eight days, spread out on the flat roofs of the houses. They are then crushed and trodden and the must put into barrels, which are closed carefully when fermentation has finished. The ordinary wine, produced from white and black grapes without distinction, is not at all good. It is usually sweet, but turns to vinegar easily. Since the grapes are over-ripe and contain many sugars, in order to promote the fermentation of the must, it is usual, as on the other islands of the Aegean, for them to add a quarter or even a third of water. Fermentation lasts about a month and then the barrels are well sealed. On the skins which remain in the tanks they pour water in fairly large quantities and leave them to ferment for eight to ten days. They then draw off the wine and press the skins. This wine, which is of very inferior quality, is drunk by the local people all the year round... The inhabitants, who have no spring water, know almost no other drink apart from this 'piquette'. They drink it even though it has soured. Even in this condition it is welcome. We ourselves used it gratefully during the intense heat-waves which we endured on the island, without unpleasant consequences. The other wine is sold abroad. The quantity exported each year is vast: it is reckoned at a million okas. A small quantity of eau-de-vie is also produced"²⁹.

Thus in the late 18th century we have four different products from the vine. The first two were real wines, the one ordinary and the other made sun-concentrated grapes, differing from one another in quality and price. Exports

were reckoned at 1,300 tons, and the French mission regarded these as “vast”. The traditional sweet wine from sun-concentrated grapes was already famous: it was called *Vino Santo*, a name which had prevailed from the time when it was sold chiefly on Venetian markets. However, it is reasonable to ask why this name is unknown in the three earlier travellers’ texts. As can be seen from a careful reading of them, the interest of the earlier travellers had centred on the flock of the Roman Catholic Church or on the finds from ancient Thera, and not on the trade in the products of an impoverished island. For that reason only a few lines had been devoted to the wine. But the anti-clerical Olivier, who led the commercial mission as ‘citoyen’ of France only two years after the French Revolution, naturally used the name by which the traditional wine of ‘Santorin’, the French name for the island at that period, was known in the markets of the East, since, being familiar with commercial matters, he was aware of the value which the names indicating the origin of traditional wines had in the trade.

The third product originating in viticulture which is mentioned by Olivier was a wine substitute, drunk by the landless, since real wine was a very precious commodity. It was made by pouring water on the skins, that is, on what remained from the grapes in the press, when they had drawn off the must. Since the skins which remain from the treading of the grapes still contain a large quantity of grape juice, the fermentation would continue and give rise to a product which the French called then, as they do now, ‘piquette’. In the Greek language this product is called, as it has been since antiquity, *stemfylítis*, and in modern legislative texts, prohibiting the marketing of it as wine, it is referred to by the name *δευτερία* (*deftería*), since it is produced in the same way as the *δευτερίας* of antiquity, drunk by slaves instead of wine. Since the skins turn to vinegar easily, *defterias* usually had the smell and taste of diluted vinegar, but, as we know, watered vinegar has the property of relieving great thirst, and for that reason it was a sponge dipped in vinegar that the centurion gave to Christ when, at the height of His sufferings on the cross, He said “I thirst”. This then was the experience – that of quenching their thirst by drinking piquette “gratefully” – that the citizens of republican France had when they came to parched Santorini.

The fourth product was eau-de-vie. Olivier gives no further information, but this certainly must have been *rakí*, a product which they obtained by distilling the skins, the *ráki* (literally ‘rags’) of the grapes. It is the product called *tsikoudiá* in Crete, *tsípouro* in the rest of Greece, *grappa* in Italy and *marc* in France. It brought considerable profit to Santorini, which is why in subsequent years we see an increase in the number of distilleries on the island. According to Olivier, the Santorinians, 12,000 of them, almost all of the Greek Church, applied themselves with incredible energy to the cultivation of the vine and of cotton and were much richer than the inhabitants of other islands of the Cyclades³⁰.

More fortunate than the commercial mission of republican France was the Vicomte De Marcellus, First Secretary of the French Embassy in Constantinople, who in spring of 1820 passed through the Cyclades on his way to Palestine on a diplomatic mission³¹. He did not have to drink ‘piquette’; he dined at the house of the consular agent of France and drank the health of his King in “a bottle of



*Fig. 28 A small vegetal basket,
after harvesting early in autumn.*

wine of 1755, the contemporary of the creation of the last islet and the Lisbon earthquake”. As he found its taste superb, he obtained supplies for his voyage of a little “of this nectar, so renowned in the East, but rarely imported into Europe” before his ship, the *Estafette*, sailed for the Holy Land. Apart from the bottles of precious nectar, the Vicomte was taking with him real treasure: the statue of Venus, which he had ‘abducted’ a few days before from Milos. And as to the age of the wine which he drank, no wine is drinkable at the age of 65. But the romantic devotee of antiquity attached little importance to actual fact. He wanted to impress his readers by making the wine he drank contemporary with the Lisbon earthquake (1755), an event which had caught the imagination of Europe, and with the eruption of the Santorini volcano. The fact that in the bay a new islet had been formed, as if it had risen from the foam like Venus – what an association of ideas! – had made a deep impression in Paris. What did it matter to the abductor of the ‘Venus de Milo’ that the last islet had been created by the eruption of the volcano at the beginning of the century (1707-1711) and that there had been no volcanic activity on Santorini at the time of the Lisbon earthquake? To poetic licence all things are permissible.

The wine which the consular agent of France kept bottled for special occasions, such as the arrival of the Vicomte, was, of course, *Santo*. This alone was “renowned in the East” and only this could be described as “nectar”. The wine’s trade name is not mentioned by the romantic Vicomte, but it can be concluded from what Olivier wrote about *Vino Santo* a few years before him and what the Abbé Pègues was to say about *santo* wine 20 years later.

The wine trade without roads or a harbour

The Vicomte De Marcellus was the last foreign traveller known to have visited Santorini before the Revolution of 1821, when the island was the country’s third naval power after Hydra and Spetses. In the period between then and the foreign travellers’ accounts of the time of King Othon we have a Greek report addressed to Capodistrias, in which information is given on the Santorini wine trade in the early years of the national uprising: “This island has approximately twenty thousand citizens, its area is very small. The inhabitants are hard-working and are divided into two classes: those engaged in shipping and those in farming. Trade is carried on by the seamen themselves. It has some twenty five merchant vessels under a foreign flag; all the trade is carried on for the most part [sic] with Russia. The chief source of income of Santorini is wine, it produces a little barley, the wine is carried to Russia and thus the residents make a living; everything which suffices for the sustenance of man comes from other parts; hence there is much trading insofar as the wine is for export...”³².

It is, then, clear that at that time the wine trade continued to be carried on by the owner-captains of the island’s vessels and that virtually its sole destination was Russia. Everything else apart from wine came from elsewhere: wheat, charcoal, iron, wood for the ships and the barrels, clothes, shoes – everything. There was one marketable product – wine – and a single market – Russia. Under the protection of the Russian flag, in the closing decades of the 18th century and

in the early 19th, the export trade in Russian wheat was carried on by bold Greek sea captains throughout the Mediterranean and beyond. The European wars and the French Revolution had favoured the Greek merchant fleet. At that period, the Santorinians no longer ate barley rusks instead of bread as they did in the time of Richard and Thévenot. The ships which took the wine to the Black Sea ports returned laden with wheat and other goods. In less than 130 years, the island's economy had completely changed.

The following quotation from the report to Capodistrias gives some indication of the conflict of interests between France, the protector of the island's Catholics and more generally of the Cyclades, Britain, her commercial rival, and Russia, which made use of the island's sole resource: "There are many of the Greeks of the Western Church who act as consuls and vice consuls of the European powers; it would be expedient for these to confine themselves to their official duties"³³. The Frenchman Edmond About also hinted at the ambition of Russia to dominate the Aegean when he wrote a few years later: "The Russians are very fond of the wine of Santorini. They buy fifty thousand drachmas' worth of it each year, but they would prefer to have it without paying for it and to drink it on the island itself"³⁴.

Travellers' visits during the reign of Othon began in 1834 with a royal visitor: the philhellene Ludwig of Bavaria, father of King Othon. We have a sketch of this in the impressions of the royal visit to the Cyclades published by the archaeologist Ludwig Ross, professor at the University of Athens: "In the afternoon, the *Medea* moored in the lee of Nea Kammeni... . In the early morning the King disembarked at the foot of the sheer rock from which the path winds up in a spiral to the principal town (capital), Phira. What a startling spectacle! There, on this remote island, prospering from its wine production and from shipping, among the dense and varied crowd with their wide sailors' pantaloons, was the whole of the consular corps in grande tenue: representatives of Austria, Britain, France, Russia, Sweden, Holland and other powers besides, in tricorne hats and embroidered uniforms – and what uniforms! Furthermore, two bishops were in attendance: the Greek... and the Catholic... . Both were competing as to who would have the honour of escorting His Majesty up to the town. The former as the official bishop of the country, the latter by reason of membership of the same denomination"³⁵... . Ecclesiastical conflict was, however, avoided, since the King was at the beginning flanked by the gold-embroidered consuls. All advanced then at a brisk pace along the uphill path, on which the prelates in their heavy vestments were able to follow only with much toil"³⁶.

On this small island, less than 80 sq. km. in area, the royal visitor found waiting for him the consuls of the major European states, evidence of the prosperity of the island, which it owed to its wine and to seafaring. And yet Santorini was without a harbour: "the *Medea* moored" at one of the Kammenes, those volcanic islets which served in earlier times as an anchorage for corsairs. It was there that the vessels laden with merchandise took refuge when caught in a gale. When the weather permitted, they went to unload and to load in one of the three bays which Santorini possessed: Ayios Nikolaos at Apano Meria, Athinio,

and that at the foot of Phira, which was the biggest. From there began the wearisome carriage of the goods on beasts of burden up the paths carved out of the almost vertical sides of the caldera. The return journey was taken by the wine, adding significantly to its cost. The indirect effects upon its quality were not inconsiderable either, since to bottle it, and thus allow it to age, was far from easy: "Bottles, which come from Europe, are prohibitively expensive in the ports. For them to be taken into the interior is out of the question. They would arrive in pieces"³⁷.

Three years after the royal ascent of the caldera path, the road-‘stairway’, the work of a Bavarian prefectural engineer, leading from the bay to Phira, was constructed at public expense along the line of the pathway. A century later, Lois Knidlberger, professor at the Munich Polytechnic, wrote admiringly of this achievement: "few people appreciate that they are using a masterpiece of construction for a stairway, an incomparable work, bold, with its declivity virtually constant, exceptionally well-built support walls, with well-constructed channels for the rainwater, platforms for those coming in the opposite direction, fashioned with sureness of touch, at each bend a new and astounding view, bridging with fine low arches, and here and there the greenery of bushes"³⁸. However, this masterpiece of Bavarian engineering was not to solve the problem of transport on muleback, or of the wine, or of the bottles. The long-desired harbour was not constructed for another 150 years!

During the reign of King Othon (1832-1862), and more specifically during the first 24 years of life of the free Greek state, three more pieces of travel writing which provide information about the wine of Santorini were published. One of these was the work of the Abbé Pègues, Prior of the Lazarist Convent at Thera (1824-1837), who was undoubtedly a true student of the viticulture and wine-making of Santorini. It was published in Paris in 1842. Eleven years later, Louis Lacroix, Director of the French School in Athens, published in Paris his own impressions of his travels among the Greek islands, but pointing out that the entire contents of the chapter on Santorini had been borrowed from an article by Charles Benoît in the Archives of Scientific Missions of 1850. The third traveller’s account, published in Paris in 1854, came from the pen of a talented young man of 24, Edmond About, fellow of the French Archaeological School in Athens. About never set foot on the island: he drank Santorini wine in Athens, where he lived for some two years, but no travel writing proved more prophetic on the subject of Santorini wine than his.

Santo – the traditional wine of Santorini

According to the Abbé Pègues, at that period viticulture was virtually the only form of farming on the island, and wine in essence its chief and almost sole product. In this respect, Santorini was superior to all the other islands of the Archipelago: it had the biggest and finest vineyards both in terms of quantity of grapes and of the quality of its wines. We are told further that although some sixty different varieties of vine were cultivated, in effect only one, the *Asýrtiko* was used both for the production of ordinary wine and of *santo*, since it was the

→
Fig. 29 Phira, capital of the island, and the stepped pathway which was constructed 160 years ago on the sheer walls of the caldera.



best and most prolific. Another variety, the *Mandilariá* was used for the production of red *santo* wine. As to the *Mavrotrágano*, this yielded a fine red wine, as well as a very good *santo*, but it was cultivated only in very small quantities. The text lists certain other varieties whose grapes were not made into wine: they served as the island's summer fruit³⁹. As to the characters of the wines, the information which we are given is truly invaluable:

“The island produces two kinds of wine: ordinary wine, which is white, the colour of beer, and the sweet wine which is called *santo* and is produced in two colours: white, the colour of beer, like the previous one, and red. Both contain a large amount of alcohol and are very strong. Thus you must have a strong head to drink at will without feeling indisposed as a result of the vapours which the wine sends to the head. Good connoisseurs detect in it a taste of sulphur.

“The ordinary wine, in its natural state and hermetically sealed in bottles, when it has previously been well clarified and has aged for some years, strongly resembles Madeira in both taste and colour. I have frequently found bottles which had an aftertaste reminiscent of the wine of Cyprus. But it has this disadvantage: if care is not taken to leave it to settle well in the barrels or to separate out the lees by racking or by some kind of fining agent, it afterwards leaves a little sediment.

“The second wine, that best known outside Santorini, but deserving to be even better known and appreciated, the *santo* wine, exceeds in quality the best wines of Naxos, Paros, Tenedos, Skopelos, Chios, all the malvasies of the Archipelago and the moschato of Samos. I think, moreover, that with the appropriate processing and attention other than that given to it, it can successfully compete with the wine of Cyprus, without having to undergo, as that does, so much preparation and such long ageing. But for such a purpose it must be well prepared and of good quality. In order to give it the degree of sweetness required and for it to be absolutely excellent, it suffices for the grapes to be well ripened and for them to be left exposed to the sun for a shorter or longer time, for example, nine, ten, eleven days, depending upon the temperature, so that the wine produced is reduced to half what it would be if made from grapes which had not been sun-concentrated. It then acquires a sweet taste, sugary and honeyed, which caresses the sense organs of taste. It conceals, however, great strength, which is not very evident when it is being drunk. It is even better when it has aged, when it has previously been completely clarified. Then it is like a balsam which is felt in the mouth and in the stomach... . It may be served at the table of kings and stand out among the wines in which their toasts are drunk.

“This is particularly a ladies' wine, since in what they drink they seek for preference the sweet. However its gilded colour and its delicious taste, which give rise to the desire to drink it, are a snare, because without its effect becoming immediately apparent, this wine has made many who have abandoned themselves to its charming characteristics and who have placed their trust in its hypocritical sweetness regret it. For that reason, even in Santorini, it is usually drunk in small glasses as a dessert wine. I think that many palates in Europe would be absolutely satisfied by its organoleptic characters of taste. But the

cost and difficulties of transport, the outrageous import tariffs in foreign countries, the little care which the Santorinians devote to its manufacture or to putting it into clean and suitable barrels which will not give it a bad taste, as well as the greed and adulteration of which the mariners are guilty when, in the course of the voyage, they replace with sea-water what they themselves have drunk, rob it of the great sales which it could have and the reputation which it justly deserves, and which it would need if it were to be tried and appreciated in other parts besides Santorini. The ordinary wine as well, when it has been well aged and is of good quality, correctly prepared and kept in well corked bottles, may be served with success as a dessert wine and please those who would not be satisfied by the sweetness of *santo* wine.

“The ordinary wine, in years of normal production, sells at 50-60 francs a barrel, while *santo* wine is almost 2/3 as dear again. But these wines will not be appreciated and will not be sold at their real value until the Santorinians learn to treat them as they should and to make them the fashion on foreign markets. Then they will be sought after perhaps more, like so many others which, without being as good, have acquired international fame, because special markets have been found which have appreciated their quality and price. This is because they have all the features which can make them welcome everywhere... as long as they leave them to age for many years, as they do in Cyprus... . But in Santorini there is no one who bothers to keep his wine for many years, apart from a few bottles for an unexpected occasion.”⁴⁰

As far as production is concerned, Pègues confirms Olivier: two types of wine were produced on the island, one ordinary and the other sweet, made from sun-concentrated grapes. From the point of view of commerce, however, Pègues’ text, compared with that of Olivier, is more revealing. It emerges from both that the ordinary wine, unlike the traditional sweet wine, had no special name. In Olivier’s account, the controversial phrase is worded as follows: the most famous wine is the so-called *Vino Santo*. The Italian name *Vino Santo*, printed in italics in a French text, naturally remains untranslated and connotes the trade name which had survived from the times when the wine of Santorini had been sold on the markets of Venice when she ruled the seas. In Pègues we read: the sweet wine which is called *santo*. Throughout his book, whenever he needs to write ‘vin santo’, he has only the word ‘santo’ in italics and never the twin ‘vin santo’. This scrupulously careful way of writing it, which compels the translator to say “*santo* wine” and not “*vin santo*”, confirms that the name of the wine was in reality: SANTO.

As Pègues says: The sweet wine, that best known outside Santorini, but deserving to be even better known and appreciated, the *santo* wine, exceeds in quality the best wines of Naxos, Paros, Tenedos, Skopelos, Chios, all the malvasies of the Archipelago and the moschato of Samos⁴¹. It is, then, obvious that the wines of all the other islands, in spite of the fact that they were sweet and were sold on the same markets, circulated under the name of their island of origin and not under the name *santo*, since the name *vino Santo* and *vin Santo* did not denote a type of sweet wine for church use (altar wine), but the



traditional wine from sun-concentrated grapes of a specific island, Santorini. The name 'Santo', the first part of the place-name 'Santorini' thus belongs among the 'historic appellations of origin'⁴².

The santorini of Santorini

Pègues' book undoubtedly represents a milestone for vitivincultural Santorini and none of those who wrote later about the island's wines could resist the temptation of reprinting some of his comments, usually without reference to the source. The problem was that even copying correctly sometimes proves difficult. One of the texts which was hardly a success from the point of view of the information which it contains on viticulture and wine-making was that published by the French scholar Benoît⁴³, which, since it was reprinted by Louis Lacroix⁴⁴ and translated into Greek⁴⁵, achieved considerable publicity:

"More than sixty varieties of grape can be distinguished. The commonest variety is the *Asýrtiko*, a black grape with very large berries, from which ordinary wine is made. This wine, which is held in high regard in Russia and is, in my opinion, very little known in the West, bears a considerable resemblance to our Rhine wines, or even Madeira, with a slight aftertaste of sulphur"⁴⁶. In these lines we meet again the colour of Rhenish wines, from the chronicle of Pitton de Tournefort, and from Pègues' account the sixty varieties of grape, the resemblance of the wine to Madeira and the sulphur aftertaste. However, the *Asýrtiko* does not have black grapes, since it is a white variety and if the ordinary Santorini wine which went to Russia was produced from red grapes, it could not have had the colour of Rhenish wines nor could it have been like Madeira, since both the former and the latter are made from white grapes. We read on: "However, nothing compares, as a dessert wine, with the vino santo of Santorini, white and red: it is made from a grape called *Mávro Traganó*, which is left exposed to the sun for 15 days, spread out on the roofs of the houses, before it was trodden. After one year it is an excellent liqueur, but it goes to the head. It is superior to the best malvasia of the Archipelago and even the moschato of Samos"⁴⁷. The comparisons with the malvasias of the Archipelago and the moschato of Samos have, of course, their source in Pègues' chronicle, but from *Mávro Traganó*, which is a red variety, the white (!) vino santo could never have been produced.

The last of the travellers of this period, Edmond About, had a journalist's flair. He was writing in order to impress a specific readership: the Parisians. It is for this reason that he drags in the Marsala of Sicily and the Lacryma Christi of Vesuvius, wines which were then much in fashion, and uses the word 'cru', popular with the French, not in the sense of the wine, but of the vineyard. Moreover, being well aware that for the French a wine which has established itself in the market is known by the geographical name of its origin, he writes about "santorini dry", 120 years before the place-name of Santorini was recognised by legislation as an appellation indicating the origin of 'santorini' wine. And since in French the initial letter of the place-name is written with a capital when it means the region and in lower case when we are speaking of the

Fig. 30 Period barrels (Santorini Wine Museum).

wine, he writes 'Santorini' for the island and 'santorini' for the wine:

"All the provinces produce wine, but the best vineyard of the Kingdom is undoubtedly the island of Santorini ... I will not compare its wine with the wine of Cyprus, since Cyprus is not a part of Greece... but it would not be impossible to find connoisseurs of independent opinion who would prefer the wine of Santorini... . This wine is kept for many years and stands up to long sea voyages. It delights the eye with its beautiful topaz colour and satisfies the palate with the cleanness of its taste; it tolerates watering wonderfully. I drank no other wine at my meals for two years. It is slightly reminiscent of the wine of Marsala; it also has an aftertaste of sulphur. It smells of its origins. Born on a half-extinct volcano, it is the Lacryma Christi of Greece... . The same grape serves for the production of choice and ordinary wines and often two liqueurs of very different quality, taste and price are produced from the same vine. If, when they are about to take the grapes to be trodden, they hold back a part to expose to the sun on the terraces, these grapes, after 15 days of evaporation, yield a wine which is very sweet, very rich in alcohol and which keeps better. The *vino santo* of Santorini, produced in this manner, is held in higher regard than the santorini dry, but it is difficult to drink it pure in Athens..."⁴⁸.

On the vines of Greece more generally, About says: "We can distinguish two kinds of vines: those which produce wine and those whose grape is kept in its natural state and is known as a Corinth grape... . All kinds of grapes, without exception, do well on the soil of Greece. On the island of Santorini alone there are more than sixty varieties of grape, all fine ones, as the vine-growers say"⁴⁹. However, he had clearly not heard the views of the viticulturists of Santorini, since if he had been to the island he would have not have written so categorically and without exception that: "The Greeks unfortunately do not have underground storage areas (caves) at all... the wine is kept in wineskins and stored in the rooms"⁵⁰. He would have seen what the French mission saw and what Olivier wrote of 50 years before: "The caves on Santorini are vast and very clean; they have been dug out of the white pumice which covers the whole of the island. Their ceiling is arched... . The barrels stand in two rows"⁵¹. With About's book ends the series of foreign travel books which contain reliable and interesting testimony on the viticulture and wine-making of Santorini. From the mid 19th century onwards it was the turn of Greek accounts.

'The santorini', as the pen of About prophetically christened the wine of the island, managed to overcome the problems which beset it in the second half of the 19th and the early 20th century and the time has come today for what the great rhapsodist of Santorini wine, the Abbé Pègues, equally prophetically spelt out to be fulfilled: "These wines will not be appreciated and will not be sold at their real value until the Santorinians learn how to make them the fashion on foreign markets. This is because they have all the features which can make them welcome everywhere"⁵².

The vineyards as the object of juridical acts on Santorini from the 16th to the 18th century

Agamemnon Tselikas

Just as in ancient and medieval times Santorini was famous for its volcano and the myths which surrounded it –a source both of fear and of curiosity to all who visited the island– so in the world of commerce of the Mediterranean it was equally famous for its wine. This divine gift from the earth of Santorini, the product of the toil of its inhabitants and of the *sui generis* constitution of its soil and of its climate, had conquered the most important markets and was much sought after, as we are told by the Jesuit François Richard in his description dated 1657: “A part of their wine is sold directly in Chios, Smyrna and sometimes in Constantinople. Nowadays they take it all to Candia in Crete and, since it is of good quality, it sells at a better price than the wine of Naxos or of Paros”¹.

It will be obvious, then, that many of the juridical acts carried out on the island had as their subject either the vineyard itself, as a transferable immovable benefit or as the object of an obligation, or the wine itself in the process of trading in it. And it is a fact that in the island’s archives, which are kept with the Catholic Bishopric of Santorini, a considerable number of documents deal with vineyards and wine among the host of purchases and sales, dowry contracts, exchanges, wills, donations, arbitrations and compositions².

Of the 8,000 or so documents in the archives, 333, dating from between 1559 and 1799, deal with purchases and sales, exchanges and planting contracts. Of course, this number is by no means the complete one, since the notarial archive suffered considerable damage during the period of Turkish rule. In 1682, for example, at the castle of Skaros, Kyr Petros Gavalas and Antonis Grispos were forced to draw up anew the contract on the use of a vineyard which the former ceded to the latter since “my lord Tzanakis Anapliotis admits and states on his soul and in the fear of God that he has lost the document which he made... in the course of a pirate raid on the present *kastéli* [administrative district]”. In many cases, the documents are not formulated with that clarity which is appropriate to legal deeds, with the result that some of the questions which the historian of today asks remain unanswered. For example, the area of the vineyards being sold is not always stated, nor is the tax which the owner paid into the common fund and through that to the Ottoman ruler; nor does the name of the currency always correspond to the reality, since frequently the *reáli* replaces the *grósi* and *vice versa*. However, the essential and constituent parts of the act are certainly stated in full detail.

The documents were drawn up by the ‘*pubblichii notarii*’, who followed a specific form of words in the formulation of the deed, in which, after being prefaced with the invocation of the Name of God and the date, the whole

contract is described in a logical sequence. One of the old deeds of sale of a vineyard, of 1561, begins with the phrase “In the name of Christ amen”. It continues: “1561 in the month of April on the 15th, in the house of myself Di Vico de Palma, in the presence of my wife Sophia and of the undersigned witnesses, I will and make this present deed of misser Gasparis Syrigos on his own behalf and for his heirs... for a parcel of vineyard which we wish to sell to him...”. This vineyard was at a place known as “*sta Liópa*” in the Kontochori area and its price was 30 ducats, the price which the vendor had given public notice of previously at the “*pubblico incanto*”. From this sum of money, the sum of two ducats is subtracted to pay the annual tax (*‘harátsi’* – Turkish *haraç*), which amounted to a ‘silver *martsélo*’ and the expenses for the drafting of the document (*‘fatouría’*), which was an ounce of wax. The vendors declare that they consider the price satisfactory, safeguard the purchase from any challenge to the purchase and sale and include a clause on the payment of a penalty of 100 ‘*hyperpyra*’ on any party going back on the agreement.

In another document, dated 1601, papa-Vasilis Anapliotis appears as the vendor of a vineyard. The vineyard is located at “Arones” and the price is six gold zecchini, from which 48 *áspra* are to be deducted for the purchaser, misser Pieros Darzentas, to pay the *haraç*, which was two *áspra* a year. Thus the net price is five zecchini and 72 *áspra*.

The currency in which these transactions are carried out was initially the Venetian zecchino, which in some cases is also referred to as the ducat. Its use stopped in 1669 with the fall of Candia. This was followed by the Spanish real and the Turkish grosi. When the transaction is in reals and the net price of the vineyard is given separately, this is quoted in “*reália xeskouzáda*” (net), while the sum which is paid for the *haraç*, the tax, which from 1671 is also referred to as “*stréma*”, is called “*eléfthero*” or “*asprátiko*”. The prices, naturally, depend not only on the quality, area and location of the vineyard, and the various circumstances prevailing, but also on the law of supply and demand. The fact that in the documents we do not have any reference to the area makes it difficult to do any calculations as to their real value. The only point of reference which exists is the tax to which the vineyard is subject. But here too the differences in prices are significant. For example, in 1631 we have a price of 25 and 36 zecchini for a vineyard taxed at five *áspra*, while in 1633, for the same instance, we have prices of 19, 21, 25, 28 and 57 zecchini.

Sometimes the sale is not effected with money but by payment in kind of some form, or is enforced so as to pay off a debt. On 26 November 1707, Maroula Venieropoula sold to Nikolakis Delendas “the vineyard belonging to her” for 84 ells of fabric and two grosia, while on 30 October 1776, Katerini Xagorari paid off the debt which she had to Gasparakis Albis by giving him a vineyard at Kontochori. One particular characteristic of these juridical acts is the custom of those who drew them up and of the contracting parties to name the vineyards by reference to their age or to some former owner or some other names. Thus, apart from the ordinary expression: *ampéli* (vineyard), *ampeláki* (little vineyard), *kommati ampéli* (a parcel of vineyard), we have the names *niámpelo* and *yerontámpelo* (new and old vineyard), the vineyard called after Serantonakis, the vineyard of Tzanetakis, the Kloudenias vineyard, the Kalyvas vineyard,

Fig. 31 The cereal crop which grows on Santorini is barley, which, like the vine, can stand up to the dry warm climate of the island. The only tree whose roots are capable of penetrated the hard crust of the soil of Thera is the fig-tree.



the Koutoulis vineyard, the Laoudi new vineyard.

The arrangement of the documents in chronological order and the sorting out of the information which they contain yield some interesting conclusions as to the importance and the special nature which the vineyard had as an object of transactions in the economic life of Santorini. The purchases and sales of vineyards alone (and not of vineyards together with fields) were noticeably fewer during the summer months. From the documents as a whole it emerges that in autumn 115 such acts took place, in winter 98, in spring 61, and in summer only 29. This fluctuation in the frequency of sales within the year means that those who wanted to sell their vineyards waited, naturally enough, for the period of the vintage to pass until spring came; then the vines would have just started to shoot and various jobs needed to be done to cultivate the soil.

A review over time of the purchases and sales reveals, first of all, that from the mid 16th to the 17th century, a total of 196 such acts, mixed (of vineyards and fields) or of vineyards only, took place, as compared with 107 in the 18th century. This indicates that in the 18th century supply and demand had declined, either because the proprietorship had become stably established and succession of ownership was a family affair (by dowry or inheritance), or because in certain periods the reasons for investment which had held good in the previous century did not apply. In general, it is a fact that in periods of hostilities, such as the Venetian-Turkish wars over Crete (1645-1669) and the Peloponnese (1684-1715) and the Russo-Turkish War with the reverberations which this had in the Aegean (1770-1774), purchases and sales were more brisk. The interpretation to be given to this phenomenon is that in these abnormal and disturbed periods there was a marked tendency to ensure a supply of cash on the part of those who had capital, at a time when supply on the part of small-scale proprietors was greater because of the economic difficulties into which the economically weaker classes had been plunged. The special characteristics which the vineyards had from the investment point of view is also illustrated by the fact that the purchasers of vineyards were markedly fewer in number than the vendors, which means that we have more than one purchase being made by the same persons. For example, Tzanetis Anapliotis, between 1618 and 1633, made five purchases without selling anything. The Patmos nobleman Ignatios Kontoleon, between 1626 and 1633, made ten purchases. Nikolakis Mathas, between 1683 and 1706, made nine purchases and Gasparakis Albis, between 1735 and 1776, four. A special category among those engaged in such negotiations is made up by the women. Most of these were selling rather than purchasing; and those who were selling were widows or orphans. There are only two exceptions: Flouria, widow of Nikolos Sigalas made three purchases between 1664 and 1673, and "kera Maridi Delendopoula" two between 1701 and 1711. We can be certain that behind some of these juridical acts some dramatic story lies hidden, such as in the case of "kera Maridi", widow of Ioannakis Syrigos, who, together with her children, sold, in September 1741, a "terrace" from a vineyard which they had at Mesa for 30 grosia. The purchaser, who is at the same time the creditor of "kera Maridi", of the goodness of his heart agrees "that if within a time limit of one year viz until 1742 September the first they give

him back the thirty grosia, to let them have the vineyard again, but if they do not give them to him forthwith on the same day that the time ends as above that it will remain free and clear in the possession of the same Peroulakis above”.

One category of documents which, though a small one, is of particular importance for a study of the state of viticulture on Santorini is that of planting contracts. There are only nine of these dating from the 17th century and none from the 18th. This does not mean that they were not concluded more frequently than that or that such an institution did not exist in later times. A probable explanation of their small number is that these could be concluded informally, that is, without a written document. However, from those which have survived, two interesting items of information can be derived. The first of these concerns the work done to prepare the ground so as to ensure the best possible yield. In the contract made by the Catholic priest Yannas Dakoutrous with misser Nikolos Kontaratos in 1637, the former gives the latter a field located at Sklopodes, near Emporeio, “to plant a vineyard there as of today and to weed it and make it right as any good proprietor would and to plant beans every year. Each to contribute half the seeds and to divide equally down the middle whatever the Lord God sends”. In another contract, between the priest Nikiforos and misser Androulis Sigalas, the latter, who receives “a field known as being at Plateia at Kamini situated in the minore [district] of Monolithos... to plant it with a vineyard to have it and to look after it, for it to be perfect as any vineyard so that any manager and proprietor who has seen it will say that it is well looked after, planted with a hedge of salt bushes and the soil banked up”. The second item of information concerns the terms on which planting was carried out. In the event of additional sowing, the seed was provided in equal parts by the owner of the land and the planter, and the term of the contract varied from 15 to 20 years, depending upon the kind of work being provided.

If an attempt were made to map out the island marking the vine-growing areas, an extremely valuable guide would be provided by the place-names mentioned, not only in the documents which have been used in the present study, but also in the dowry contracts and wills. There are a great many such place-names – around 100 – and they spread all over the island. However, from the frequency with which they occur, certain areas stand out which could be described as par excellence wine-growing. Of the five ‘*kastélia*’ (administrative districts) into which Santorini was divided – Ayios Nikolaos (Oia), Skaros (the capital), Pyrgos, Emporeio, and Akrotiri – pride of place went to Skaros in terms of viticulture followed by the others, with Ayios Nikolaos last.

Although the data given here is in summary form and is based on a series of documents with many gaps, they provide considerable evidence that the vineyard was closely bound up with the life of the islanders of Santorini during the period of Ottoman domination. It could, moreover, be maintained that the frequency of its presence in the purchases and sales acts as a kind of barometer of the political and economic conditions prevailing in Greece. What, however, is of greater importance is the fact that Santorini did not cease to see viticulture as its basic agricultural occupation, on which an important part of its economic life was dependent – and one which brought considerable benefits.



Wine in the Economy of Santorini in the 19th century

Christine Agriantoni

In the early 19th century, Santorini already had its own organic place in the network of international trade. The island had never, of course, been isolated. Open to the sea, vulnerable to pirate raids, it had seen a variety of conquerors or settlers and maintained communications, during the period of Frankish rule and, later, within the framework of the Ottoman Empire, with Venice, Crete, the Middle East, Constantinople and Smyrna. Like most island economies, that of Thera was not, and could not be, a subsistence economy. Permanent 'production shortage' of basic foodstuffs made the production of marketable surpluses essential¹. Scattered pieces of evidence speak of imports of wheat in the 14th century, of owner-captains of Thera vessels in the 16th², and of "the little ships of Santorini loaded with wheat" in the 17th³, thus confirming the early development of merchant marine activity in Santorini.

The principal product of which there was a surplus and on which the island's trade was based was always wine, and this for geophysical reasons. The volcanic soil and the microclimate of Santorini, unsuitable for the growing of cereals (with the exception of barley) were particularly favourable for the cultivation of the vine. The product of this, the strong wine, high in alcohol, with a distinctive taste reminiscent of its geographical origin, had the additional advantage of "not being harmed by sea transport"⁴, that is, of standing up to long voyages. Thus it travelled easily about the Mediterranean – chiefly the eastern Mediterranean – from Venice, Trieste or Ancona, to Constantinople and Smyrna.

Nevertheless, the island's economy in the early 19th century manifested a new feature. In earlier times, exports of wine mainly made good the shortage of cereals, while the base of production of the island remained multicrop⁵. But from the mid 18th century, the plantations of vines expanded dramatically, almost approaching the 'natural' limits of the island and displacing other crops. In the space of a century, the situation changed completely and the base of production of the island's economy had become virtually single-crop, and of a commercial character⁶. This development went hand-in-hand with the demographic change which followed a stage of stagnation and, probably, reduction in the numbers of the population, which came in the wake of the devastating volcanic eruptions and earthquakes of 1650 and 1707. Between 1731 and 1831, the population of Santorini more than doubled, exceeding, most probably for the first time in its history, the watershed of 10,000 inhabitants (13,000 in 1841)⁷, a development which was accompanied by certain alterations, indicative of the new orientations, in the island's ekistic mesh (abandoning of the fortified settlement of Skaros, creation of Phira)⁸. At the same period, production of wine increased more than four times over, while there was reduction in that of barley, beans, chick-peas and cotton, and sesame,

Fig. 32 The fascinating contrasts of Santorini: volcanic ravines break up the smoothness of the vineyard-laden hillsides.

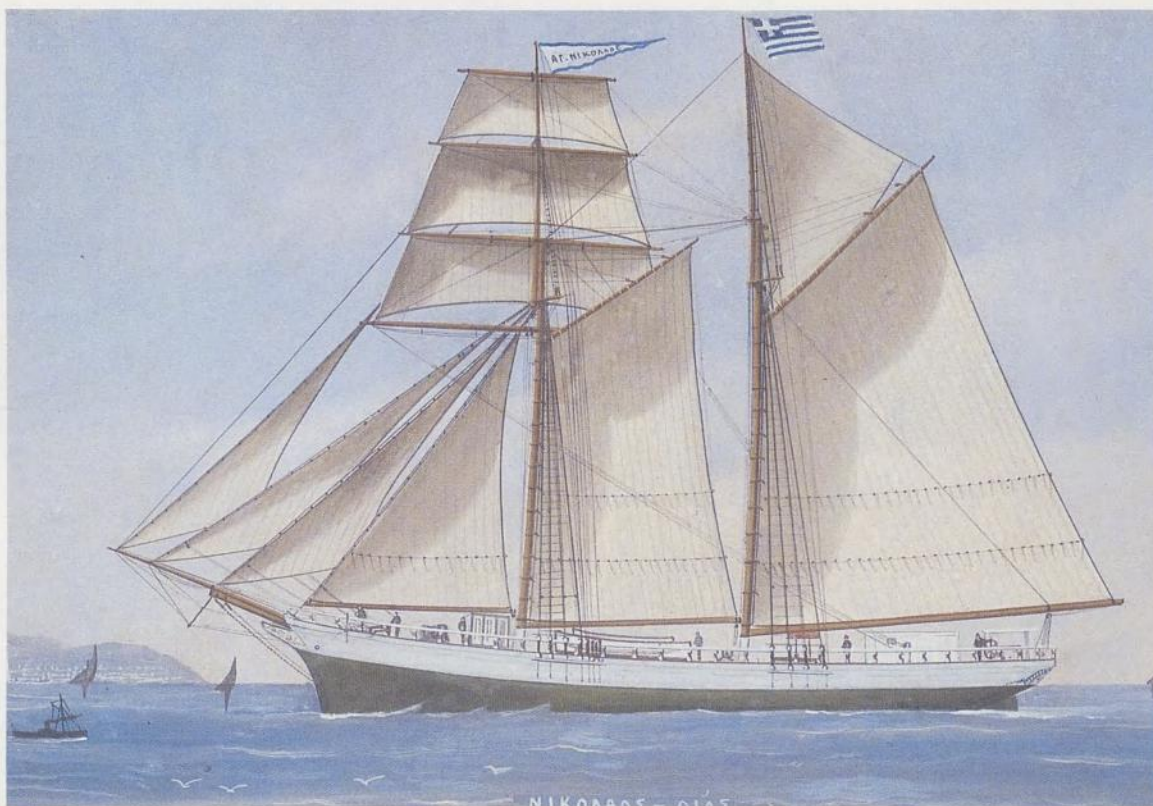


Fig. 33 *The Ayios Nikolaos, a 195-ton galliot, built at Oia in 1892 (Nomikos Maritime Museum, Oia).*

amber and the sparse wheat crops effectively disappeared⁹. The picture which the island presented in 1837 is eloquently described by a foreign visitor, the Abbé Pègues: “From the peak of Mt Profitis Ilias ... one’s gaze takes in a vast expanse of vineyards, which covers almost the whole surface of the island ... a superb picture in which, in summer, the green of the vines comes into strong contrast with the yellowish stocks in the few, scattered fields”¹⁰.

These changes were, of course, bound up with the broader phenomenon of the development of commercial capitalism, which methodically spread its network over the whole of the littoral of the Mediterranean in the 18th century, revitalising local economies and boosting exchanges. But they are also to be linked with certain special conditions, favourable to Santorini, which prevailed and which were due to a large degree to the political situation at the end of the 18th century – we are speaking here of the impressive penetration of the Russian market by the wine of Santorini.

When the first vessel with a cargo of Santorini wine made its way through the straits of the Bosphorus we do not know, but the major development of this trade must undoubtedly be placed within the framework of the period of prosperity for Greek commerce generally which followed the Treaty of Kutchuk-Kainardji of 1774, which opened up all the ports to Greek shipping. From that point on, the wines of Santorini, as well as the simplest *vinsánto*, found a regular clientele among the more prosperous strata of Russian society, the Orthodox Church and

the Greek communities around the Black Sea. The wine was sold chiefly in the ports of Taganrog and Odessa, and from there “the Kossacks transported it to the provinces of the hinterland”, where it was sold “at a price four or five times higher than that in its country of origin”, sometimes, moreover, blending it with wines of inferior quality¹¹.

This link between Santorini wine and the Russian market ensured a first-class arrangement in an exchange vital to Santorini, since, on the same voyage, the vessels which had unloaded the wine filled their holds with Russian wheat. Moreover, since the islanders were increasingly sailing their own vessels, the whole undertaking combined the profit from the high prices of the wine with the profits of the freight. It was at this period that the merchant fleet of Santorini more than doubled in size. The island had 32 vessels, with an average capacity of 80 tons, in 1813, 49 of over 30 tons in 1841 (including 14 under the Russian flag) in 1841, and 78 of over 30 tons and with an average capacity of 144 tons in 1848¹², the period at which the sailing fleet of Santorini seems to have reached its highest point. The vessels were built in the shipyards of the eastern Mediterranean, but also at Armeni and Athinios, to which the islanders attracted the very best shipwrights¹³. The leading role in these developments in shipping was played by the villagers of Epanomeria, who had the least land capable of cultivation and the least fertile soil. Thus economic duties on the island were shared out between the merchant shipping centres of the north, Oia and Phira, and the rich agricultural villages of the south – Pyrgos, Emporeio, Mesaria, and so on¹⁴ – while the up and coming class of the shipowners of merchants vessels, which was gradually superseding the old leading families of landowners and officials, began to make a show of their prosperity, even building “recently ... certain houses according to architects’ designs”¹⁵.

Nevertheless, this network of activities flourished at a period when the different categories of client, the still small local markets and the relatively small capacity of the means of transport employed permitted *sui generis* products to find chance or more loyal clients and small maritime communities to make the best use of their limited resources – that is to say, they flourished in the early stage of development of the modern international economy when the move towards mass production of the industrial age had not yet imposed its constraints. The new conditions which rapidly took shape in the mid 19th century, as what was now an international economy was engulfing larger and larger regions, intensifying competition and inevitably plunging all branches of production into successive crises of overproduction, made necessary adjustments which, in the case of such a vulnerable product as Santorini wine, set off a particularly far-reaching chain reaction.

It was obvious from as early as the 1830s that the golden age of exports to Russia was drawing to its close. This at least is what is indicated by the fact that from that point on the islanders began to look for new markets – some as far away as America. In 1835 the first cargo of wine was sent to Boston, in the vessel of I.A. Rallis of Chios and with Ioannis Hatzi-Alexandris of Psara as master. The experiment was repeated by Nikolaos Syrigos of Santorini, while a third consignment, with Hatzi-Alexandris again, this time sailing his own vessel,

ended in disaster: on its return, in 1838, the ship went up in flames in Syros harbour. The voyage, this time to New York, was undertaken again, from Santorini, in 1841. None of these endeavours, however, seems to have been crowned with particular success: in the case of the last, the vessel “did not earn even its freight charges”¹⁶, and thus exports of wine to America never became a stable trade. On the other hand, it would seem that in the end it was vines which were exported from Santorini to that distant land¹⁷.

In the meantime, from the 1840s¹⁸, the decline of exports to Russia began, a decline which was marked by some particularly disastrous years, such as those of the Crimean War, to be completed with its total collapse in the early years of the present century (Table 9). Undoubtedly, the expansion of the vineyards of the Crimean peninsula and the protectionist duties from time to time imposed by Russian governments on imported wine²⁰, and the shrinkage, later, of the Greek communities of southern Russia contributed to the reduction of Greek exports (see Illus. 13). However, the substantive reasons must be sought in the broader upheaval which took place in the international wine market in the 19th century, in which, it would seem, Greek wines were not able to find their place – or, rather, to be more accurate, they found the most insecure one²¹.

Wine, as is well known, is a matter of taste. But tastes alter with the times – with the way of life, with ideologies and with what technology makes possible. Although up to the 18th century, strong wines and those with a distinctive taste were welcomed by peoples who were unacquainted with the vine at first hand, since they were the only ones which could travel, new possibilities in transport and the means of production and preservatives, together with the mass clientele of the 19th century, gradually made more general the demand for wines which were plain, easy to drink and with a low alcohol content. These could be produced by all the countries of the Mediterranean²², while in the higher quality bracket French wines held sway unchallenged. It was the latter which “are served at the tables of the nobles and the wealthy” in the Russia of the mid 19th century, while Greek wines, we are told, “are consumed by the lower classes and, indeed, by the Greeks and those who follow Greek manners in Taganrog and the parts thereabouts”²³.

In their quest for new clients, the merchants of Santorini tried out Marseilles, but there the verdict was that “the colour, the taste and the nature of the samples were not suitable for the French consumer”²⁴. Small quantities were sent to Genoa and Leghorn – and to England for a while, through the French ports²⁵. As time went by, consumption in Turkey (Istanbul and the ports of the Black Sea) became more regular and, at a later date, this was also true of Egypt, where the clientele was, of course, the Christian populations²⁶. However, these changes, the instability of exports, the competition which became constantly stronger and abrupt fluctuations in prices²⁷ rendered the economic results of the wine production of Santorini increasingly insecure. The price to be paid for a commerce-based economy was inflexible: the island had to live from its exports, since, having gone over almost completely to a single crop, it bought all its essential goods from other markets, with which, moreover, communications were not always easy. Regular shortages at times put prices up to intolerable



Fig. 34 Ceiling of a period building at the 'Cánava Petros Nomikos'. Monumental mansions made their appearance on Santorini in the 19th century, introduced by the flourishing shipping and commercial class.

levels, and thus “in no other place is there as a rule ... such overpricing of all commodities in general”²⁸ as there was on Santorini, which was then, in the mid 19th century, the most densely populated island in the Cyclades²⁹, and one with marked social inequalities. If trade and shipping had made some notable fortunes³⁰, the majority of the island’s population, among whom ownership of property of the most diminutive size was the rule, were poor, hard-working and plain-living, their daily bread derived from wages from the vintage, from cartage, from shops and from a variety of errands. The migrant who had settled elsewhere was an integral part of the tradition of island and maritime communities. The first settlements of Santorinians began to form in Athens, Piraeus, Syros and Alexandria, becoming much more numerous towards the end of the century, when the population of the island began to dwindle³².

Although the upturn in the international economy in 1860 and 1870 provided a temporary reprieve, the phase of recession, in the last two decades of the 19th century, was a time of trial for all those island communities which had based their development on sailing ships, which had been dealt their death blow by the triumph of steam, and on trade in their traditional products. The wine of Santorini had a high cost, which was determined by the conditions of cultivation and by the particular difficulties involved in transport on the rugged island with the steep cliffs rising out of the caldera. Apart from the paved track leading down from Phira to Limenas, which was constructed in the 1830s to the plans of the prefectural engineer, the Bavarian Weiler, along the route of the old pathway, and the track which led to the gulf at Athinios, at that time a cooperage and shipbuilding centre, no other road-building was undertaken on the island until 1929, when work started on the Oia-Phira-Emporeio road³⁴. The Oia-Phira road had been planned since 1890, but was postponed, for reasons which must

have had to do with the more general public finance crisis in Greece³⁵. The most grave problem was, however, the lack of a harbour, which meant that ships had to anchor in the open sea and be loaded with goods from lighters. The Sisyphian efforts to construct a harbour for Santorini began in the 1860s, but the project presented enormous technical difficulties by reason of the form taken by the island's shores (sheer depth of the caldera, a shoreline open to the sea without any natural havens on the outer side), while fresh activity of the volcano in 1866, after 160 years of quiescence, was an additional problem for the technical specifications. Thus the first undertaking at Kamari was abandoned³⁶, and the plans of Quelleneck, D' Istria and Audrain, engineers with the French Mission, in 1888-1890 for a harbour at Exomyti were not put into effect³⁷, while the harbour project at Monolithos, which was finally begun in the early 20th century, was also abandoned³⁸.

Wine production on Santorini had to either adjust its cost or bring its products into line with the demands of the new markets and find a way of improving its quality. It is true that the care which was devoted on the island to viticulture was, as far as we know, without parallel anywhere else in Greece. This care was called for by the particular conditions of the island's climate and terrain and the wisdom which had been accumulated from age-long experience: the distance allowed between the vines when they were planted, ploughing of the ground three times over, pruning and the training of the vines into inverted cones, removal of the living canes after the vintage – all practices which helped to increase the depth of the roots, to allow air to the plants, so that they should not weaken, to save space for the sowing of barley or peas, so that the vines should also benefit from the fertiliser applied, and so that food would be provided, chiefly for the animals – that vital means for transport for Santorini³⁹. Nonetheless, the process of winemaking does not seem to have been free of those defects and omissions which were customary throughout Greece. Grigorios Palaiologos notes, on the one hand, the practice of the islanders of dividing the must into three kinds, but he goes on: "If the people of Thera, whose ... soil contributes greatly to the quality of their wines, put into practice in addition whatever else is required by good winemaking, their wine would be of the rarest"⁴⁰. This claim for its potential rather than its actuality is a theme which runs through all the comments on Santorini wine, even those of its most fanatical admirers⁴¹. Inconsistency in the taste and the colour was a familiar phenomenon. Naturally, the Santorinians were well aware of the virtues of the wine which had been allowed to age, but the great bulk of commercial wine was each year that of the previous season, which travelled in the barrels a few months after the vintage, without any other decantation⁴². The *vinsáto* formed only a small quantity and this remained a *sui generis* drink without much prospect of extending its clientele. It was now used in Russia chiefly as altar wine⁴³.

Both approaches to a solution – adjustment of the cost and improvement of quality – were attempted by the wine producers of Santorini, particularly in the final decades of the 19th century. The former, which inevitably concerned the great majority of small producers, could only mean an increase in yields, so the islanders set about gradually bringing forward the vintage, because the riper the

grapes were, the less yield there was in terms of must and wine⁴⁴. This haste became common practice towards the turn of the century, when very few producers observed the dates for the beginning of the *vendéma* set jointly by the municipal authorities and the vineyard owners in each village⁴⁵.

In vain did the local newspaper of I.N. Varvarrigos note, in 1891, the catastrophic consequences of this practice, the bad reputation which Santorini wine had now acquired abroad, the “degradation” of its price and the need for “its improvement by scientific methods”⁴⁶. This was a period in which wine producers throughout Greece were fighting to increase the quantity produced and it was not easy for the producers of Santorini to stand out as an exception, particularly when they were not in a position, it seems, to provide for suitable and adequate ageing⁴⁷.

The second solution, improvement of quality, which required increased expenditure and investments, was attempted by some of the bigger producers, but with ambiguous results. The De Kigallas family, which set up in the 1870s a model winemaking unit in Phira and then exported wines to Germany, Belgium and the Netherlands, seem to have been pioneers in this effort⁴⁸, but we hear no more of this business after the early 20th century, a time of major crisis for winemaking throughout Greece, when the old leading families of landowners had already begun to leave the island⁴⁹. In the 1890s, a red ‘brousko’ wine described as ‘bordeaux’ was exported from Santorini, but this imitation of the French wine does not seem to have had a particularly successful career⁵⁰. At the same period, another landowner, Dimitrios Karras, began to produce, like many other Greek winemakers, and again within the logic of imitations, a distillation from wine which he called ‘cognac’ and which enjoyed a transient success on the markets of Turkey and Egypt⁵¹.

These, however, remained isolated, individual endeavours. The only winemaking company of repute mentioned in the sources for the inter-War years is that of Georgios A. Venetsianos, from Mesaria, which produced the SANTO wine⁵². In the case of the great bulk of wine production in Santorini, the path it followed confirmed the trends which had become apparent in the last decades of the 19th century: an increase in yields at the expense not only of the quality but also of the individual character of the local product, which had now become a cheap wine for popular consumption, sold in ever-increasing proportions in the interior of the country. It is only from the point when the domestic market experienced a decisive expansion and began to demand wines with a reputation (and a higher price) – that is, very recently – that the wine production of Santorini began to be re-organised on new bases. Now, however, it had to cope with the strong tendencies which were urging the island’s economy in other directions.

It was natural enough that the Santorinians should turn to new horizons when the golden age of wine came to an end. Gradually, with the determination which is a characteristic of islanders, who are always ready to migrate but who are also deeply attached to their native place, they began to introduce changes into their production. Traditional crops the cultivation of which had declined, such as chick-peas, as well as newer ones, such as tomatoes, were expanded and orientated towards exports⁵³. There was a significant expansion of the

cultivation of tomatoes, which in the inter-War years began to replace the vine, while the income from exports of tomato paste, which had come to be produced by industrial methods, was equivalent to half the income from wine⁵⁴.

More characteristic of the early commercialisation which the economy of Santorini had experienced, with the drastic reduction of agriculture for home consumption and the widening of social inequalities, was the way in which industrial activity penetrated the island. The phenomenon of the small *fábrika* (factory) in the countryside, reminiscent of the early industrial age in Western European countries and occurring in Santorini from the end of the 19th century, and particularly in the inter-War years, was not a particularly common one in Greece. Here, the impossibility of expansion of the production of basic necessities had created the conditions for an increase in wage-earning labour relations, at a point, of course, where income from commerce in agricultural products was shrinking or becoming increasingly insecure, and when traditional home craft industries had been finally abandoned⁵⁵. Emigration, permanent or temporary, always provided a way-out for the male population of the island's poorer strata⁵⁶. The women in their turn provided an impoverished workforce in the thread and textile factories and the foodstuffs industry which had established themselves on the islands. The first and most long-lived of these was the knitting factory of Antonis Markezinis at Mesaria, which was set up in 1889 and started out with two hand-operated stocking knitting machines; electrification took place between the two Wars, with 200 machines and an annex at Megalochori⁵⁷. Five more factories had been set up at that period – at Phira, Oia and Karterados, most of them in the 1920s, while there were on the island three or four factories manufacturing tomato paste, a windmill and a power station⁵⁸.

However, an 'industrial' activity which was on a larger scale and of a longer duration was mining. "The famous earth under the name of *portzelána*"⁵⁹, the earth of Thera, has been another special gift of nature to Santorini. Its property of setting rapidly in water had long been known, and it was exported, sporadically, from the early 19th century⁶⁰. Exports became more systematic around 1840-50, when the earth of Thera was used in the harbour projects at Trieste and Fiume, and expanded towards the end of the century, resulting in a gradual alteration of the island's landscape⁶¹. At the same period, small quantities of pumice also started to be exported systematically.

It was another activity, however, which was to threaten, on an unprecedented scale, the island's delicate balances. When, in 1900, three yachts – two British and one American⁶² – moored off Santorini with their visitors, no one could have imagined the dimensions which tourism would take on for Santorini after the Second World War. This last act in the drama of commercialisation, understandable perhaps after the long years of depression which the island experienced immediately after the War, when the factories closed down, agricultural incomes became derisory and emigration became general, nonetheless has contradictions and dangers inherent in it. Although it has provided the population with a solution without precedent to economic problems, it now seriously threatens the very 'commodity' on which it is based: the unique natural and man-made beauty of Santorini.

From the wines of the pre-industrial *canava* to the wines of modern technology

Stavroula Kourakou-Dragona

In the first half of the 20th century, the weaknesses which had become obvious in the previous one continued to exist: inadequate storage space, the usually low quality of the wine, types of wine which were marginal to the preferences of modern markets, trade in bulk wines on opportunistic markets. Such a market presented itself during the First World War – and was the dying glimmer of the viticultural economy of pre-industrial Santorini.

In those years the vine was virtually the only crop grown on Santorini. According to official figures¹, it covered approximately 3,500 hectares on the two islands of Thera and Therasia and represented 84% of the land under cultivation (Table 1). Average wine production, with small fluctuations from year to year, amounted to 3,700 tonnes (Table 2), and the yields of the vine plantations were very small: approximately 150-170 litres of wine per 1,000 square metres. The biggest wine-producing municipality was that of Kallisti, which accounted for some 37% of annual production, thanks to the two large productive areas of Mesaria and Pyrgos. However, at commune level, Thera came first with Oia a very close second (Table 3).

Since consumption on the island itself was small, of the order of 256 tonnes (19 litres per capita per annum)², the great bulk of the wine produced was always an object of external trade with the rest of Greece or foreign markets. However, during those troubled years, exports to Germany, Austria and Russia, markets to which Santorini traditionally sold chiefly *mistélia* and a little *vinsánton*, had stopped, but a new market, a highly profitable one, had opened up in northern Greece: the allied forces, particularly the French. The port of Thessaloniki became the principal destination of Santorini's wines, since the vineyards of Macedonia, which had now been attacked by phylloxera, produced very little and could not even meet the needs of the local population³. In the period 1916-19, the domestic market absorbed almost 100% of the wines of Santorini (Table 4).

Between 1916 and 1920, cultivation of the vine was a profitable form of farming and those engaged in the production and marketing of Santorini wines made large profits. Many indices confirm this: a. the large number of wine-making units⁴: there were about 350 *cánaves* in operation, belonging to an equal number of vineyard-owners, most of whom were not themselves vine-growers. They gathered in the grapes from all over the island and vinified them, buying them up from the vine farmers or other vineyard-owners who did not have their own *cánava*; b. The reserves not disposed of, which did not exceed 60 tonnes per annum; c. The spectacular increase in the day wage of the labourers, which before 1916 had been 1.50 drachmas and which increased by a drachma

year by year, reaching 5.50 drs in 1920, when it showed a further upward trend; d. The sale prices of land planted with vines which had reached 2,000 - 2,500 drs the *zevgariá* (0.3 ha).

Changes in ownership and the wine trade provided another important index. Before the First World War, of the 3,500 hectares of vineyards, 650 were in the ownership of certain monasteries, while the rest belonged to proprietors who cultivated them by the employment of labourers. During the War, thanks to the spectacular increase in wages, many of the landless were in a position to buy vineyards, in spite of the increase in their prices, and so become proprietors on a small scale. Those who were also engaged in the wine trade were able, because of the high wine prices, to buy extensive areas and become major proprietors. The following official data⁵ are also worth noting as an indication of the profits to be derived from the wine trade: the increase in wages had resulted in a corresponding rise in the expenses of cultivation: while in 1916 these were 27-36 drs the *zevgariá*, in 1920 they had risen to 100-127 drs (Table 5).

However, profits from the increase in the prices of wine were much greater: in 1919, each *zevgariá* produced a profit from the sale of the wine of 153 drs, while in 1920 the profit on the same quantity of wine was 239 drs⁶. Moreover, it was at this period that the practice of adding water to particularly strong musts gained ground, with a view to producing wines of the same alcoholic content. This resulted in vast profits for the winemakers and vintners, though it did not benefit the viticulturists, while the quality of the wines deteriorated. At this point, the view prevailed that those viticulturists who did not have their own *cánava* and were not involved in the wine trade were losing money by not selling their vineyard⁷. Since, of course, it was not feasible for all the viticulturists to become winemakers and merchants, the idea of setting up a co-operative winery, so that they could at least be commercial partners, began to be fostered. The 'Thera and Therasia Wine Production Defence Fund', a public law organisation, founded in 1910, had not proved capable of fulfilling its principal purpose – the 'standardisation' of Thera wine. It was not, nevertheless, until 30 years later, that the island's first co-operative winery came into operation.

When the War ended, the port of Thessaloniki ceased to occupy the dominant position which it had had for the wines of Santorini in previous years, but it continued to be their chief destination as they went to supply the markets of Macedonia and Thrace, where the vineyards had been destroyed by phylloxera. Large quantities of Santorini wine also went to Syros and, to an even greater extent, to the port of Piraeus: during the inter-War years the domestic market absorbed two-thirds of the island's wine production. At the same time, export activity became more intense, this time not to the old markets, but to Egypt and Constantinople. Of the traditional markets, it was only that of Austria which opened up again to the Santorini wine trade, and when the British fleet left Malta, this too collapsed.

The prosperity brought to the island by viticulture and winemaking during the inter-War period can also be seen from the density of the population. According to the 1928 census, Thera had 9,884 inhabitants and a density of

population of 148/sq. km. Only Syros produced a higher figure, with 27,663 inhabitants and a density of 288/sq. km. But while the majority of the population of the province of Syros was urban (74%), that of the province of Thera was chiefly agricultural (87%).

In the 1930s, Santorini continued to be the vineyard of the Cyclades. Table 6, rare of its kind for that period, gives a picture of viticulture in the Cyclades on the eve of the Second World War: the vineyards of Santorini, 3,000 hectares, represented 39% of the area planted with vines on the vine-growing islands of the Prefecture of the Cyclades. The yields per hectare were desperately low: 1,900-3,200 kilos of grapes, depending upon the location of the vineyard and the care devoted to cultivation⁸. The viticulturists had remained unassisted and without any training in agriculture. The vine, which had borne fruit in the earth of the Cyclades since prehistoric times, was gradually abandoned. It was on Santorini alone that it maintained its dominant position, but even there it began to share the land with other crops⁹. Among the larger *cánaves* of that period mentioned in the official documents¹⁰ are those of Georgios Venetsianos and of Georgios Markezinis at Mesaria, of Antonis Venetsanos at Megalochori, and of the Thera and Therasia Wine Production Defence Fund and of Kanakaris at Phira. However, three major companies which made wine in many other parts of Greece also dealt in Santorini wine: the Wines and Spirits Company, represented by Georgios Venetsianos at Mesaria, 'Kronos' SA, represented by Antonis Venetsanos from Megalochori, and the Koniordos Bros company. The presence of these on the island is by itself evidence of the importance of the vineyards of Santorini on a national scale.

The official estimates put at two million okas the grapes which were made into wine by the *cánaves*. The rest were bought in the form of must by the tavernas of the island and of other towns (Syra, Athens, Thessaloniki, etc.). The owners of sailing ships also bought up and traded in must, which they transported chiefly to Thrace and Thessaloniki, which absorbed in must and wine some two-thirds of the island's production. Transportation was carried out in *bómbes*, barrels holding 400-500 okas, which were loaded on to the vessels. The great problem was still the absence of roads and of a harbour – which were not destined to be constructed even then. “By reason of the very rough state of the terrain of the town of Phira and of the port of Thera (a steep descent of some 250 metres), the transporting of the wine from the wineries is extremely difficult and it is charged with 50 lepta the oka by the time it reaches the port”¹¹.

The management of the Thera and Therasia Wine Production Defence Fund took the view that the wine could be conveyed to the harbour more quickly and economically by a pipeline. Thus a concrete tank was built on the quay to hold 50 tonnes and “a copper wine pipe of a length of 555 metres linking the installations in Phira with the tank on the quay”¹² was constructed.

This project, the very thought of which today sends a shudder through the oenological world¹³, cost then 700,000 drs¹⁴ and was regarded as something of an achievement. Apart from the *cánaves*, the island has its *rakidiá*, which distilled the *stémfyla* – the *ráki* ('rags' of the berries) and made *rakí* (*tsípouro*, *tsikoudiá*). However, in 1938, “by reason of the high taxation on the stills, this small

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Fig. 35 The vine is one of the few ligneous plants whose roots, like those of the fig tree, can penetrate the earth of Thera.



industry, which used to yield the producers not inconsiderable economic support, has greatly declined”¹⁵.

Prices in 1938 for white grapes (of the *Asýrtiko* and other varieties) were 3.0 to 3.5 drs the oka and for red grapes of the *Mandilariá* variety, from 2.5 to 3.0 drs the oka. This means that they were higher than those received by the vine-growers of Paros for his *Mandilariá* (2.0-2.8 drs the oka in 1938, as compared with 1.8 drs the oka in 1936), in spite of the fact that the German market was open to the *vafikó*¹⁶ wine of Paros. The wine trade made a better profit from selling on the domestic market, but that had a greater demand for wine made from white grapes and so red grapes had lower prices.

While in the majority of the *cánaves* the ‘amelioration’ of the must was carried out empirically, the large companies sent chemists to the island from time to time to monitor the wines. One such was Minas Koniordos, the heart and soul of the company which he had set up with his brothers. A chemist permanently settled on the island at that time was Georgios Mavrommatis, who had his own *cánava*. In the case of the family business of the merchant Antonis Venetsanos, who, returning from Egypt in the 1920s, had settled at Megalochori and handled large quantities of wine, the scientific monitoring of the precious merchandise was provided by his youngest son, Georgos, who had studied chemistry in Athens in the years 1934-38. A decade later, a winery with a capacity of 1,200 tonnes, owned by the brothers Zannis and Georgos Venetsanos, was operated at Megalochori¹⁷. The time for the industrialisation of the island’s wine production had come.

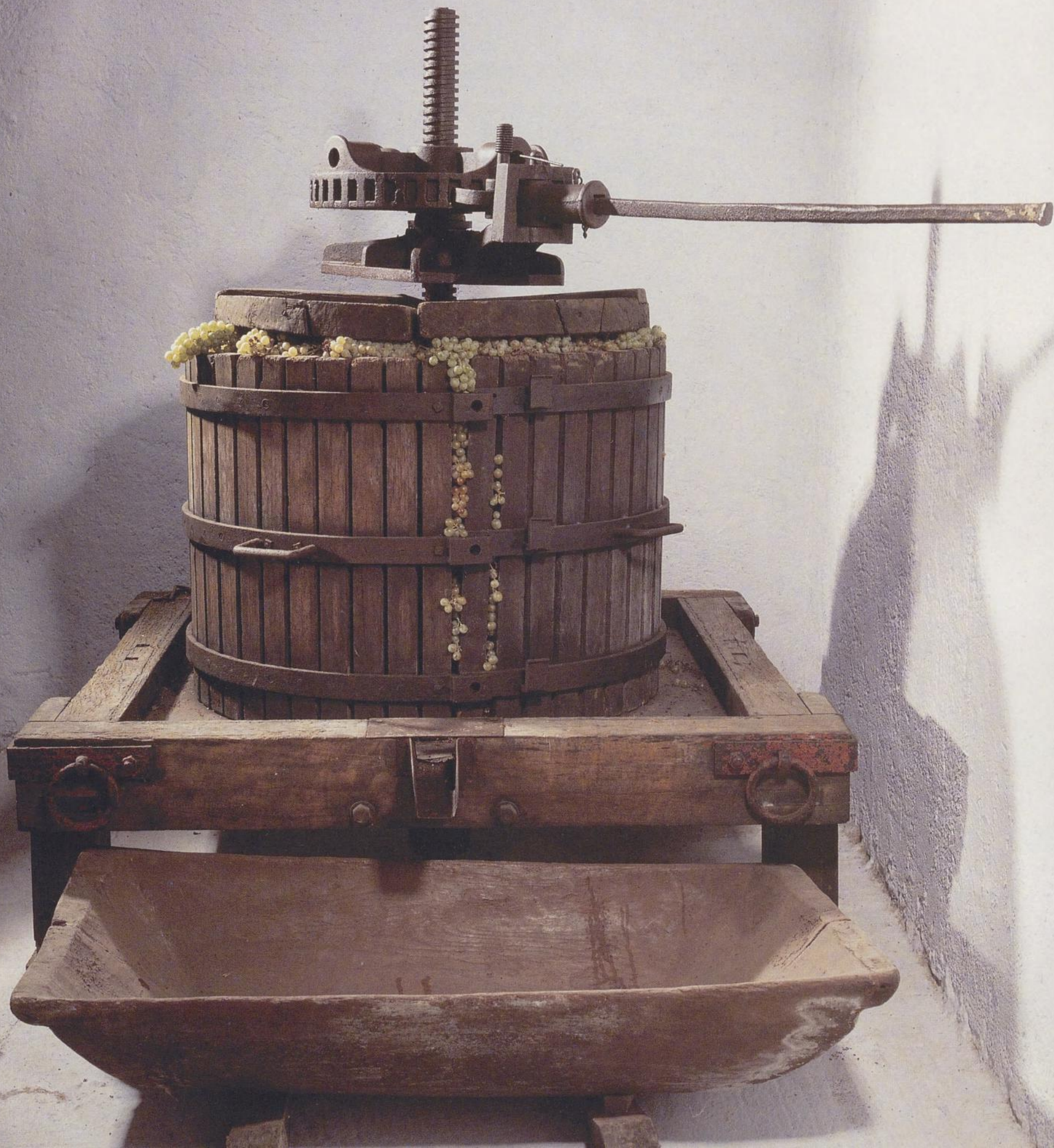
Three years later, the idea which had begun to be fostered at the time of the First World War became a reality: the co-operative winery came into operation in 1951. Four years earlier, the ‘Union of Co-operatives for the Products of Thera’ had been set up.¹⁸ This took a compulsory form, since all the farmers were obliged to be members of the fourteen ‘Mandatory Agricultural Co-operatives’ of which it was composed. At that time, when, as was the case on Santorini, agricultural incomes had become derisory, ‘Mandatory Agricultural Co-operatives’ were set up in many parts of Greece. Their purpose was to provide support for farmers (fertilisers, pesticides, agricultural loans, etc.) and they undoubtedly succeeded in doing so. However, their wineries as they were planned and equipped at that time, when wine was a ‘cheap’ agricultural product, were not capable of bringing about any substantial improvement in its quality. In the case of the ‘Union’, it continued to use the famous copper pipe of the ‘Fund’ for the transporting of the wine from its winery in Phira to the tank at the landing-stage. Since the winery was small and the sale of the wines limited, in many years the ‘Union’ rented tanks in other areas of Greece (Patra, Pylos, Attica) for the reserves of the preceding year. Its tanks had to be emptied in order to receive the grapes of the growers who were compulsorily its members. The *vendéma* was no longer an occasion for celebration. Each age has its own special needs.

The wineries of that period, with their own particular successes or weaknesses, should neither be embellished in an attempt to vindicate the co-operative ideal, which is anyway vindicated by its social achievements, nor be judged in the light

MAP OF THE VITICULTURAL AREAS OF SANTORINI IN 1972



Map 1
Misopolinos, Silleos, Prodromou,
Thessaloniki 1994



of today's scientific, technical and economic developments. The weaknesses evident in the mass processing of grapes in the wineries of the post-War period were common to all the wine-growing areas of the Mediterranean basin. The transition from the pre-industrial stage to industrial processing had everywhere the same negative effects on the quality and commercialisation of the wines. With the mechanical means available at the time, the treatment of the grapes was 'forced' and the quality of the wine produced was low. In addition, the paths of the wine trade proved difficult to negotiate for the 'sluggish' co-operatives, which lacked commercial experience and were constantly in financial difficulties because of the social role which they had been called upon to play.

In spite of the operation of the long-desired co-operative winery, the vine-grower of Santorini continued to cultivate his vines without either the quality or the prices of the wine which he produced adequately rewarding his toil. It is for this reason that on the eve of the 1970s, vine cultivation was limited to 2,250 hectares and the bulk of grape production was, depending upon the year, 7-8 thousand tonnes (4,500-5,500 tonnes of wine, 80% white and 20% red). Although there had been some improvement, the yield per hectare remained low (3,000 to 3,500 kilos of grapes). The problem was, however, much greater: as can be seen from the reports and publications which appeared from time to time, the islanders did not know what precisely ought to be done. They spoke of "a progressive replacement of the local vine varieties by American rootstocks resistant to phylloxera or by other varieties...", without any realisation of the disaster which would overtake the vineyards of Santorini if these proposals had been implemented. They proposed that the Union's winery should acquire "freezing machinery, since only thus will the standardisation of the wines be possible", since the meaning of 'typicity' was unknown to them. Because of the faith which they had in the wine of Santorini, it was painful for them to see its quality so low: "Even today [1968], the wines of Thera do not occupy even second place in the market, because as they are supplied, they are suitable only for blending on the part of the merchants to fortify wines from other regions"²⁰.

One factor not often mentioned when the history of the vitivincultural economy of Santorini is examined is phylloxera – that insect whose *radicolae* form destroys the roots of European vines and within a few years lays waste entire vine-growing regions. It came in the 19th century from America to Europe, and after destroying its major viticultural areas, made its appearance at Pylaia, Thessaloniki, in 1898. From there it spread to the islands of the eastern Aegean in the first decade of the present century and by 1930 had ruined the vineyards of Macedonia and Thrace almost in their entirety. Its devastation spread to Thessaly in the late 1930s, and to Euboea and the northern Sporades by the end of the 1940s. Attica was declared infected in 1953 and Boeotia in 1960. Until these vine-growing centres could be replanted with American stock, resistant to phylloxera and grafted with native varieties, there was at various times a great shortage of wine on the domestic market, which was a help to the absorption of Santorini wines.

It was thanks to its precious sandy, volcanic terrain that the island's vineyard escaped '*Phylloxera vastatrix*'²¹, and thus has its place today on the roll of honour

Fig.36 Hand-operated basket-type winepress (Santorini Wine Museum).



Fig. 37 Continuous metal screw winepress, among the first to be brought to the island (Santorini Wine Museum).

of the very few European vineyards where the ungrafted vines continue to bury their own roots in the earth. Thus it is that the Santorini viticulturists continue to propagate vine plants by means of layers, just as they have done ever since the vine was first cultivated in the world, and have been saved the expense of buying grafted American stock with its short expectation of life and its vulnerability to viruses. Not even they themselves realise how fortunate they are!

The foundations for the final vindication of the wine of Santorini's unique ecosystem were laid in 1960, when the Wine Institute, a Ministry of Agriculture research foundation, programmed a study, from an oenological point of view, of the traditional varieties of the wine grape of Thera. The *Asýrtiko*, the *Athíri*, and the *Aídáni* were made into wine at the Institute's experimental winery by modern technological methods, which brought out the quality wine potential of the island's ecosystem. The must and the wines were analysed in every detail and that degree of maturity of the grapes was determined which is necessary for the bottled wines to stand up to time and transportation – not because of their strength, as was believed in the old days, but because they have been correctly produced. Foreign connoisseurs who from time to time tasted the experimental wines and compared them with the local products could not conceal their surprise at the 'hidden' virtues of the island's vine and its native varieties.

In 1962 Greece became associated with the EEC and in the following year the Institute was made responsible for negotiating in Brussels a table of 'appellation of origin' wines, that is, those with geographical labelling indicative of their places of origin. The place-name 'Santorini' had its place on this table without any agency having asked for this. At the beginning of the 1970s, and again *ex officio*, the 'Appellation of Origin Santorini of High Quality' achieved legislative recognition²² and the terms and conditions which must be fulfilled by the white wines of Thera and Therasia for them to have the right to circulate on the market bottled with the name 'Santorini' on their labels were laid down. It was at this time that regulations²³ were introduced in the EEC on the 'vqprd'²⁴ wines, that is, quality wines produced in a specified region with the right to appear on the market bottled with the geographical names indicative of their origin. When negotiations began in 1976 on the accession of Greece to the EEC, the Greek delegation asked that all Greek wines with an 'appellation of controlled origin' and an 'appellation of origin of high quality' should be included in this category. Thus when Greece became a member of the EEC in 1981, 'santorini' wine, representing as it does the same ecosystem, but 'reborn' by the methods of modern technology, woke to find itself elevated to the Community vqprd.

It is from that point that the interest of various agencies in the Santorini wine of today can be dated. And since the legislator lays down that 'santorini' wine must be produced in wine-making units suitably equipped for the application of modern technology²⁵, in the 1980s the first modern wineries began to spring up like mushrooms on the soil of Santorini: the 'Tholos' of the Boutari company (2,000 tonnes capacity), the 'Cánava Petros Nomikos' (50 tonnes), and the new winery belonging to the 'Union' (3,000 tonnes). Naturally, there was a leap in prices. A kilo of grapes which could be purchased for 17 drs in 1986 gradually reached a price of 86 drs in 1990 and 125 drs in 1991. Top quality *Asýrtiko* cost

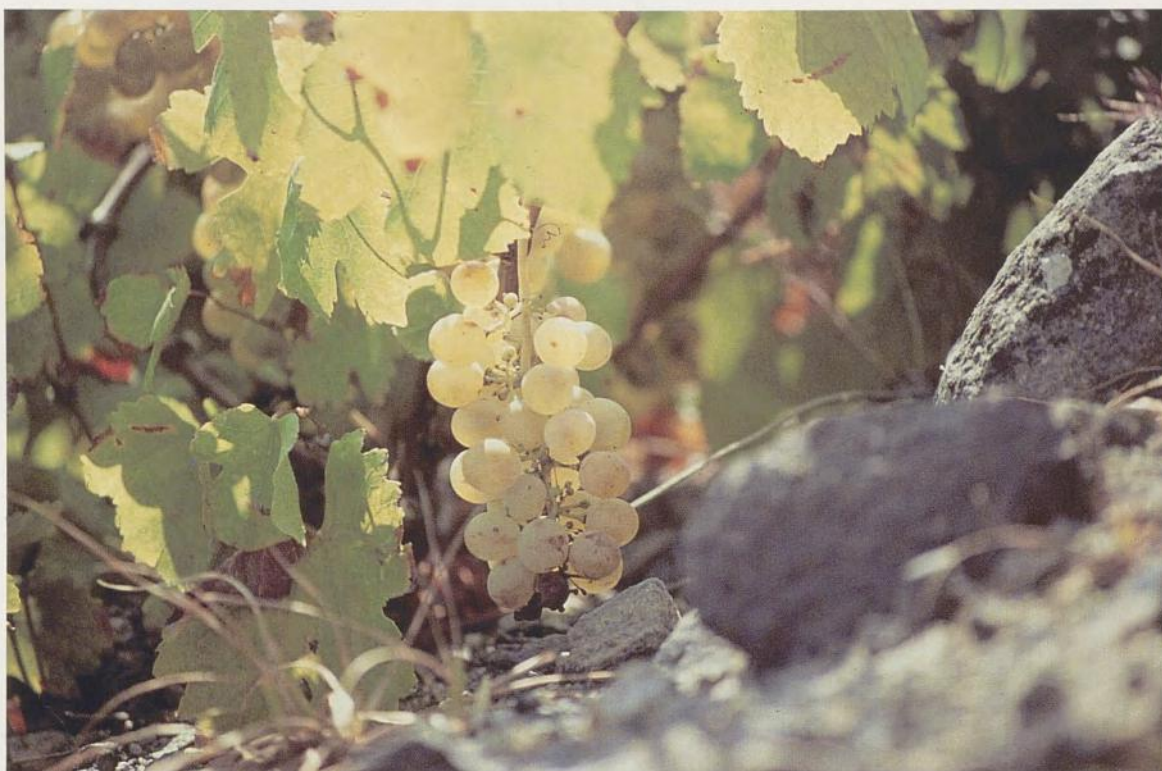


Fig. 38 The little grapes of the *Asýrtiko* variety – the most expensive of Greek white wine grapes.

145 drs in 1992, while 155 drs was paid to those viticulturists who faithfully implemented certain techniques of cultivation. The grapes of the *Asýrtiko* and *Athíri* varieties are today the most expensive Greek *vitis vinifera* grapes.

The question arises as to whether this new state of affairs in wine production and trade will be able to reverse the trend observable in the Santorini vineyards, which, from the 3,500 hectares which they covered at the beginning of the 20th century have shrunk to just 1,400 hectares seven years before we enter upon the 21st. One factor which should not be underestimated in making such forecasts is the fact that in spite of this spectacular reduction in area, the annual production of grapes fluctuates around 4,000-5,000 tonnes, that is, the same amount which the vineyards of Santorini produced 70 years ago. The desperately small yields per hectare of that period are now a thing of the past. And since yields even today are fortunately not large (the average is only 3.5 tonnes per hectare) there is scope for an even greater increase without any reduction in the quality potential of the wine. Here Brussels has provided a message of hope: the new Community regulation²⁶ covering the small islands of the Aegean provides the conditions for economic support for viticulture on those islands which, like Santorini, have vineyards producing wines in the vqprd category.

The 21st century will see Santorini with up-to-date wineries, modern legislation on wine, an organised trade in bottled wines and the prospect of the intensification of viticulture on scientific bases. The pre-industrial wine-producing Santorini now belongs firmly to the sphere of tradition.





The wine potentiality of the vineyards of Santorini

Stavroula Kourakou-Dragona

The wine potentiality of the vineyards of Santorini, that is, the quantity of wines produced each year from the island's vines, is directly dependent upon three natural factors: the soil and the climate, which shape the ecological environment, and the vine varieties cultivated. These factors, which make up the 'ecosystem' of each viticultural zone, are not everywhere of the same importance: in some areas the climate is the predominant factor; in others it is the soil. As to varieties, their successful adaptation to the ecological environment is a basic condition for the productivity of viticultural units. On Santorini, the predominant factor is the soil, with all its particularities, which are due to its volcanic parent rocks.

When in the 17th century BC the volcano blew Kalliste into pieces, vast quantities of pumice and volcanic ash were ejected and formed a deposit on the surface of the island, together with volcanic sand and pieces of solidified lava of various sizes. It was these which formed the black beaches of Santorini and provided the black and red stones from which the dry stone walling which contains the farming land on the island's terraces is made. With the passage of the centuries, various volcanic *ejecta* which were originally discrete cohered into a solid formation, the famous 'earth of Thera', which the local people call '*áspa*'. In petrological terms, this is described as 'andesite tuff'¹. This formation remains friable, since it is the product of a volcanic eruption which took place comparatively recently – approximately 3,700 years ago! Below this there is in places tuff from prehistoric eruptions which has been converted into solid rock. The soil of Santorini has, consequently, the 'earth of Thera', the pumice and the *lapilli* of black lava as its parent rock formation, regardless of the fact that the deeper substratum consists of limestone and slate, which were the pre-volcanic ground, or of lava, scoriae and tuff from earlier volcanic eruptions, such as the rock formations which make up the walls of the caldera. In Greece at least there is no other island or region which manifests such a general homogeneity in the composition of its soils.²

The Abbé Pègues gives us in his book a very instructive description of the farm land of the island: "The earth of Santorini is none other than the product of the volcano, a layer of volcanic lava which covers almost the entire island. But this layer is transformed sometimes into various patterns and colours: the *áspa* which predominates on the surface is a kind of earth consisting of pumice, ground to dust or in small fragments, but compact, exceedingly hard and solid to such a degree that not even the tiniest weed sprouts from it. For that reason, a great deal of labour is required to till it and render it suitable for cultivation. But when it has been tilled to a depth of one and a half to two feet [approximately 50 to 65 cm.],³ it is very fertile and suitable particularly for the vine, which becomes

Fig. 39 The island's volcanic soil, the 'earth of Thera', mixed with pieces of pumice and littered with lumps of solidified black lava.

robust and productive. In other respects, it is light and resembles ash, and soaks up water like a sponge throughout all the depth which has been tilled. One might suppose that this earth would dry out easily, particularly as this is a place where it rarely rains during the greater part of the year. But exactly the reverse is true. The dew and the moisture are retained so well during the summer that after six or seven months of constant heat, without a drop of rain, one discovers them immediately on digging into the ground to three or four fingers' depth [8 to 10 cm.]⁴. And the vine never suffers from drought, apart from in very exceptional circumstances. I have myself discovered in the height of the summer that at this depth the earth is at the same time warm and moist. One can, I think, guess the cause of this peculiarity: it is because this soil allows the rains which fall in the winter to sink in slowly and with difficulty, owing to its compactness and virtual impenetrability, to the point where the cultivated soil ends and they are retained below the cultivated layer, as if in a cistern. And when the water has penetrated, the sun's rays draw it back to the surface, in order to nourish, during the season of heat, the plants and the seeds which the farmers have entrusted to the ground... . In order to appreciate the compactness of the *áspa* when it has not been tilled, it is sufficient to realise that from it underground excavations and buildings are made whose arch and walls exceed the hardest of building mortar in hardness... . A second kind of earth, which is equally suitable for the cultivation of the vine and gives the best wine, is that which is called '*tzakáli*': it is stony, sandy, compact and is greyish brown in colour. Its tilling is daunting to both the pick and the labourer. It is to be found here and there on the surface of the island in more or less extensive layers, scattered over the principal layer of the *áspa*, or concealed within it at a varying depth. It is not usually as thick as the other soils. When it is in its volcanic state and virgin, that is, before cultivation, it has the appearance of a kind of mortar, in which stones, sand and earth are to be found mixed and compacted together into a single body, as in cement. But when it has been tilled, it is arable and more fertile than the *áspa*. It is often to be encountered on the surface of the earth, but is more frequently found in between the layers of *áspa*, always lying horizontally, as one can see from the vertical sides of the caldera... . A third kind of earth, no less fertile than the others, can be observed in certain areas. This is sandy and like ash, and is greyish black in colour"⁵.

This description of the farming land and of the subsoil of the island, dating from the early 19th century, though somewhat naive in its interpretation of the phenomena, has been confirmed by modern studies and observations: the volcanic soil of Santorini – little-altered bedrock – is coarse in texture, but being made of porous grains of pumice and tephra absorbs and retains water well. This explains why there is little water on the surface.⁶ However, the subsoil is compact and impenetrable to the roots of most plants. Plant roots are confined to a thin surface layer, and there are no casts of old roots which might show that there had once been trees with deeper roots.⁷

By way of contrast, in the few non-volcanic soils of the island, which are of limestone, as are all the others in the Cyclades, it is easier for the roots to penetrate, but these soils retain very little moisture, a fact of the greatest

Fig. 40 The vineyards of Santorini, with the vines well-spaced and close to the ground, so that they can withstand the strong winds and the many months of drought, make green the dry summers of the island, as they have for so many centuries.





significance for plant life on an island with a long summer period of drought.⁸

It is a fact that the lack of water is likely to limit the growth of vegetation in an island as dry as Thera-Santorini, which is in an area of low rainfall mainly restricted to the five months from October to February with an average annual level of less than 400 mm. There have been years of serious drought, with an annual rainfall of no more than 130 mm. Then even the vine, which can survive on a rainfall of as little as 200 mm, begins to suffer. In regions with such conditions of terrain and climate, crops with a good yield can only be developed if the plants are watered during periods of great heat and drought.⁹ This has been known since antiquity. Herodotus tells us that: “The priests of Egypt, when they learnt that the whole of the land of Greece is watered by rainwater and not by rivers, as is the case with theirs, said that the Greeks one day would suffer terrible famine... since they can expect water from no other source but Zeus”¹⁰. And the people of Thera suffered a terrible famine in 650 BC. After seven years of drought, a part of the population was forced to take to the ways of the sea in search of land capable of supporting them. The poverty of their motherland was the cause of the foundation of the rich colony of Cyrene¹¹.

Thera after the great eruption has never had, since antiquity and down to the present, water for irrigation. For this reason it has never had, nor could it have had, prosperous farming and, therefore, prosperous landowners. Whenever Thera-Santorini has known times of prosperity, this has been due either to its geographical position (as a naval base or with ships harbouring here) or to seafaring and entrepot trade, and never to the yield of the fruits of the earth.¹²

During the summer months, it is not Zeus but Poseidon who sends water to the few ‘dry’ crops of the island, in the shape of sea mists. These begin in mid-June and last throughout the summer, frequently covering the island during the night with a damp veil, sometimes thick like cotton wool, which deposits a considerable quantity of water. This can be seen in the early morning, before the sun is up: the vine leaves are covered with dewdrops. The mists clear soon after sunrise, having brought relief during the night to the plants which have suffered during the day under the burning sun and from the lack of ground moisture at the deeper levels. The porous earth of the island, on its surface, absorbs the water brought in the night by the ‘dampening mist’ to a depth of approximately 5 cm. This explains why the vines of Santorini have so many of the rootlets near the surface: the plant seeks water wherever it can find it. All this helps the ‘dry’ crops (the vine, barley, tomatoes, chick peas, etc.) to survive and to yield fruit which is sparse in quantity but with a high-quality taste.

The high atmospheric humidity, in combination with the high temperatures during the daytime, would provide an environment favourable to the development of fungoid vine diseases if another climatic factor, the south winds (*meltémia*), did not play their own role. These begin in early May and though frequent, blow only for a short time, a pattern which continues till the end of June. From mid-July to mid-September, the *meltémia* rule the waves of the Cyclades, where they can blow continuously for two months and more¹³, reducing atmospheric humidity¹⁴ and cooling the island. Thanks to these winds,

Fig. 41 The dense sea mist, like tufts of cotton wool, brings by night the water which the vineyards need so much to relieve the burning heat of the day.

the vines of Santorini are not, with rare exceptions, attacked by peronospora or botrytis, diseases which are a scourge to the vineyards of warm humid regions.¹⁵ A simple coating of sulphur in order to combat oidium¹⁶ is the only precaution taken by vinegrowers on Santorini against “diseases and pests of the vine”¹⁷.

The winds resemble certain poisons which can be for man a medicine in small doses and fatal in large quantities: whether their role in the viticulture of the island is a beneficial one depends upon their strength. Everywhere in the vine-growing regions of the world, strong winds tear, smash or even strip off the shoots, particularly the tender shoots of spring, or knock off the blossom when they come upon the vines in bloom. In summer these winds are capable of dashing a large quantity of the grapes to the ground or of tearing them at the stem. On Santorini particularly, strong winds do damage in an indirect way, because they swirl up and shift large quantities of sand and pumice. If this happens in spring, when the ‘eyes’ of the plant are opening, the hard grains of sand and pumice kill off the ones they strike, causing a reduction in the year’s production – in some years a very serious one. In summer, when Aeolus decides to sweep the earth of the island, it is the ground itself which injures the grapes of the thin-skinned varieties. For all these reasons, the wine production of Santorini shows major variations in quantity from year to year. Very often the annual income of the vine-grower’s family depends upon what stage in their growth cycle the vines happen to be at when the strong winds blow and upon their strength when they do.

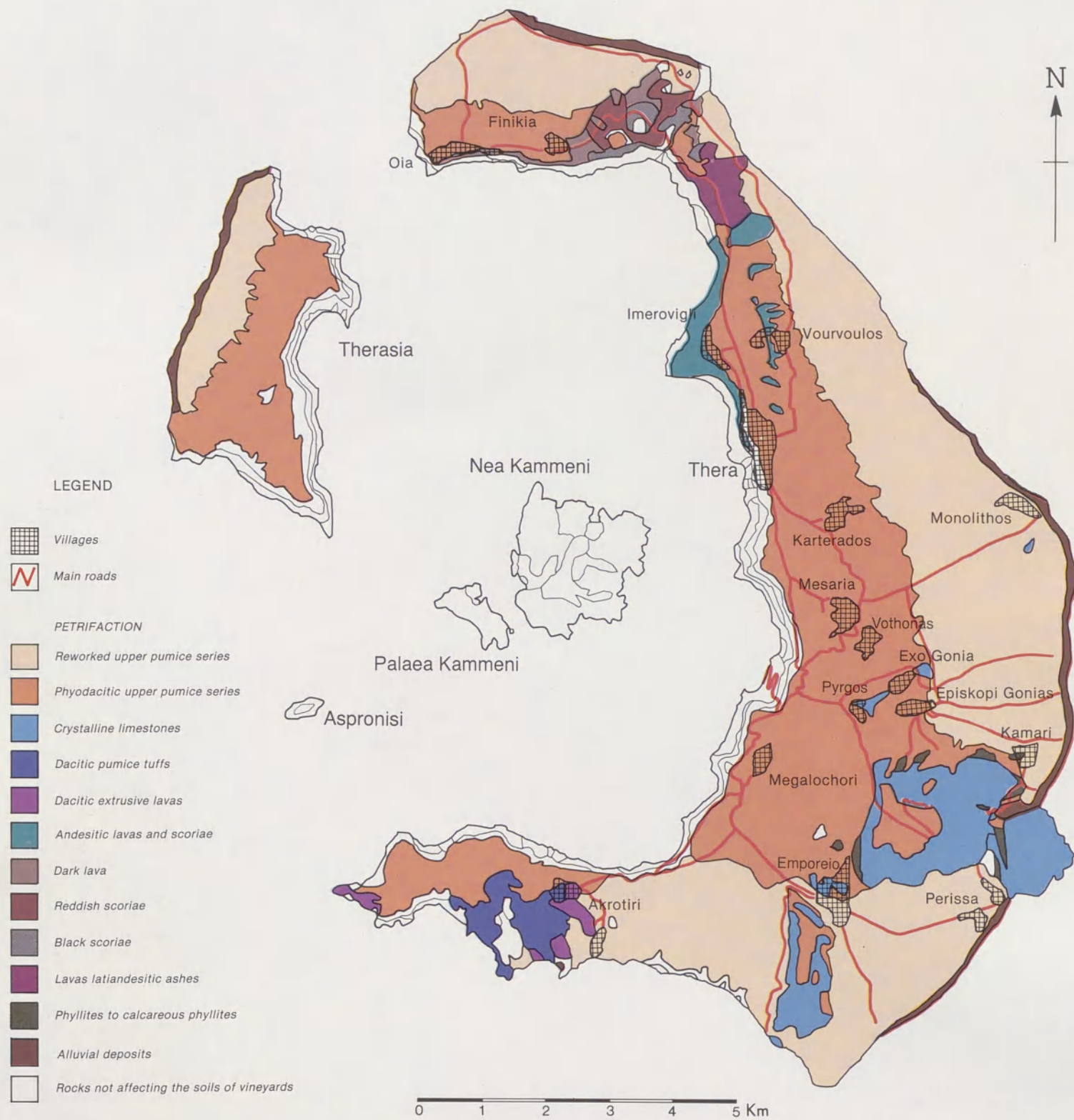
Unfortunately, this income is far from being assured each year, since the production of the vines, which is small, in some years shows a dramatic drop, as is brought out very clearly by the diagram (Illus. 14) showing the average annual production of the vines of Santorini from 1950 to 1991.¹⁸ It is worth drawing attention to certain typical examples, such as the year 1958, which had an average yield per hectare of approximately 1.10 tonnes! The fall in production was due to a gale which struck in the middle of April, when the assault of the sand killed off thousands of ‘eyes’. In the 1960s, the greatest reduction, in 1963, was the result of an attack of peronospora, encouraged by increased humidity. In the first year of the 1990s, there was the most dramatic drop in production in the last 40 years, the result of a double disaster: prolonged drought and spring winds which knocked off the blossom.

It is, then, somewhat difficult to maintain that the ecological environment of Santorini favours dynamic viticulture, capable of making the vine-growers rich men with its profits. In order for economically viable viticulture to develop, it is not enough for the soil to be suitable. All the natural factors must help to ensure grape production in a quantity capable of securing the vine-grower’s income. The vine, judged by agro-economic criteria, has always been an unreliable crop on Thera-Santorini¹⁹. In spite of this, Santorini developed into the vine-growing island *par excellence* of the Cyclades, because the farmers of every period worked hard, methodically and resourcefully and thus, by the cultural practices and methods of cultivating the earth which they followed (p. 113-125), were able to mitigate the unfavourable effects of a difficult ecological environment.

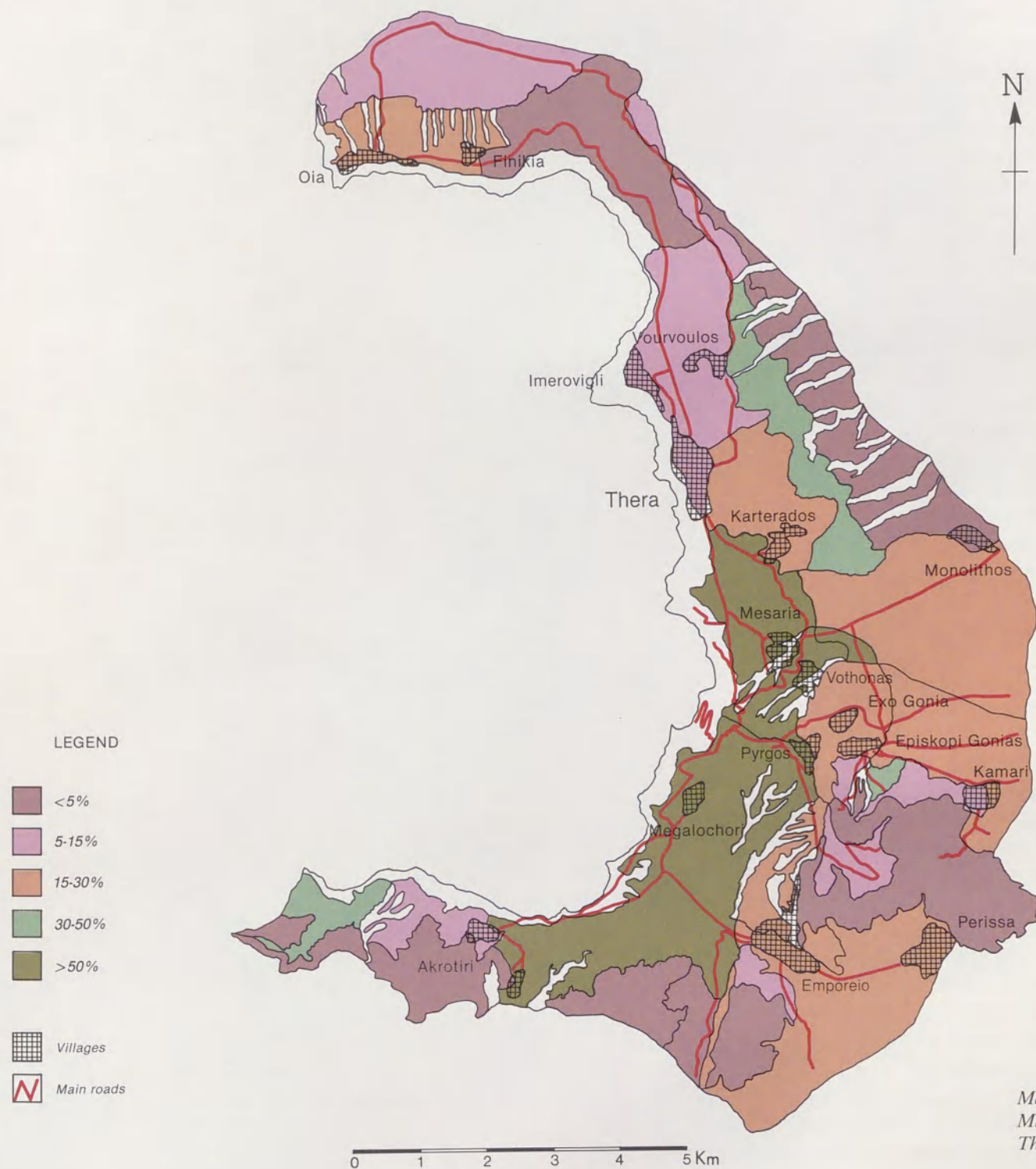
Fig. 42 From mid-June onwards, the mists rise from the sea and creep over the island at night. Their droplets irrigate the soil, which absorbs them like a sponge, and cover the plants with tiny drops of water.



GEOLOGICAL MAP OF THE VITICULTURAL AREAS OF SANTORINI



PERCENTAGE COVERAGE WITH VINEYARDS OF THE PHYSIOGRAPHIC UNITS OF SANTORINI IN 1994



Maps 2 and 3
Misopolinos, Silleos, Prodromou,
Thessaloniki 1994

Also apparent from diagram (Illus. 14) is the difference in yield between white and red vine varieties, a fact which explains the preference shown by vinegrowers for the white varieties, particularly the *Asýrtiko* (p. 101). It should also be noted that the average yield of the vines has improved in recent years in comparison with the pre-War period (p. 77). As an experienced vineyard owner of the island writes: "In the old days, as there was unemployment and poverty, the day wage was low and cultivating the vine was worthwhile even when the average yield was 330 okas of grapes per *zevgariá*, that is, 1.40 tonnes per hectare. In some years, because of unfavourable climatic conditions, they used to collect only two or three baskets of grapes per *zevgariá*! Now, however, when living conditions have changed, the non-productive vines have been left uncultivated and have gone wild. Thus, with the productive vines only, the average crop per *zevgariá* would appear arithmetically greater. In practice, however, the productivity of the island's vines is small, with major fluctuations from year to year. It is chiefly the winds, and very rarely the drought, which are responsible in the years when there was a poor harvest – and quite often a sheer plunge in production. There are, of course, isolated cases of vines which are very productive and with considerable stability from year to year, but such privileged vines are few. An important reason for the poor yield of the vines per hectare is their age: the majority, some 90%, are aged, more than 100 years old. Moreover, the number of vine-stocks per *zevgariá* is smaller than normal".²⁰

It is not possible, because of the lack of a viticultural register, to record with accuracy the area occupied by vineyards in each commune and the annual fluctuation in the total wine production of the island. However, according to official estimates,²¹ some 1,450 hectares are currently under vines, with an average yield per hectare of approximately 3,500 kilos. Of the island's 14 communes, Emporeio, Megalochori and Akrotiri represent approximately 40% of production, Pyrgos 25% and Oia with Vourvoulos and Imerovigli 15%. The islet of Therasia produces only some 100 tonnes of grapes. The remaining 20% of production is accounted for by the other six communes: Mesaria, Vothonas, Kamari, Exo Gonia, Karterados, and Phira. The trend prevailing on the island is evidenced by the data on Mesaria and Phira. Tourism and building have cut down viticulture in both these communes, which in earlier times were the largest vine-growing areas of the island, to the point where they now account for only 5% and 2% of production, respectively (Table 7).

In the ecosystem of Santorini, no alien factor intervenes between the native plants and the earth, as is the case in 'phylloxera' regions, where the vines have been destroyed by phylloxera and have been reconstituted with phylloxera-resistant American stock, grafted with native varieties²². Because the vineyards of Santorini are uninfected, the local vines sink their roots directly into the soil of the island, which permits the renewal of the ageing vines by means of layering or cutting, as was the case in antiquity. In this way the vineyard can survive for many more years, perhaps for ever, self-rooted, one of the very few traditional vineyards which can make such a boast.

However, certain agencies, influenced by the terrible damage done in other regions by *Phylloxera vastatrix*, have planned the introduction of vines from

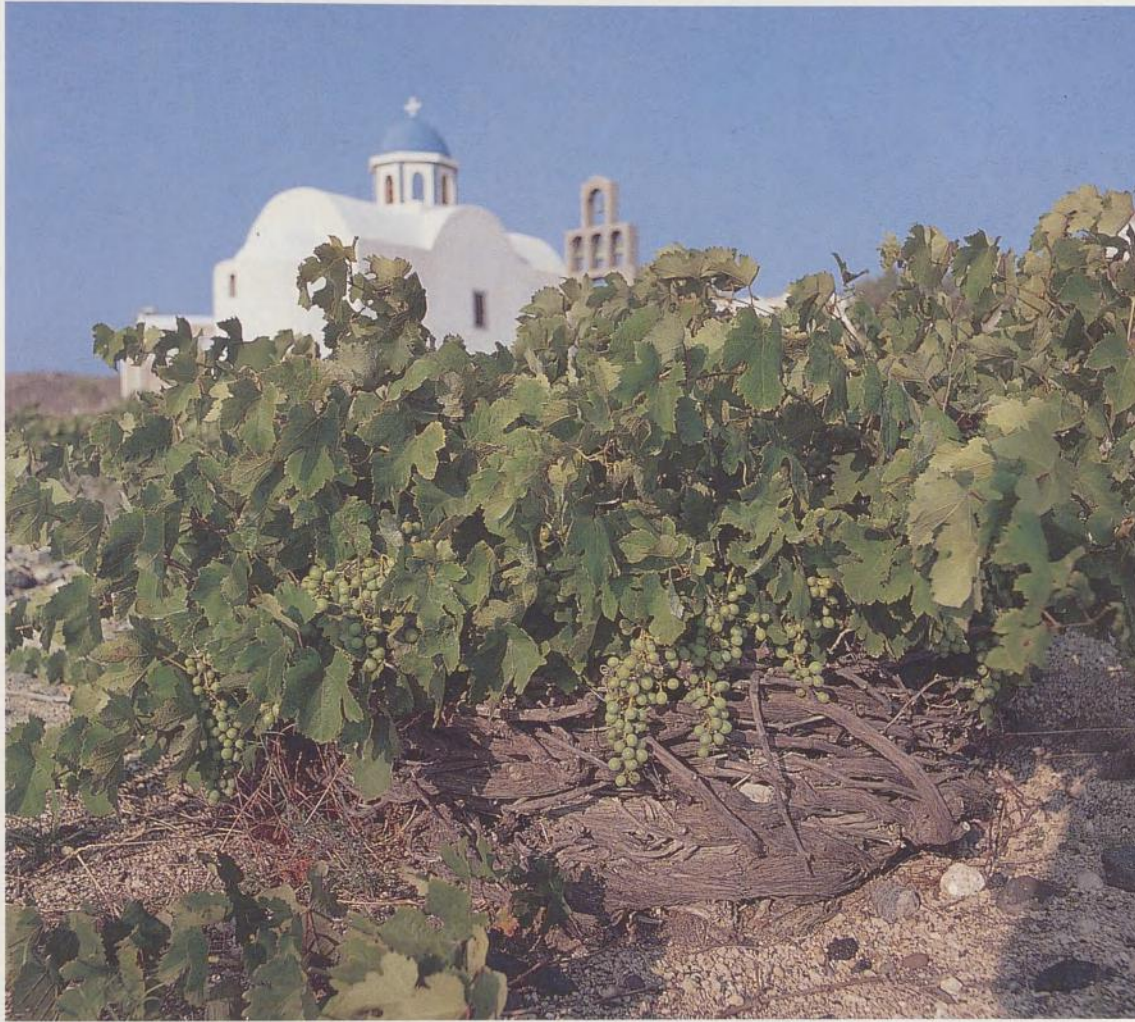


Fig. 43

American 'anti-phyloxera' stock. Undoubtedly, they have underestimated the protective role of the soil of Santorini towards the plants which it hosts: the spread of the phylloxera insect is obstructed on sandy soil, and the soil of the island's vineyards is sandy, with a small percentage of argil (from 2% to 3.5%, rarely reaching 5%). Moreover, the 'earth of Thera' consists of hard silicates (feldspars and hornblende) with a silicic acid content of the order of 67%. They have also underestimated the enormous problems – economic and viticultural – which vine-growers face when they are forced, because of phylloxera, to alter their methods of cultivation.²³ It is precisely these problems which make it essential that measures should be taken to prevent or at least to delay the appearance on the island of this great enemy of the European vine²⁴.



The Asyrtiko

The vinifera variety of Santorini

Stavroula Kourakou-Dragona

The vine, the olive and the fig have been cultivated throughout the Cyclades since prehistoric times; they are regarded as self-seeding plants of the islands. The flora of Santorini, however, “has undergone, by reason of geological events, repeated destruction and interruption of its cohesion”¹, such as occurred in the first half of the 17th century BC, when volcanic ash covered the whole of Kalliste, wiping out every form of vegetation on the island, with the exception of the plants on the mountain range of Profitis Ilias and Mesa Vouno. The island then remained uninhabited for some three or four centuries. When human beings returned, various plants came with them. It is conjectured that the settlers brought with them from their place of origin or the surrounding islands seeds and grafts of all the plants which they needed for their sustenance, with an obvious preference for the kinds of plant which they knew how to cultivate. Whether we accept that these settlers were Phoenicians or Lacedaemonians, they were acquainted with the vine. For this reason, the vine must have been one of the first plants which they attempted to cultivate in the volcanic earth of their new home, where only those resistant to drought, such as barley and the vine, prospered. Of trees, only the fig, whose roots can penetrate tephra, the earth of Thera, was established².

We do not know, however, which vine varieties were cultivated, since even in the case of the varieties of the historical period it is not easy to draw conclusions from the Greek and Roman sources which would permit their identification with those which have survived today³. One rare exception would appear to be the *Athíri* (ἄθήρι), an old white variety of the dry warm zone of the central and southern Aegean. It is supposed that this is the *Theriaké ámpelos* of antiquity, mentioned by Democritus as “producing good wine”, which was regarded during the Byzantine period as the best for the production of sweet wine⁴. Later, from ‘*theraía*’ grapes (θηραῖα σταφύλια) it became in the course of time *Athíri* (ἄθήρι).⁵ (In order for the reader to appreciate what follows, it should be borne in mind that the letter ‘η’, traditionally transcribed as ‘e’ in ancient Greek words, is pronounced, and consequently transcribed, ‘i’ in modern Greek.) The evolution of the name leads us to the ‘*Theraios wine*’ (Θηραῖος οἶνος), which could be justly described as a riddle posed by the works of Galen, the 2nd century Greek physician.

Galen, in his works ‘concerning strength-giving foods’ and ‘concerning healthy foods’ refers repeatedly to “*Theraios wine*” (Θηραῖος οἶνος): it was dark, without being acrid, thick, and very sweet⁶. In his ‘concerning the composition of drugs’, he also lists three black wines as being soft and sweet: the *Kretikos*, the *Theraios*, and the *Skybelites*. Since in antiquity wines were known on the markets

Fig. 44 The grape of the Asyrtiko variety.

chiefly by their geographical name of origin, it has been assumed that here we have three wines of differing origins and that the adjective ‘Theraios’ signifies the wine of Thera. However, there is no mention of the wine of Thera in ancient literature, not because it was not produced, but because there was no possibility of its reaching a wide market. The earth of Thera, after the volcanic eruption, though so suitable for viticulture, provided neither clay for the mass production of the amphoras with pointed bases which were at that time the only containers used for the transporting of wine by ship, nor wood for the firing of pottery. It has now been established that amphoras did not travel empty; they were made on the spot, mostly by the seashore, and in any case near the area where the wine intended for trade was produced. The island’s wine trade must have developed only later, when wine had come to be transported in wooden barrels⁷. In the same work, Galen speaks, in making a kind of clarification, of a “Theraios of Crete” wine, a fact which confirms the view that the word ‘Theraios’ did not indicate the place of origin of the wine.

In modern times, when a wine derives its name from a variety cultivated in many different parts of the world, the name of the variety is followed by the name of the region from which the wine originates⁸. If we judge by contemporary experience, we can see that the wine which Galen describes was obviously called *Theraios* because it was produced from ‘*Theraia*’ grapes, which were not cultivated only in Crete. In the light of the etymological link between *Theraia* grapes and the *Athíri* variety, the *Theraios* wine of Galen was produced from the *Athíri* variety, which even today is widespread in the Aegean region: it is cultivated in Crete⁹, the Cyclades, and the Dodecanese – chiefly on Rhodes.

The association of the *Athíri* with Crete is also to be found in a Byzantine poem of the 12th century¹⁰:

“They do not drink Chios wine in quantity
For the digestion of the food of fasts,
But the sweet wine of Mytilene, and Cretan athýrin”.

This spelling of the name of the variety (ἄθύριν) may come etymologically from the verb *athýrein*: to alter, vary¹¹, and it is a fact that various mutations of the *Athíri* variety (*Thrapsathíri*, *Xerothrápsa*, *Strongyláthira*, etc.) are to be met within the vineyards of the Cyclades, the Dodecanese and Crete. However, the *Athíri-Athýrin* and the mutants on it mentioned above are all white varieties, while the *Theraios* wine of Galen was dark. We must thus accept that there was a black clone, and in fact the ‘*Athíri mávro*’ (black *Athíri*) – called ‘*Mavráthiro*’ in the local dialect – is still cultivated in among the other vines even today on Santorini¹². This then is obviously the key to Galen’s riddle: his dark *Theraios* wine was produced from black *Theraia* grapes of the *Mavráthiro* variety, which, like the white *Athíri*, was a variety native to the central and southern Aegean. He clearly met with this in Crete, where he stayed twice during the course of his journey to various parts which enabled him to collect a large number of drugs and to make major additions to his knowledge of drugs and treatments¹³.

Another native variety of the Greek islands, the dark-coloured *Mandilariá*, is cultivated, under various names¹⁴, in Crete, the Dodecanese, chiefly Rhodes,

Fig. 45 The white Athíri, a variety of the warm dry zone of the central and southern Aegean. Testimony to its cultivation is to be found in texts dating from the 12th century.

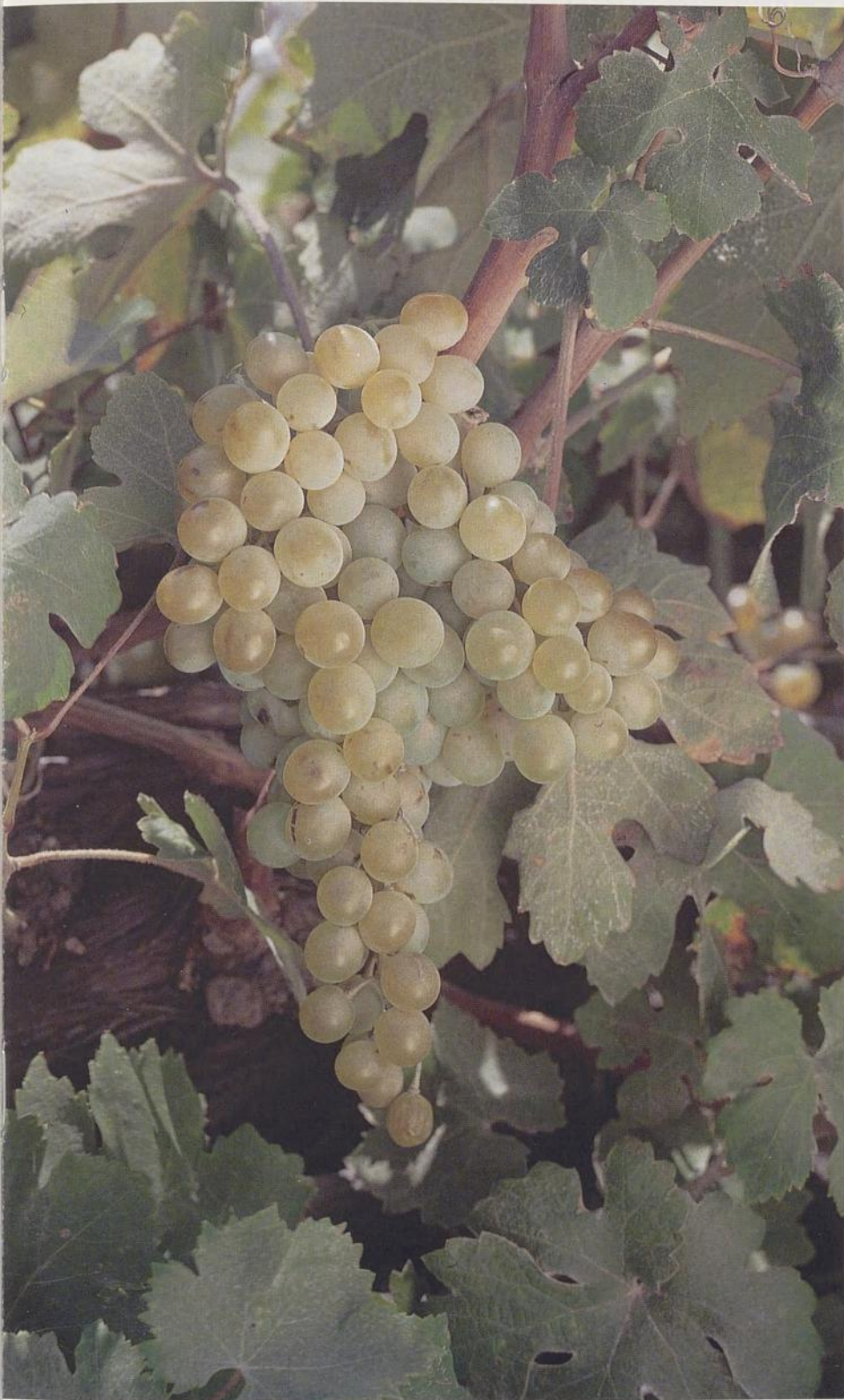
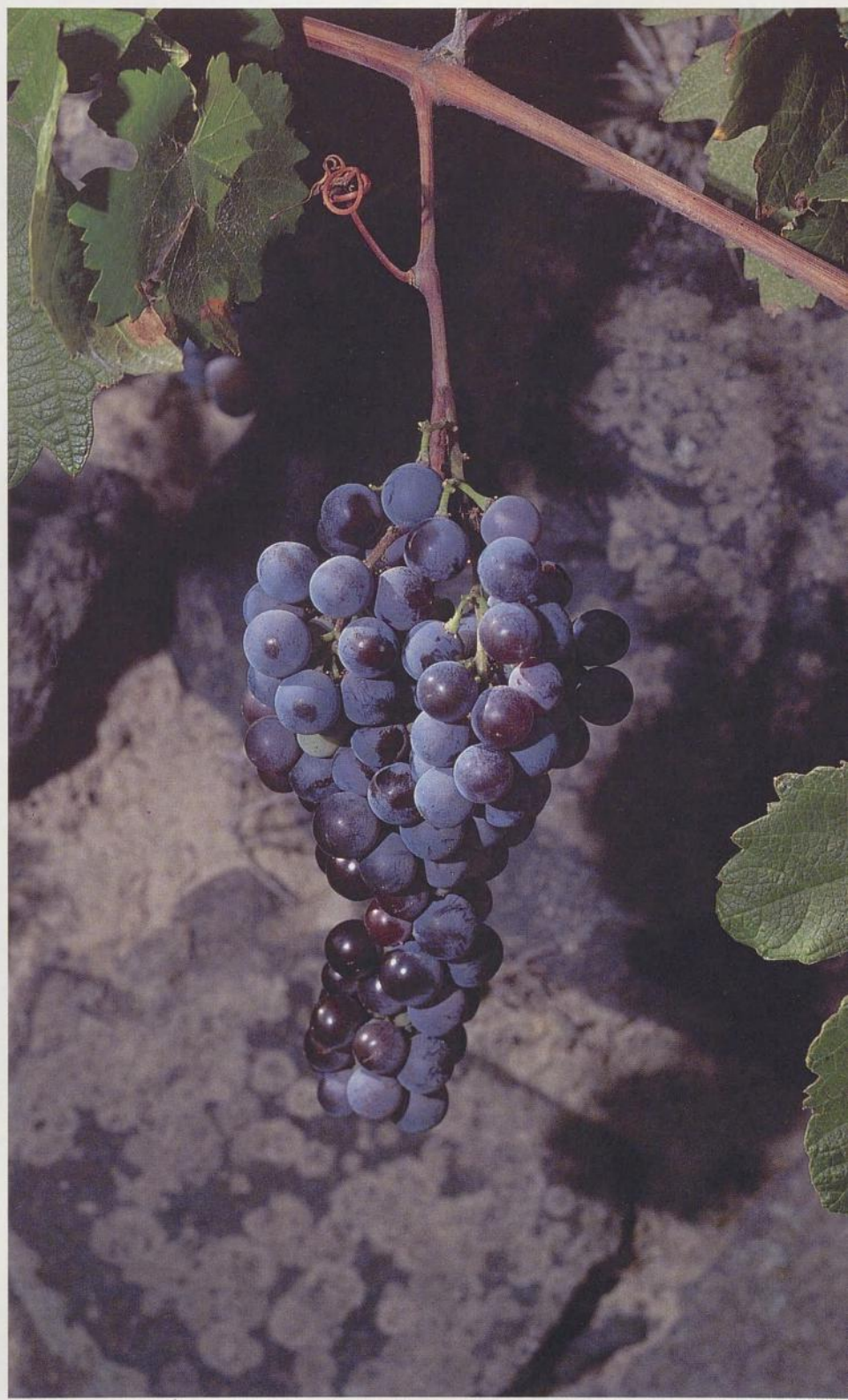


Fig. 46 The black Athíri or Mavráthiro. A mutation on the white Athíri variety. It is obviously the variety from which the 'Theraíos oínos' described by Galen was produced.





Euboea, and the Cyclades, chiefly Paros, where it gives its best as a wine grape. It is for this reason that when in the Cyclades they speak of a “Parian grape”, they mean the *Mandilariá* variety. A dowry contract of 1685, to be seen in the exhibition of historical documents at the ‘Cultural Centre Megaro Gyzi’ on the island, testifies to the cultivation of this variety on Santorini: “The widow... cedes to her son... and he holds on her account whatever vines she had... and half of the vine which they call Parian”¹⁵. From this it can be clearly seen that, at least in the 17th century, the *Mandilariá* variety was cultivated on Santorini. As this is a very ancient variety of the Aegean region, as is the *Athúri*, it must have been one of the first to be cultivated on Thera.

The accounts of foreign travellers of the medieval and Renaissance periods do not provide any information on the varieties of vine on Santorini. We must come down to the 19th century, to the reign of King Othon, to find in the pages of the Abbé Pègues the first substantive information on the varieties which made up the vineyards of Santorini: “There are more than sixty varieties of grape on Santorini, but for the production of ordinary wine and of *santo* wine, one is used virtually alone; the *Asýrtiko*, because it is the most productive and the best. They also spread this out to dry in the sun, leaving the fruit on the bunch, in order to serve it as dried fruit as a dessert¹⁶... . The *Mandilariá* is used for the production of red *santo* wine. The *Mavrotrágano* gives a fine ordinary red wine and would also produce a very good *santo*, but it occurs in very small quantity. As to the grapes which they eat for preference, these are the *Athúri*, the *Moscháto*, the white *Malvasía*, the *Voudómato*, the *Váftra*, the *Syríki* and certain other black kinds. But of these species, the *Moscháto*, in spite of being good and aromatic, does not enjoy great favour. The *Athúri*, the sweetest and most subtle, which is also one of the earliest, surpasses them all. The *Syríki* and the *Aidáni*, which are the latest, and which keep for a long time as long as they are still on the vine, are eaten later and are very good, especially the *Syríki*. And both, especially the latter [the *Aidáni*] produce vast bunches...”¹⁷. It is worth noting that Pègues writes ‘*Athýri*’, which is evidence that in the 19th century the variety which was cultivated on Santorini was spelt in the same way as the ‘Cretan *athýrin*’ in the 12th century poem quoted above. This is the way it is still written today by the islanders.

We thus have confirmation of the cultivation of the *Athúri-Athýri* and *Mantilariá* varieties on Santorini. The *Mandilariá* grapes remained exposed to the sun, as was the practice in antiquity on all the wine-producing islands of the Aegean, in order to produce the traditional sweet wine of the island, the red *santo*, which must have had, as it has today, the properties of the ‘*Theraíos*’ wine of Galen. It is also confirmed that the white *Athúri* variety was then as now an early variety and had sweet and thin-skinned berries, and therefore ideal for drying in the sun, and thus for the making of white *santo*. These characteristics justify the view that the *Athúri*, red and white, was used in former times for the production of the Santorini wine from sun-concentrated grapes, but that when the vineyards were irresponsibly extended at the end of the 19th century, driving out every other crop, the sensitive and delicate *Athúri* remained to the same extent or was replaced. Viticulture, as is the case with all wines for mass export, was expanded by means of varieties which were more productive and

Fig. 47 Red vinsáto made from the black *Athúri* variety. It has the characters of the ‘*Theraíos oínos*’ of Galen: it is dark, soft, thick and very sweet.

more robust: the white *Asýrtiko* and the red *Mandilariá*.

Of the other varieties mentioned by Pègues, the “white *Malvasía*” is the *Monemvasiá*, which, as its name implies, originates in the Peloponnese, in the farming region opposite the castle of Monemvasia. The *Váftra* clearly came to Santorini from Paros, its name, derived from the root ‘to dye’, testifying to the darkness of its colour. Naxos must have given Santorini the white *Aidáni*, from which the “Apeiranthos wine” of Naxos was produced¹⁸. The variety referred to as “*Moscháto*” was the white *Moscháto* with small berries, which is cultivated chiefly on Samos – which is why on Santorini it was known as ‘Samion’. Pègues’ “*Voudómato*” is the well-known *Voïdomátis* variety, which is cultivated in many regions of Greece, from Crete to Thrace, under various names. Of the sixty and more varieties of grape which, according to Pègues, were cultivated at that period on the island, no more than ten are named in his book. This means that the rest were not of commercial and economic significance and were to be found on the vines of private houses or scattered among the other vines. However, the information given by Pègues confirms that it was the islanders’ custom to introduce varieties of vine from other vinegrowing areas, chiefly from the surrounding islands of the Cyclades and the Aegean as a whole, for experimental cultivation on their island. It was as if the first viticultural colonisation of Thera after the great eruption were being perpetuated in this way.

The first official report on the vine varieties is in the archives of the Wine Institute¹⁹. It informs us that at the beginning of the present century, approximately fifty varieties of vine, divided by the local people into three groups according to their use, were cultivated on Santorini. The first and most important of these groups was that of the wine grapes, the varieties which provided the raw materials for the *cánaves*. Of these, the white *Asýrtiko* variety predominated in the vineyards of all the island’s communes. It was followed, in much smaller quantities, by the red *Mandilariá*, the white *Aidáni* and the black *Mavrotrágano*, which even at that date was to be encountered only on Therasia. The ‘table varieties’ formed the second group, and their cultivation was on a small scale. Their grapes never went to the winery: they were eaten fresh. This was the island’s summer fruit: *Aetonýchi*, *Anafiótiko*, *Avgouláto*, *Glykádes*, *Eftákilo*, *Korinthiakí*, *Begléri*, *Rozakí*, *Roússo*, *Siderítis*, *Soultanína*, *Frambinás* and *Fráoules* were the names of some of these varieties. The third group was made up of varieties which were used both as table grapes and for vinification and were called “*xenóloes*”, meaning that they were varieties foreign to the wine grapes of the island. The white varieties mentioned are: *Athíri*, *Asproúdes*, *Gaidouriá*, *Katsanó*, *Kritikó*, *Moscháto*, *Monemvasiá*, *Platáni*, *Potamísi*, *Syríki* and *Voïdomato*. We also have the rosé *Rodítis*. Among the red varieties mentioned are: *Moscháto mávro*, *Potamísi mávro*, *Syríki mávro*, *Roméko*, *Athíri mávro* (*Mavráthiro*), *Aidáni mávro* and *Váftra*.

Many of the varieties in the second and third groups were brought in from outside and most were imported into the island after the establishment of the new Greek state, such as the *Korinthiakí*, the *Siderítis* and the *Fráoules*, which the Santorinians brought from the Peloponnese. That was also the origin of the *Rodítis*, called *Rodomoúsa* by the islanders. The *Stavrochiótis* came, however, as

Fig. 48 a-d The *Asýrtiko* (a); the *Gaidouriá* (b); the *Aidáni* (c); the *Potamísi* (d). Ancient native varieties of the Cyclades, where the *vitis vinifera* has been cultivated since prehistoric times.

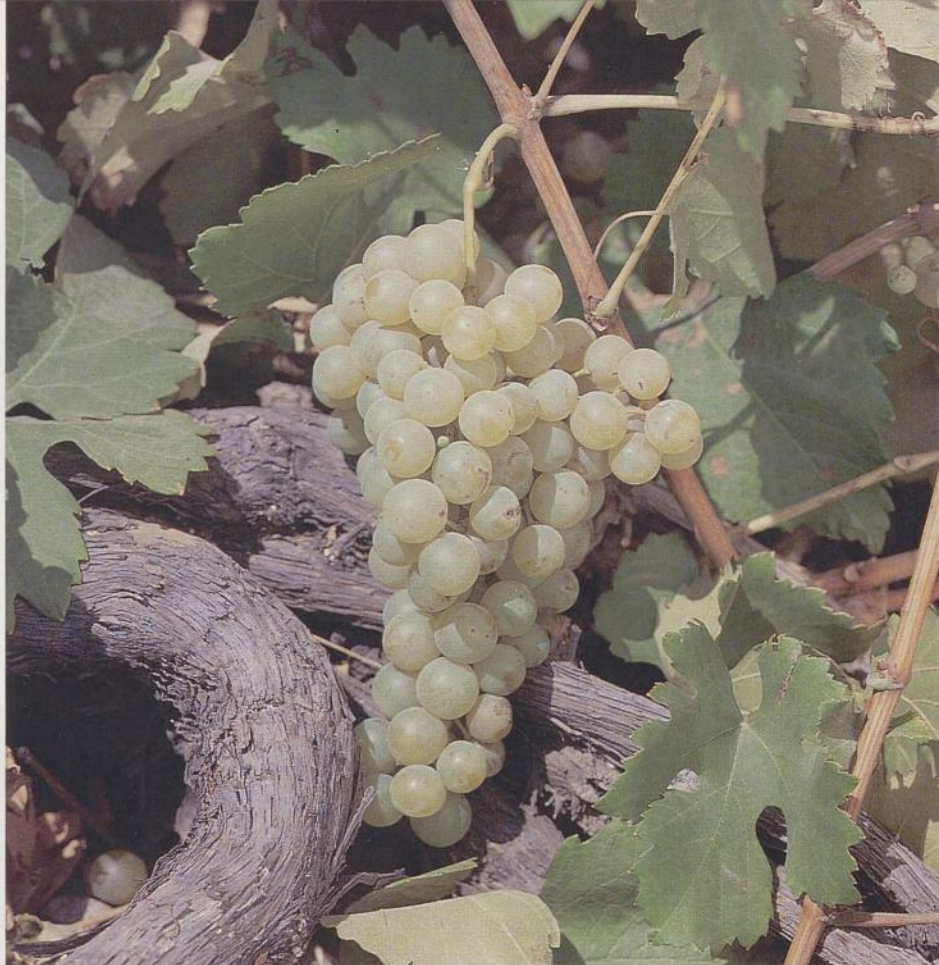


Fig. 49 The Mavrotrágano, a native variety of the Cyclades. Its cultivation has always been confined to the vineyards of Santorini.

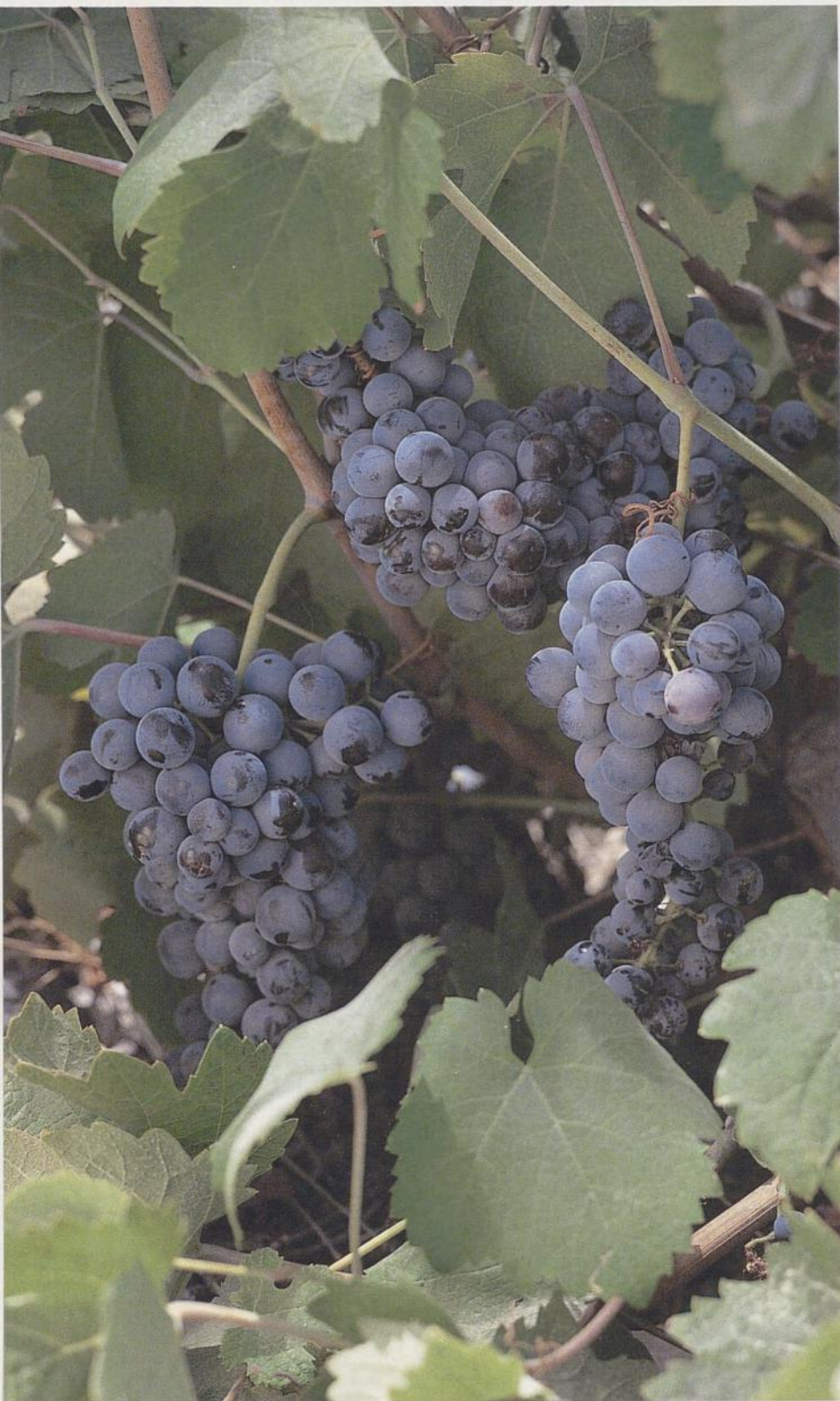


Fig. 50 The Voidomátis, a variety to be found in many regions of Greece, though cultivated, as on Santorini, in small quantities.

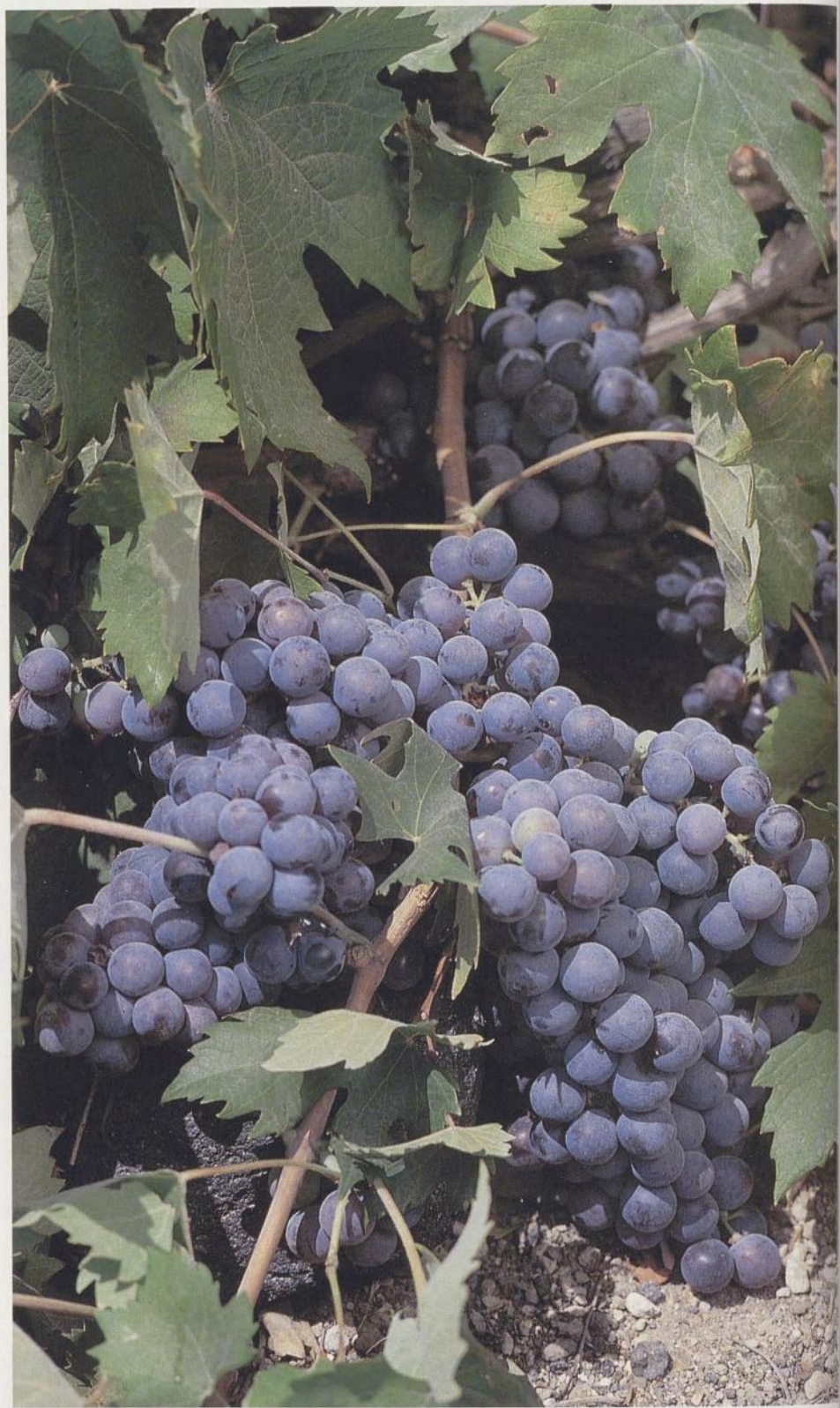
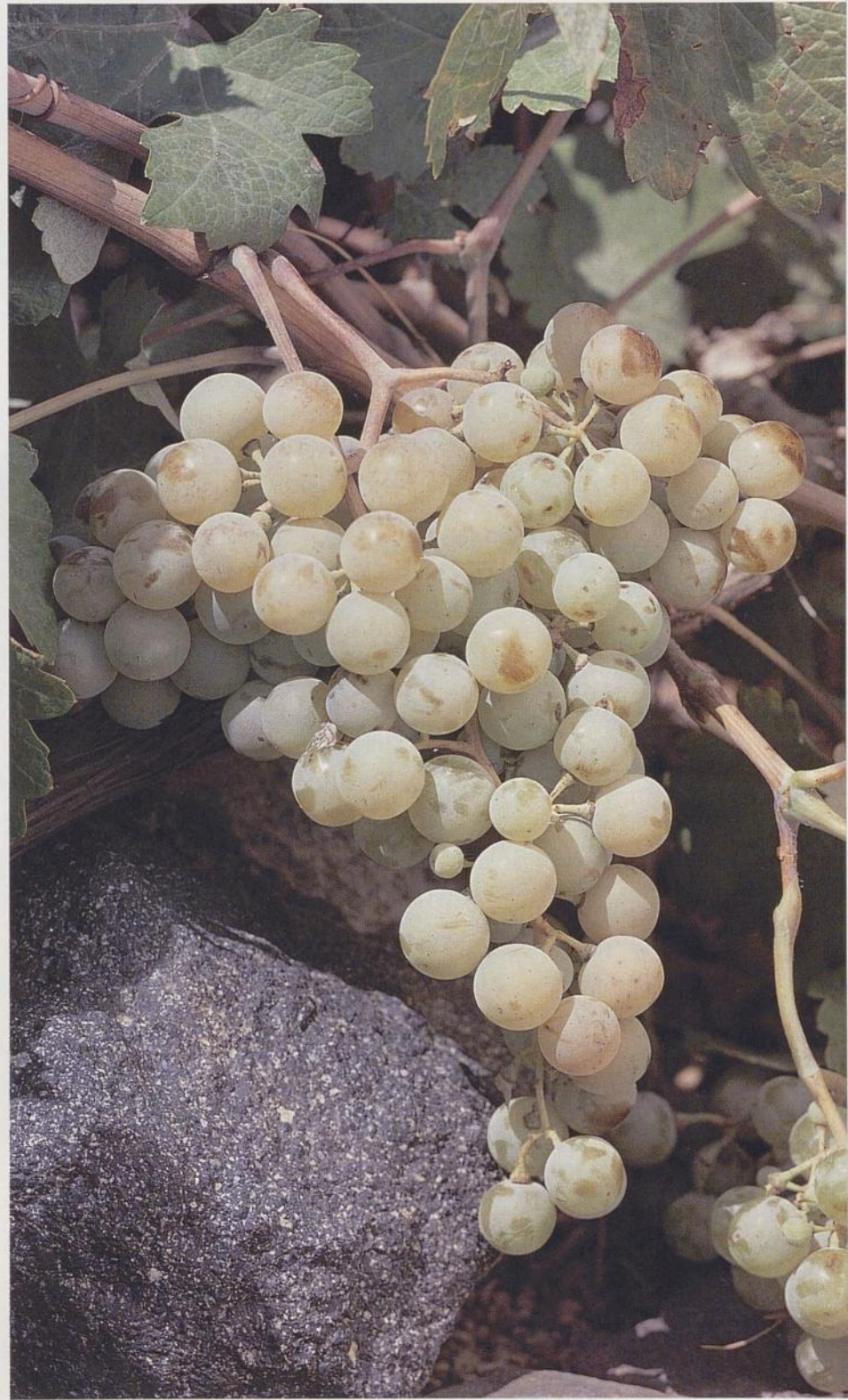


Fig. 51 The Stavrochiótis, one of the finest of wine grapes, came to Santorini from Chios, which has been famous for the quality of its wines since antiquity.



Fig. 52 Many varieties were brought to the island by the Santorinians from Crete, with its wealth of grapes- including the Platóni.



its name implies, from Chios. The islands of the eastern Aegean were the source of the *Begléri* and the white *Moscháto*, known as 'Samion', while the *Soultanína* came from Smyrna. The *Kritikó*, *Platáni* and *Roméiko*, pronounced 'Roméko' on Santorini, were of Cretan origin. Among all the varieties mentioned, of particular interest are certain varieties of wine grapes common to many of the islands of the Cyclades, such as the *Asýrtiko*, the *Aidáni*, the *Gaidouriá* and the *Potamísi*, which are to be found, apart from on Santorini, on Naxos, Amorgos, Folegandros, Ios, Milos, and even on Cythera. Their interest lies in the likelihood that these are varieties, of the greatest antiquity, native to the Cyclades, where *Vitis vinifera* L. has been cultivated since prehistoric times.

For post-War Santorini there is another official report which carries particular authority since it bears the signature of Logothetis, afterwards Professor of Viticulture at the University of Thessaloniki. According to this, in the second half of the 1940s, six varieties were cultivated and used in winemaking. These belong officially to the wine grape varieties: the *Asýrtiko*, which covered 65-70% of the total area of the vineyards, the *Mandilariá*, which provided 1/5 of the must produced, and, in much smaller proportions, the white and the red *Aidáni* and the white and the red *Athíri*, known on Santorini as *Mavráthiro*. A host of other varieties were cultivated sporadically²⁰. Today, 'xenóloes' varieties continue to be cultivated sporadically in the vineyards of Santorini²¹. The *Aidáni*, always in very small quantities, is used for the production of the *vinsáto*²². The white *Athíri* is becoming rare, while the *Mavráthiro* and the *Mavrotrágano*, which are even rarer varieties, are used, together with various 'xenóloes', for the production of red *santo* wine, made from sun-concentrated grapes. It is the *Asýrtiko* alone, the king of the vineyards, which is made into a dry white wine which deservedly bears the name of the island: *Santorini, Appellation of Origin of High Quality*.

It is, then, clear that whatever 'xenóloes' varieties were cultivated on Santorini, particularly in the 19th century, none of these has been able to displace the *Asýrtiko*, that blessed variety which has survived thanks to its resistance to oïdium (powdery mildew) and peronospora (downy mildew), two diseases of the vine which a century ago cut a swathe not only through the major vineyards of mainland Greece, but also on many islands of the Cyclades. Where did this variety come from? When did it take root in the volcanic soil of Santorini? Who first brought the grafts of this plant, which adapted so well to this difficult ecological environment that it can today be described as a variety native to the island? Did it come to Santorini after the great eruption from the neighbouring islands of the Cyclades and then find favourable conditions to prosper, or was it perhaps brought by those who colonised the island after the destruction caused by the eruption in the second millennium BC? Did vines of this variety survive on the mountain range of Profitis Ilias and together with the other plants which lived on "as the centuries passed, migrated again to the rest of the island"²³? No source has supplied the answer, but as one looks at today's vines climbing up the slopes of Profitis Ilias with the existing non-volcanic rocks, which constituted the island in the most ancient of times, before the volcano became active,²⁴ one is inclined to accept the last view and to recognise in the *Asýrtiko* the native variety of Kalliste, which survived on the hills.²⁵ Nevertheless, however crucial these



questions are for the history and the routes followed by the thing is certain about the agricultural neither cotton nor tomatoes nor chick

fierce competition of today's market, however fine their quality may be. Only the *Asýrtiko* has continued to turn green the volcanic earth without interruption for centuries now. It is thanks to the *Asýrtiko*, that versatile variety, the most astonishing white variety of wine grapes in the whole Mediterranean basin, that the Santorinians remained on their island.

Modern scientific research has proved that the *Asýrtiko* adapts easily to a broad range of bioclimates without its viticultural characteristics or its oenological properties being spoiled. Moreover, its resistance to drought, to oïdium and to peronospora make it a valuable variety in areas either of high humidity or high levels of ground aridity, as are many regions of Greece. Endowed with fine oenological properties, it can be perfectly combined with many white varieties of other regions, thus enriching their qualitative wine potential. When all this started to become more widely known, the *Asýrtiko* became a variety in much demand almost everywhere in Greece. It may therefore be maintained with justice that the *Asýrtiko* has shared the fate of all 'cosmopolitan' varieties of wine vine: that of becoming the 'ambassador' of the small vine-growing island of its origin – because whatever dimensions its cultivation takes on outside the island, it will never cease to be the *Asýrtiko of Santorini*, the *vinifera* variety of an ecosystem unique in the world.

of plant colonisation plant of Dionysus, one economy of Santorini: peas have survived in the



Cultural practices

Adaptation to the ecological environment

Stavroula Kourakou-Dragona

The Santorinians have been since ancient times seafarers, a people orientated towards the sea, since their island, mythology tells us, was born from a lump of earth which fell into the deep. Agriculture has not flourished on this island, where water for irrigation is a rare commodity.

It is only the vine, a plant resistant to drought and of a wide adaptability to the conditions of the environment, which for centuries has turned green the volcanic earth of Santorini. These plants did not, of course, adapt by themselves. If the vine had remained without cultivation, there was no chance of it shooting and bearing fruit on an island with so much ground aridity and such strong winds. But nor did the viticulturist of Santorini learn from one day to the next how exactly he should cultivate his vine in order to ensure longevity for the plants and a good annual yield for his family for many years. He was taught by the vines themselves, by their behaviour and their reactions. Cultural practices in general and the systems of pruning in particular implemented traditionally on Santorini were the result of progressive and empirical adaptation of the plant and of the farmer himself to the natural environment.

The koutsomytisma (early removal)

Early in September, as soon as the vintage was finished, the *koutsomytisma*, the removal, that is, of a large part of the canes with the still green leaves, was carried out. This was a practice which was not dictated by the needs of the plant itself. On the contrary, premature removal of the canes weakens it, since, as long as the grapes are ripening, the plant employs all its forces to nourish them, just like a woman's organism when she is expecting a child, and it is only after the grape harvest that the leaves, still green, now work in the interests of the plant itself, so that it is able to accumulate, before the dormant season, the reserve foods which will be needed in spring for it to shoot and to satisfy its needs through its annual life cycle. On Santorini, however, where animal foodstuffs are scarce, the farmer had to care not only for the vine but also for his valuable animals. Since, according to local custom, the animals which carried the grapes to the *cánava* were left to graze freely among the vines as soon as the harvest was over, each vineyard-owner hastened to cut off and store the living canes in order to ensure a food supply for his own animals in the difficult winter days. This is one of the most striking examples of intervention in the case of a plant which is not dictated by its own needs but by exogenous, socio-economic factors.

The pástrema (clearing or preliminary pruning)

The removal of the canes was completed later, in October or November, when

Fig. 53 The Mandilariá, a very ancient variety belonging to the Aegean region, where it is cultivated under various names. A vigorous and medium productive plant, it has compact grapes, roundish berries of medium size with a very short peduncle and dark red skin.



Fig. 54 A wreath consisting of the canes begins to form on the 'back' of the old ampeliá.

a general clearing of diseased or dried up parts and of anything which the farmer considered unnecessary for the pruning which was to follow took place. As they were clearing the vines, the experienced pruners chose the best canes; these they left on the vines, to be pruned in accordance with the form which they would give to the vines in order to help them to adapt as well as possible to the natural environment, but also depending upon the level of the production of grapes which the farmer wished to ensure at harvest. Today, when labour is scarce, the viticulturist, particularly when he has a large number of vines, begins this clearing immediately after the vintage, in order to have time to finish the job. In the case of vines which are cleared early, at the end of the summer, before the leaves fall, the removal of the canes has the same negative effects on the plant as the *koutsomytisma* used to have.

Dormant prunings

Many of the cultural practices, which taken as a whole constitute the technique of viticulture, have roots which go very deep: their origins are lost in the mists of time and in some cases in myth, as, for example, in the case of the vine pruning, the *kladeia* of the ancients. The environmental conditions (temperature and humidity), the fertility of the ground and the nature of the vine variety are among the main factors determining the form which the farmer must give to the plants by pruning and training, so that they adapt well to the conditions of the terrain and the climate in their area. When the temperature is high and the period of summer drought is a long one, the vines are trained low, very close to the ground, as their need for water is reduced in this way. When in the same areas it happens that the spring winds are very strong, when the shoots are still tender and break off easily, the low trained vine is appropriate for the additional purpose of avoiding damage from this source. It was thus that the viticultural landscape took shape through the centuries on the Cyclades.

In Santorini another factor counted too: the fine sand which, swept up by the south winds of spring and summer, strikes and kills the swollen buds and damages the thin-skinned berries precisely during complete maturity. This is what gave rise to the *ampeliés*, the protective vegetal baskets. In the traditional viticulture of Santorini there were two general systems of dormant pruning not encountered anywhere else in Greece: the *stefanotó* (wreath-shaped goblet), a primeval technique developed apparently under Phoenician influence, which must have had its origin in countries with arid sandy soils without a supply of water for irrigation, and the goblet with loops (*kouloúria*) described by the Latin author Columella.¹ This second system was employed in antiquity, chiefly in regions where, as on Santorini, there was no plant life (trees, reeds) to make stakes to support the shoots.

Goblet pruning has been employed in Greece since ancient times. The vine is pruned in such a way that it consists of its trunk and the branches, which, as they rise away from the axis of the trunk, form with the shoots a notional cup, a vase on a stem. In the case of the wine varieties, the trunk is usually short, 30 to 40 cm, with three to five branches of a length of 10 to 40 cm. On Santorini, however, with its many months of drought and the strong south winds, when the viticulturist trains the young vines, he arranges the forking of the branches very low down, at the point where the wood protrudes from the ground. The goblet on Santorini does not, in fact, have a trunk; it looks as though the branches are springing straight from the solidified volcanic lava.

a. Wreath-shaped goblet

This pruning system of making *ampeliés*, the protective vegetal basket, used to be general on Santorini for all varieties, local and *xenóloes*, until the early part of the present century. After the young vine had been trained for three or four years so that it had acquired a goblet form with three or four fairly strong branches, they would strip off, at the winter pruning, all the canes except one – the best – on each branch, which would be cut to a length of 60 to 80 cm. These



Fig. 55 a-b Trunk shaped into a goblet pattern, before (a) and after (b) the dormant pruning. The trunk with the five branches and the canes form a notional goblet.

longer canes were laid horizontally and formed into a wreath around the branches, the first being wound in a spiral around that of the second branch and that around the third, and so on. In the following year and the one after that, when they had cleared the very weak from among the canes put out by the 'wreath', they would tie all the rest together in a bundle, which they would lay horizontally around the outside of the wreath of the previous year, thus increasing each year the size of the circle of the new wreath. When this practice had been repeated for 15 to 20 years, an inverted cone, a basket made from the living plant would be gradually formed from the successive wreaths of the canes. After some 20 years, it was customary to cut the 'basket' at its base, at the point where it had first begun to be formed. As the plants trained in this way formed a rich root system, the growth from the pruned wood was very abundant: a revived and vigorous vine which had a large capacity sprang up. The farmer then had to set about making a new basket, which was cut and renewed every 20 years. This pruning was applied early in the winter, at the same time as the clearing of the canes. This was a long-term pruning producing vines which yielded a generous crop and abundant foliage, particularly dense in the case of the large-leaved varieties such as the *Mandilariá* and the *Mavrotrágano*.²

A record of this method of training, applied by the vine-growers to the young vines, is preserved in the pages of the Abbé Pègues, who, since he had never seen it used anywhere else in the world, described it as "strange"³ and commented on it as follows: "This manner of cultivation of the young vines has, they say, the advantage of making them robust, since the sap of the plant, hindered by the large number of windings and able to rise to the shoots only with the greatest difficulty, is channelled more abundantly downwards, towards the roots, where it is more active... . One can see from all this how much time and how much care the vines require on Thera in order to reach full productiveness. However, if production is in this way slow, it is nonetheless more abundant, and the vine lives much longer than it does in other countries... . A vine trained in this manner may last more than a hundred years and forms a trunk thicker than any I have seen anywhere else"⁴.

This system is still employed today in a simplified form by 'purist' viticulturists, faithful to the skills of their forefathers. The secrets of their art cannot be described: they can only be experienced. We merely set down the first principles of the technique followed: the farmer begins to shape the basket as soon as the plant acquires a strong trunk. When the time comes to prune it, he removes all the year's canes except one, the strongest, which he cuts at the six to eight buds and bends almost to the vertical, so that it forms a wreath parallel to the ground, which he then ties on to the trunk of the plant as that just peeps out of the earth. In spring the wreath puts out strong green shoots, and in autumn, when the shoots have matured, the vinegrower strips off the useless ones and retains the three best, chosen so that the distance between them is approximately the same. He then cuts them to a length equal to the distance between them, applying great skill so that they do not break, and, bending them, winds each separately in a spiral on to the wreath. The following spring, the canes which have been trained in this way produce their own shoots, and in autumn, when these too

Fig. 56 a-d At the dormant pruning, the viticulturist picks out the branches that are suitable and entirely removes the rest (a). He bends the ones which he has kept towards the ground and wraps them round one another in a spiral or round the wreath of the previous year (b. c). Thus, year after year, the vegetal basket, the ampeliá, is formed (d).





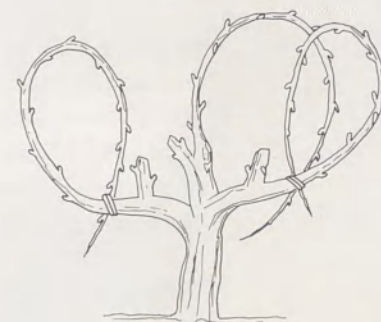
have turned to mature canes, the vinegrower chooses the best, which he prunes, leaving a large number of buds, bends them horizontal and weaves them together in a spiral. Thus the 'basket', the *ampeliá*, increases in size year by year. The number of canes which are not removed varies, depending upon the circumference of the basket and the number of fruit buds which the farmer wishes to retain on the vine. Usually three to five canes with five to eight buds each remain. The renewal of the basket now takes place more frequently than in former times, and so the *ampeliés* are much smaller.

b. Goblet with loops (kouloúria)

In the case of developed plants trained into the goblet system, the vine-grower, when he carried out the clearing in October or November, left only two canes on each branch. One of these, the lower – the renewal spur – he cut back to two buds, and the other at 10 to 15 buds. The long cane (*amolytí*), which was approximately 60 to 80 cm. long, he bent so that it formed a loop ('*kouloúri*') vertical to the surface of the ground, tying its end to the branch. Thus, as many *kouloúria* were made as the vine had branches, usually three to five; these budded in spring and fructified. At the next dormant pruning, the viticulturist would remove all the *kouloúria* from their base and prune the two canes which had shot from the two buds of the renewal spur so as to form for each branch a new renewal spur and a new long cane (the fruiting cane), which he then bent and tied in the loop shape. This practice was repeated every year.

This system was employed chiefly in the case of the *Asýrtiko* variety, which has very flexible canes, the bending of which can take place at any time early in winter, during the clearing. However, the viticulturist preferred to do the pruning and the shaping of the *kouloúria* in mid-February, because in that way the vines produced their shoots later than those pruned at the beginning of winter, and at any rate when the season of the spring winds was over, since their strength tended to damage the delicate shoots. In summer, when the grapes are ripening, the *Asýrtiko* berries, because of the thickness of their skin, are not easily harmed by the assaults of the sand whipped up by the south winds. The varieties with thinner skin, however, the *xenóloes* and certain table grapes, can suffer serious damage, and for this reason they were all pruned with the wreath-shaped goblet system and not with 'loops'. Some growers used to prune the *Mandilariá* variety with the latter system, but since its wood is harder, the making of the loops required extreme care. For that reason they would leave a longer cane, so that the loop was larger. For the same reason, the making of the loops in the case of the *Mandilariá* was left till later, until the sap started to circulate and the weather was wet, since its canes were then more flexible.

However, the application of these systems of pruning, so well adapted to the ecological environment of Santorini, thanks to the observations made by experienced growers whose art has been handed down from generation to generation, requires great patience and a lot of experience. This is why they have been progressively abandoned in the second half of the present century, and now they are employed only by a few experienced pruners. Nowadays,



Illus. 1 Vine plant trained into goblet shape with loops (kouloúria).

Fig. 57 The 'goblet' on Santorini does not, in effect, have a trunk. As the forking is very low down, the branches seem to spring straight from the petrified lava.

particularly in sheltered areas, the goblet system is used with three to five branches and with the shoots left free and without support; the growing tips of the shoots are simply wound round themselves in spirals so that the shoots remain low down, providing better wind resistance. But in the case of the *Asýrtiko* variety, the viticulturists still use the wreath-shaped goblet system, forming small baskets.

The summer prunings

Certain interventions carried out during the vegetative cycle of the vine are known as 'summer' or 'herbaceous' prunings. Suckering (*vlastológima*), tipping (*koryfológima*) and defoliation (*xefýllisma*) form part of the traditional cultural practices of Santorini, but they are not in general use; they are practised with great caution and as the case requires.

By suckering all sterile, undesirable or excess young shoots are removed. This intervention reduces the needs of the plant for water and nutrients – the richer the foliage, the greater these are. On Santorini, this practice was applied chiefly to *ampeliés* which had put out abundant greenery, and was carried out late in spring, after the season of strong winds was over.

It was then that the experienced pruners decided, depending upon the damage done by the breaking off of shoots, whether other shoots should be removed so that the vine would be safe during the very hot and dry summer period and would be able to save water and available nutrients to feed the remaining shoots and their fruit. For the same reason they would remove some of the swollen buds before they grew, especially those from the lower part or the sides of the bent canes. This practice, disbudding, is called '*svysimommatió*' in the local dialect.

Tipping or pinching was practised only on very luxuriant plants, particularly on those shoots whose end, the growing tip, was covered by developed leaves. The main purposes of this were: a reduction in the loss of water by preventing the formation of abundant foliage, better nourishment of the fruit, and protection from the wind, because the greater the height of the shoots, the greater was the damage caused. Defoliation, the removal of excess leaves, practised late and in any case after the fruit had begun to ripen, exposed the grapes to the sun, ventilated them better and prevented rotting. It required, however, great care if the grapes were not to be 'sunburnt', as happens when they remain for a long time exposed to the sun in climates marked by high temperatures and aridity. This is why defoliation was carried out on Santorini on the 'baskets' and never on the 'loops' – chiefly on the baskets of the *Mandilariá* and *Mavrotrágano* varieties, which have large leaves.

The cultivation of the land

Stavroula Kourakou-Dragona

The vine prospers on Santorini not only because it can stand up to drought, but also because it is one of the few woody plants whose roots, like those of the fig tree, can penetrate the 'earth of Thera'. For this reason, under cultivation the volcanic soils of Santorini can be made to produce quite passable grape crops, but this needs careful management to increase root penetration and conserve moisture. This was the purpose of the cultivation of the ground, the ploughings and the digging, farming tasks of the greatest antiquity, which the vine-growers of Santorini practised until recently. It was also the laying out of the land in terraces where there was a steep declivity which deepened and maintained the farm land and prevented the loss of water. The vines, planted with a great distance between them and suitably pruned, created a rich system of roots which filled all the available space below the ground at a depth of 40 cm., with the main root extending almost parallel to the surface of the earth to a length equal to two or three times that of the foliage. This has the effect of multiplying the effective rainfall three to five-fold. The penetration of the water and its retention by the earth were made easier by the cultivation of the ground. "All noxious weeds, which would compete for moisture and soil nutrients, were scrupulously removed. The vine, of course, grows best on the less compact ignimbrite deposits, containing boulders which help roots to penetrate. But waterless Santorini is generally so inhospitable to tree crops that a vineyard which is neglected becomes droughted".¹

Ploughing

Ploughing became the general practice on the island because the cultivation of the land was in this way much more economical than with digging. It was carried out three times a year by means of the age-old Hesiodic wooden plough drawn by two draught animals. The iron plough made its first appearance on Santorini in 1917-1918². However, although the experts held that it produced good results, since, by reason of the nature of the ground, the ploughing reached to a much greater depth which the wooden plough could only reach if it was drawn by a team of ten, its use was not widespread, since it was not easy for every farmer to buy it, nor to pay those who possessed such an implement to plough their vineyard. It was only when the vineyard was plagued with large quantities of *agriáda*, a weed with deep roots which is difficult to get rid of, that they were forced, in order to clean up the vineyard, to apply hoeing or deep ploughing³. This was the case until herbicides were introduced and farming began to be abandoned. Ploughing, moreover, now takes place less frequently, since the viticulturists have noted that this does no harm, either to the roots of the vines, which tend to be destroyed by ploughing when they lie horizontally



just below the ground's surface, or because of the sand which, when the land remains uncultivated and is not broken up, is not whipped up by the south winds. Thus damage to the buds in spring and the grapes in summer is avoided. The plants, however, react accordingly: when there are years of great drought, the vines succumb and die of 'heat stress'. This was the case in 1991, a year of double disaster, since apart from the drought, the spring winds found the vines in bloom and blew off the flowers. The vineyards of Santorini, which produce year by year around 4,500 tonnes of grapes, in that ill-fated year did not manage to yield more than 1,000 tonnes of wine. In farming, the changing of age-old techniques of cultivation does not go unavenged. Years of systematic experimentation are needed before so essential a change as leaving the land without cultivation can be regarded as successful, particularly in the case of a *sui generis* ecosystem like that of Santorini.

The first ploughing, which usually took place around the end of December, was called *niató*, a corruption of the word *néo* - 'new'. This ploughing wiped out the weeds on the surface, and leaves and pieces of vine wood were ploughed in. As these rotted in the earth, they fertilised the soil, which at the same time had been ventilated, and thus its fertility increased. Most important, however, it helped the soil to absorb the valuable water of the winter rains. It was at the time of the first ploughing that the sowing of barley in the spaces between the vines also took place. When it was intended to grow barley in the vineyards, the *niató* was preceded by the incorporation of animal dung into the soil, because barley, the cereal crop most resistant to drought, absorbs from the soil the nitrogen which the vines need so much. The mills and threshing-floors which have been found confirm the importance of the cultivation of barley for the island from very early times. Even in the 1940s, barley was grown on a quarter of the land planted with vines, but, in spite of the natural fertiliser, these vineyards had less growth and smaller production, since the barley stole the little nitrogen which the soil of the island, poor in this means of nourishment, contained.

The second ploughing, the *dívoló*, took place in February or March, before the vines budded. Its principal purpose was to promote the absorption of rain water where other vineyard operations and the winter rains had compacted the surface. The *trialétri*, as the third ploughing was called, was carried out in April or May, when the young shoots had reached a length of 15 to 20 cm. The farmers regarded this as absolutely essential, since the ventilation of the soil increased its fertility. In new plantings it was customary to remove the weeds by hoeing before the third ploughing, and after the *trialétri* to sow pulses, which have the property of enriching the soil with nitrogen, a valuable nutrient for vines, particularly for young plants. After the first rains *araká* - Santorini's famous *fáva* - was sown. This was a form of 'biological' farming, as we would call it today: the farmers used for its survival neither chemical fertilisers nor pesticides.

Hoeing

A few days after the *niató*, the farmers hoed the ground around the trunk of

Fig. 58 Most of the vines put out their main root almost parallel to the surface of the ground at a shallow depth where the surface moisture gathers.



the vine, where the plough could not reach, and dug a depression in the shape of an inverted cone, extending as far as the foliage and 15 cm deep, so that the rainwater would collect at the roots of the plant. By means of this *lákkisma*, as this task is termed in the local dialect, they also removed all the weeds which were stealing moisture from the vines, the soil near the trunk was ventilated and laid open to the sun, and, since the terminations of the soil's capillaries were destroyed, the evaporation of the moisture from the deeper strata was reduced. At the same time they very carefully cleaned around any rootlets which might be emerging from the trunk near the surface of the ground. In the case of young vines in general, this process was repeated three times a year, eight to ten days after each ploughing, not only for the reasons given above, but so that the plant should not be buried by earth, as its trunk just protruded above the level of the ground. At the same time they would cut off all the roots which tended to develop near the surface, since in areas of great soil aridity plants need a deep and extensive system of roots in order to survive.

The alimnogyrisma

On the islands, and more generally in coastal areas, an annual bush, called *alimiá* in Greek, resistant to drought, is encountered. On Santorini, as on other Aegean islands, they used in former times to carry out '*alimnogýrisma*' in the fields and vineyards: that is, they made hedges from *alimiés*, which multiply by layering. Moreover, on Santorini, where animal foodstuffs are rare, the leaves and shoots of this vegetal hedging serve as food for the animals.

On this treeless island, with its sandy volcanic soil, vines have been shooting and bearing fruit for centuries, thanks to the systematic cultivation of the land, thanks to the toil of the farmers. Any change which is dictated by non-agricultural considerations has to be based on a very sound knowledge of the particularities of the bioclimate of Santorini, a unique bioclimate unparalleled anywhere in Europe.

Fig. 59 Viticulturists at work. The first is weeding his vineyard (a, b), uprooting the 'aoústa', a weed with deep roots which 'steals' water and nutrients from the vines. The second hollows out the ground around the trunk of the vine (c, d) so that the small quantities of rainwater can gather close to the roots.



The vendema

From the chronicle of our fields

† Philippe Katsipis

...And now let us look at the details of the vintage – the *vendéma*. The preparations began immediately after the Feast of the Virgin on 15 August. The very first job for every householder was to whitewash and to tidy up the *cánava* (wine cellar) and its equipment.

As a rule, the *cánava* was a dug-out, so that it would be cool and moist. But it always had one window which was left open when the must was fermenting. Along both sides were two piles of *áfoures* (barrels) and at least two treading containers with their vats. This was because they would put the black grapes into one of these containers and the white ones into the other – the bigger one.

So they washed the *áfoures*, the treading containers, the vats (the baskets they washed in the sea, since they required a lot of water) and generally they cleaned up all the utensils of the *cánava*. They also cleaned the terrace or that part of the field which was above the *cánava* where they spread out the grapes to partially concentrate in the sun.

They would then come to an agreement with the muleteer as to how many of his animals would be needed to bring the grapes from the fields all day and how much the fee for each animal would be. They did the same with the labourers who were needed for the vintage and they would clinch the day-wage (one for the men and another for the women) to be paid to them.

The master then had to make provision for food, because he was obliged to feed all his labourers, over and above their wage which they received net, for as many days as the harvesting and treading of the grapes lasted. There were a few, however, who reached an agreement without provision for food and drink, just for a wage, and this agreement was called *afagápia*. But in those days this was rare.

The muleteers too had to make sure everything was ready. They had to inspect the saddles of their mules, the *stratoúres* (saddle cloth), the *nígles* (the band which passes under the belly of the animal to hold the saddle in place), and the *pisinéles* (the rope which held the saddle by the tail of the animal, with cloths wound round it so that it did not cut into the tail) to see if they were in good order. They used to buy a bag or two of bran and barley, because the animals had to be better fed during those days, since they would be carrying two baskets of grapes weighing nearly 40 okas each from dawn till dusk. Some of the muleteers who took a pride in their fine, well-built mules used to adorn their necks with charms and bells of various sizes. On their halters they put multicoloured tassels, charms and green beads, so that they would not be ill-wished.

And they themselves used to dress up. They used to buy a new *skiádi* (broad-brimmed straw hat), tie a large multicoloured kerchief round their necks and wind a gaily coloured cummerbund round their waists with the fringes hanging

Fig. 60 Terracing of the land deepens and conserves the arable soil and reduces loss of water.



down at the side. At their waist they also had tucked in, instead of their black-hafted knife, a reed flute and a *ferendína* (a small knife with the blade in the shape of a half moon and a handle of fig wood), used to cut off the grapes. They would also have bought a kind of thin goad with a filed nail at the end to urge on their animals when they were leading the mules.

The needs of the labourers were simple: a straw hat, for protection from the sun, their *ferendína* and a basket to put the grapes in. The women used to wrap their gleaming white kerchief, usually worn on the head, round their faces so that they would not be burnt by the sun, and wear cut-down stockings as gloves. They also used to garland their hats with vine shoots and leaves.

When everything had been got ready, they then awaited the day when the vintage would start, which was different for each district. This was because in some places the grapes ripened earlier than they did in others. However, those who had up to eight *zevgariés* of vines started the vintage a day earlier, so that they could go to work as labourers for the big landowners, and, above all, so that they would be able to find labourers and muleteers.

The district which started the vintage first was Emporeio. On the eve, at the hour of Vespers, the bells of the Church of Our Lady would ring and this was the signal for them to set out for the fields. This was because they had to fill the baskets that evening, so that when the muleteer came the next morning, he would find full baskets to load. And so the *vendéma* began.

The alleyways would ring with shouts and the fields resound with the long drawn-out, passionate, teasing and langorous tune of the vintage song. The island's great festival, the feast day of the fields, had begun. Blessed be that hour. The toil and sweat of a whole year would be rewarded with the good harvest which God had sent. So be it.

How long the *vendéma* lasted depended on how many vineyards the master had, which also determined the number of labourers and muleteers. If he was a big proprietor, his *cánava* would be a hive of activity from morning till night. And there had to be somebody there to take charge – he was called the *balís*.

He was the one who with the muleteers unloaded the packed baskets and emptied them into the treading containers. He arranged how many labourers should go to this or that vineyard and when he had to send food to them. It was also his job to weigh with the steelyard the grapes which had been bought in. And he it was who hurried up the muleteers, to get them to fit in more journeys back and forth. To sum up, he was the master's right hand.

When night fell, all the labourers would gather in the yard of the *cánava* to eat their supper, except for the one who would stay behind in the vineyard to guard the baskets and who would have his meal sent to him out there in the fields.

The food at the *cánava* was always good and more filling than they would have had at home. Seated round the *sofrá* (a low, round table), men, women and children would eat and drink happily, since they would receive their wage net.

This is why in their high spirits they would start the singing. If there was someone who knew how to play the *tzamboúna* (bagpipe) or *lyra* (fiddle), then they would get up and dance the *bálos*. Then the singer who played the small

Fig. 61 *The vendéma has begun. Blessed be that hour. The toil of a whole year will be repaid by the good harvest which God has sent.*



Fig. 62

drum which accompanied the instrument would take the opportunity to make up some verses. Sometimes these would be in praise of the master and the mistress and sometimes they would be to tease one of the labourers who was flirting with some girl, because it was at the time of the *vendéma*, when the women had more freedom, that the most romantic love affairs were conducted.

In this way the days went by and the sweet fruit accumulated in the treading containers, until the last day came. It was then that there was great merry-making in the yard of the *cánava*. And everyone would stay on late, because they would not be working the next day.

Now the fields have emptied of the labourers, of the shouting and the singing. The muleteers have left their animals free in the harvested vineyards to rest and to feed. Now the children come out with their little baskets to wander about the vineyards looking for any grapes which have been left behind, because quite often the vintagers used to miss whole grape plants, since they never went back when they were picking grapes. The small clusters of grapes which were found in this way were called *kambanó* – ‘bells’. It was thanks to these grapes that even the very poor were able to make their raisins.

The Santorinians never trod the grapes in the vineyards. All the grapes used to come to the *cánava* and, depending on their colour (black or white), they would be thrown into a separate treading container. However, the grapes were not trodden the same day (with the exception of those which would produce the *nichtéri*). They used to leave them in the container until the vintage was finished and then, after two or three days, they would tread them all together.

In the meantime, however, the grapes were draining and the must was running from the treading container into the vat through a spout, called the *áflla*, but so that crushed berries and stalks would not fall into the vat together with the must, they used to put a piece of brushwood in the hole of the *áflla*. In addition to this, they would hang an empty basket in front of the *áflla*, which filtered any foreign body out of the must. In this way the must which flowed into the vat was pure and little by little the vat filled up. Then they emptied it and put the must into barrels.

This work, however, was tricky - particularly when the must was ‘angry’! The person who went into the vat had to be able to withstand the fumes of the must and not get dizzy. For that reason, another labourer had to use a clean broom like a fan to provide him with air.

In order to empty the vat, which was a round cistern with a depth of one or two men’s heights, they lowered into it a clean wooden ladder. The man who went into it placed one foot on the ladder and the other on a step carved in the stone, which the vat had for this purpose. When he had poised himself safely, he would bend down and fill the pail, which he would then put, full, on the edge of the vat. From there it would be taken by another man to the *áfoura* which they were going to fill. There someone else would be standing on a double stool with steps. His job was to take the pail of must and empty it into the *bírlia* (a kind of funnel) fitted to the *karkoúna* of the barrel. They also did this when they were treading the grapes and every so often the vat filled up. Treading the grapes was difficult work as well. For that reason they tried to make it lighter by bringing



Fig. 63 The viticulturist harvests the grapes with a ferendína.

along musical instruments - a violin, a lute and a clarinet or a fiddle or a *tzamboúna*, so that the treading took on the rhythm of a dance. The women used to come too, to watch the treading and to be teased, and so the burden of the treaders was lightened.

The treading used to begin in the evening. The labourers would wash their feet carefully and were lightly dressed in their underwear. They used to tie a bandana round their head and they would put a sprig of basil behind their ear, so that they could take a sniff at it to drive out the fumes of the wine.

They would spread out grapes two or three times in the treading container with a special wooden shovel – it was wooden so that it would not scratch the bottom of the container. And when they had trodden them well and truly, they would leave them to strain and then bring them to the press in baskets, to get out the very last drop of must.

Then, last of all, the must went into the barrels.

But that was not all. Before the must fermented and became wine, there was still work to be done. If there had been a drought and the must was thick, they had to add water to prevent the fermentation from stopping. This could also stop as the result of too much heat. In this case, they would open the *maïstra* (the lower hole in the barrel) and the must would run out into a special vessel, to be poured back afterwards into the barrel through the *karkoúna*. At other times they would thoroughly wet the *cánava* and barrels and have the window open

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Fig. 64 Celebrating the *vendéma* at the 'Cánava Petros Nomikos', as rendered by the brush of Antonios Santorinios.





Fig. 65 The icon of St Avercius in the Church of Christ at Emporeio. On his feast day, 22 October, the local people open the barrels and taste the wines.

day and night so that the temperature inside would fall and fermentation could continue. Thus the days passed until the Feast of St Avercius (22 October), when they opened the barrels and tasted the wine. And then there were great celebrations. Long ago, the people of Emporeio used to have a great devotion to St Avercius (his icon is in the Church of Christ) and the bishop would celebrate the Liturgy and everyone would go to church. Afterwards they went to the *cánaves* to taste the different wines – and got blind drunk. And now let us take a look at what kind of wines they made.

The commonest wine produced was the *sec* (*broúsko*). This was of two kinds: white and red. In fact, the white was a gingerish colour, and was made chiefly from *Asýrtiko* grapes. Both wines are highly coloured and so they used to buy them abroad and blend them with their own low-alcohol wines. The strong colouring of our wines was due to the fact that they remained so many days in the treading container and took their colour from the skins and stalks.

Nychtéri, which is whiter than *retsina* wine, was made from grapes trodden the same day as they were picked. The wine which was made only from *xenóloes* varieties was called *malvasía* and was the nectar of Santorini.

Visánto (*vino santo*) was made differently. The black and white grapes were spread out for a few days in the sun, so that they were half-baked. These grapes were then trodden and this is the way that the sweet *visánto* wine was made. There was also the *méntzo*, the semi-sweet. This was made from the juice of sun-concentrated grapes blended with fresh grape juice.

Not every year was a good one on our island. But a hundred or so years ago, our wines always sold well abroad, particularly in Holy Russia, as they called it. That was the golden age when “...almost all our wines were consumed in Russia, at that time when the island’s shipping prospered, that thrice-blessed time when the sailing-ships of Thera made their return from Russia laden with corn and various other Russian products, bringing with them in bags the product of the sale of the wines in silver Mexican thalers and roubles, as well as in gold *pólia* [Polish coins] and napoleons”.

But when wine began to come down in the world, a new product arrived on our island: the tomato!

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Fig. 66 The viticulturist harvests the *Mandilarić* grapes with the *ferendína*, a kind of miniature sickle with a crescent-shaped blade and a fig-wood handle.







The Mediterranean and the European type of Santorini wine

Stavroula Kourakou-Dragona

The various vine varieties, the 'species of grapes', as this was once expressed, are not all endowed with the same genetic features. Apart from external differences, such as the colour of the berries and the thickness of their skin, there are genetic differences which are far more decisive for the quality of the wine. These manifest themselves in its colour, aroma and taste, that is, in the characteristics perceived by the senses (the organoleptic characters), the only ones which the consumer can be aware of and can judge. And just as education cannot create great poets, painters and musicians if they are not themselves gifted by nature, so technology cannot contribute to the production of wines of high-quality specifications if the grapes do not come from varieties endowed with high-quality wine potential.

Since, however, the grapes are nourished on substances made up by the leaves and depending upon the climatic conditions of each region and containing elements which the plant absorbs through its roots from the ground, the pedoclimatic conditions of the area where each variety is cultivated, without its genetic characteristics being altered, affect the constitution of its grapes. For this reason, the wines which come from regions with a distinctly different ecological environment vary in taste even when they are produced from grapes of the same variety. But from the moment that the vine is harvested and the 'umbilical cord' linking the grapes and the plant is cut, the role of the human factor is decisive in the formation of the organoleptic characters of the wine, since the technology applied by the wine-maker can bring out, or it can destroy, the features which make for quality with which the genetic and ecological factors have endowed the grapes.

The ecological environment of Santorini, difficult and unique, has been essentially the same for the last 3,700 years¹. And the vine varieties, with the exception of the so-called '*xenóloes*', are native to the broader Aegean region, where they have been cultivated since the remotest antiquity, and have adapted themselves to the arid climate of the region, with its sea mists and strong winds. Since nothing has, in effect, altered in the self-rooting vineyards of Santorini, any differences which there may be between the wines of yesterday and today are due to options of the human factor and to the technology employed in the modern wineries, as compared with the empirical techniques of the *cánava*. A look back to the past will throw light on these differences.

In earlier times, the wine which was not produced from sun-concentrated grapes was called 'ordinary', to differentiate it from the traditional sweet wine of Santorini, the *vinsánto*. At the end of the 18th century, the ordinary wine was made in the island's *cánaves* from white and black grapes, trodden together.

Fig. 67 The colour of the wines of Santorini of yesterday and today.



Fig. 68 The grapes are emptied into the receiving bin of the modern wineries just as they were into the treading containers of the cónava in earlier times.

Since the grapes were over-ripe, the fermentation of the must lasted about a month and usually stopped without all the sugars having been fermented. Naturally, the colour and the taste of this wine differed from barrel to barrel, depending on the proportion of black and white grapes trodden together and according to the concentration of non-fermented sugars. The ordinary wine was far from good, according to a French traveller who tasted it and set down this earliest information.²

The information which we have on the first half of the 19th century is much more specific³. At that time the black and white grapes were not trodden together. From the white grapes, and indeed almost exclusively from the *Asýrtiko* variety, which was “the most productive and the best”, they made the

ordinary white wine which was the colour of beer. Since the grapes were harvested when they were over-ripe, the wine was rich in alcohol and could travel without deterioration. When it had been well clarified and aged for many years in oak barrels and in hermetically-sealed bottles stored on their sides, it resembled both in colour and taste the wines of Madeira. Some bottles, moreover, had an aftertaste reminiscent of the wine of Cyprus.³ The description which follows calls forth the admiration of every modern wine-taster for the oenological knowledge possessed by the abbé who wrote it: "... those who know about wines find in it a taste of sulphur. It would seem that it contains sulphur, as well as a certain quantity of salt, which is due to the proximity of the sea. The salt brought by the mists settles on the skins of the grapes, and for that reason they always have a perceptible taste of brine..."⁴ This description, one of the clearest proofs of the effect of the ecological environment on the the shaping of the organoleptic characters of the wines, is documented by investigations into the chemical composition of the wines of Santorini⁵ and the role of sulphur in the physiology of the plant⁶.

The sensory characteristics which the 'ordinary' wine of Santorini had some 140 years ago were described by another good connoisseur⁸: "... it delights the eye with its beautiful topaz colour and satisfies the palate with the cleanness of its taste. It is somewhat reminiscent of the wine of Marsala; it also has an aftertaste of sulphur. It smells of its origins! ..."⁷ This writer was the first to dub the ordinary wine of Santorini 'santorini dry', thus being prophetic about the future appellation of origin 'Santorini'.

All this goes back to the time when the wines of the broader vine-growing zone of the Mediterranean were still much in demand. A century later, the topaz colour no longer delighted the eye; it was described, in a single word, as 'oxidised'. The same adjective was applied to all the other characteristics of the wine: odour, taste and aftertaste. The term 'Mediterranean wines' drove out of the market every wine that came from over-ripe grapes and had a high alcohol content, was low in acidity, had a brownish colour and the odour typical of oxidised wines. All the Mediterranean vineyards, the most traditional in Europe, were in danger of extinction. The wine of Santorini, a typical 'Mediterranean type', was no exception. For many years it was sold only for its high alcohol content, in order to be used to fortify low-alcohol wines from other regions. The 'ordinary' wine of Santorini had to undergo a process of rebirth with the aid of modern technology, since it was truly criminal for the economy of the island that such a unique ecosystem should remain unexploited.

Oenological research has shown that certain substances encountered in wines undergo, when exposed to the air, a transformation which is called 'oxidation'. This manifests itself externally by the wine turning brownish, but the oxidative phenomena bring about much more profound changes. Since the oxidable substances accumulate in the grapes as their ripening advances, the wines produced from over-ripe grapes contain many of these substances, particularly when the vine variety is genetically predestined to oxidability, as is the *Asýrtiko*. Since they tend to accumulate for preference in the solid parts of the grapes (stalk, seeds, skin), the must which remains for a long time in contact with these

is enriched with oxidable constituents and thus the wine produced rapidly acquires oxidised characters. The wine of Santorini had, then, two factors which contributed to oxidation of its characteristics: the picking of the grapes at an advanced stage of ripeness, and the fact that they remained in the treading containers for many days, until the harvest was over and the treading of the grapes began at the *cánaves*. Thus, these two negative factors had to be dealt with: one in the vineyards and the other at the wineries.

Today, the grape harvest begins much earlier than it used to do in the old days, and at any rate a good few days before the ripening of the grapes has advanced to such a stage that there has been a significant increase in the oxidable substances. The grapes are taken intact to the wineries in the traditional baskets or in plastic boxes, so that their juice, which must not remain for long in contact with their solid parts, is not squeezed out. As soon as the grapes reach the wineries, they are dumped into the cage press, which subjects them to light pressure and swiftly separates the juice from their solid constituents. The juice of the grapes, the 'must', is then cooled and is kept in settling containers until the solid matter (earth, stones, bits of wood, leaves, solid parts of the grapes and other items) is deposited. After about 24 hours it is decanted, now clear, into the tanks where it ferments, yielding a fresh wine with greenish-yellow shades. The brown tones of the 'Mediterranean' wines of Santorini are now a thing of the past for modern wineries. This fresh wine, after it has been refrigerated, stabilised and kept for a few months in stainless steel tanks or oak barrels, is then bottled.

Thus it is by a physical process, without any chemical treatment capable of adulterating the characteristics due to the island's ecosystem, that Santorini's dry wines of the 'European type' are produced – chiefly from the *Asýrtiko* variety, and sometimes with a small proportion of the white *Athíri* and *Aidáni* varieties. Their alcohol content fluctuates between 12.0 and 12.5% vol – rarely reaching 13% vol. Their good acidity, which gives them liveliness and freshness, causes surprise in a wine which comes from the vineyards of the hot dry region of the Aegean. Research has shown that this is not due to early harvesting, as one might suppose, but to genetic factors in the *Asýrtiko* variety⁸ and the ecological environment of Santorini's vineyards: the nature of the terrain and the low rainfall.⁹ Experienced wine-tasters can recognise at once the characteristic of the taste which is due to sea mists – that slight taste of brine, spotted for the first time by their colleagues 150 years ago. The oenologists too are locked in battle with the sulphur compounds in an effort to avoid the undesirable 'aftertaste of sulphur', which the volcano, for its part, imposes.¹⁰

Thus we have a modern type of wine from one of the most traditional vineyards of Europe, which, untainted by phylloxera, retains its ecosystem intact: the native varieties, the volcanic soil and its maritime climate. It was natural that the legislator should recognise the name of the island as an 'Appellation of Origin'¹¹ and that 'santorini' should have been included in the *vqprd*¹² of the EC as a 'Quality Wine Produced in a Specified Region'.

The legislative texts¹³ by which the appellation of origin 'Santorini' was recognised stipulate that dry 'santorini' wine, the old-time 'ordinary' wine of the

island, may be produced from grapes of the white varieties *Asýrtiko*, *Athíri* and *Aidáni*, which come from vineyards with a low yield¹⁴ and contain enough sugars to ensure that the ‘santorini’ which is produced contains a least 12% vol of alcohol. This minimum limit was introduced to permit early harvesting and so that a ‘European type’ could be produced. However, anyone who wishes to produce the ‘Mediterranean type’, which makes an excellent dessert wine and is one of the more representative dry wines of the Mediterranean vine-growing zone, with a natural alcoholic content of 16% or 17% vol, can harvest the grapes at an advanced state of ripeness¹⁵. But this is on one condition: that the vinification should be carried out in modern wineries or in *cánaves* which have been brought up to date in terms of equipment, in order to avoid weaknesses of a technical nature which the ‘ordinary’ wine of Santorini manifested in earlier times.

It is permitted for the labels of bottled Santorini wines to bear the name of the island only if they have been produced in accordance with the specifications laid down by legislation. The geographical name may appear in two forms: either without any brand name, or in combination with such a brand name. In the first instance, the term ‘Appellation of Origin of High Quality’ is to appear on the label directly below the name of Santorini. However, when the label shows a brand name, the place-name Santorini is to appear between the words ‘Appellation of Origin’ and ‘High Quality’. According to Greek legislation¹⁶, all the bottles which have the name of the island, in one way or the other, on their label must compulsorily have a band on their cork bearing the capital letters SN, signifying the Santorini appellation of origin. These are followed by a two-figure number corresponding to the year in which the wine was bottled, and the serial number of the band. These bands are issued by the Ministry of Agriculture on the basis of the cellar books of each winery and are a guarantee for the consumer of the authenticity of the wine’s origin. They also constitute for the official inspectors an indication that the winery which markets the wine has observed all the obligations stemming from various provisions of an administrative nature.

It is with these guarantees for the consumer that dry ‘santorini’ wine, the product of an ecosystem unique in the world, comes on to the market.



Fig. 69 The band which ‘Appellation of Origin Santorini of High Quality’ wines must compulsorily have over the cork. This guarantees the authenticity of the origin of the bottle’s contents.



The wines of the sun

From passos wine to vin Santo

Stavroula Kourakou-Dragona

When Orion and Sirius have come to mid heaven and rosy-fingered dawn can see Arcturus, then pick and bring to your house all the grapes. Spread them out for ten days and nights in the sun and five in the shade. On the sixth day put into the jars the gifts of Dionysus, generous in joys.¹

Thus Hesiod, in the 7th century BC, described the preparation of the sweet wine of his time. In Greek antiquity, the sweet wine produced from partially sun-dried grapes was called ‘οἶνος πάσσοσ’ (*pássos* wine). There were various kinds, depending upon the customs governing their preparation which prevailed in each region. In order to make a top-quality *pássos*, grapes with firm, ripe or over-ripe berries were spread out in the sun until they lost approximately half their weight. They were then trodden, the must was collected in jars and it was left to ferment. When they wished to make a *pássos* of excellent quality, they would put the sun-concentrated grapes in the jars and then add old wine of the same kind, of very good quality, to make the shrunken grapes swell. The treading of the grapes and the fermentation of the must then followed. The *pássos* produced in these two ways was very sweet, aromatic and alcoholic, and for this reason it was drunk mixed with water – cool or even ice-cold. The majority of the ancient wines of renown belonged to the category of *pássos* of this type².

When the grapes were white, the *pássos* wine took on with the passage of time the colour of old gold in various shades, which provided the wines with their adjectival description, such as ‘pale’, ‘golden’, ‘tawny’, ‘honey-coloured’. The red *pássos*, made from black grapes, was initially of various shades of red: ‘flame’, ‘brick-red’, ‘rose-coloured’, ‘purple’, but with time it turned golden and had the brightness of fire³. When the *pássos* came from white and black grapes which had been fermented together, the colours and shades were of intermediate tones.

Many of these colours are taken on by the sea of the Aegean, depending upon the season of the year, the time of day, the weather conditions, the clouds and the winds. For that reason Homer called it ‘οἶνωψ πόντος’, the ‘wine-coloured sea’. Anyone who stands today, on a summer or autumn evening, on the spot where the castle of Epanomeria stood at Oia on Santorini, at the time when the sun is about to sink into the waters of the Aegean, may have the good fortune to see this sea dyed the golden colour of *vin Santo*. The latter was the name given to the island’s *pássos* wine in the Middle Ages, when the ancient world had been forgotten, Thera had been ‘petrified’ on the summit of Mesa Vouno, and the name ‘Santo Erini - Santorini’ had been established in the language of the Italian mariners, crusaders and pilgrims who, on their way to Constantinople,

Fig. 70 Homer called the sea “wine-coloured”; often it is tinted with colours which have the shades of wine. Sunset at the castle of Oia. The ‘wine-coloured’ sea has taken on the colour of vinsánto.

the ports of the eastern Mediterranean and the Holy Land, supplied themselves with wine from this strange island (p. 39), marked by the fires of hell.

Thera appears for the first time under the name of Santorini in the works of the Arab geographer Edrisi, who travelled to Greece in 1154⁴. The island must have been known by that name in the language of seamen much earlier, perhaps from the 11th century⁵. As to the double name ‘Santo Erini - Santorini’, which today surprises experts in the now structured Italian language with its rules of grammar, the Italian writer Tomaso Porcacchi leaves no doubt: in his book *The Most Famous Islands in the World*, published in Venice in 1576, he explains that the island took the name Santorini from the region of Santo Erini, by the omission of one letter⁶. And his map, with the name of the area ‘Santo Erini’ written above the castle of Skaros, confirms the truth of his observation (Fig. 24). Porcacchi, with a view to writing the history of the islands, had read the ancient writers and was very well aware that many names of islands and cities had changed or been corrupted during the Middle Ages, as a result of ignorance or differences in language⁷. For this reason he did not wonder about the name Santo Erini. He hardly expected the seamen who toiled in the galleys of Venice’s maritime empire to know grammar – particularly many years before Dante, Petrarch and Boccaccio established, by means of their works, a unified Italian language.

Dapper, describing the islands of the Archipelago 120 years after Porcacchi, states that the island of Therasia was known to the ancients, but “the Italians know it only by the name Santorini, although on maritime charts it is many times referred to, by a corruption of its earlier name, as Santori or San Turin”⁸. Dapper, however, emerges from his text as more sensitive in the matter of grammar and explains that one part of the island is called in the Greek tongue Apanomerea, that is to say, ‘the upper part’, and that the other is called by the Italians Santo Erini or Santa Irene, and that hence all the island has obviously taken its name, subsequently elided into Santorini by the omission of a single letter⁹. By way of confirmation, he reproduces on his map the double name Santo Erini - Santorini (Fig. 25).

The mariners and travellers of the Middle Ages, who called Santo Erini the ‘island of hell’ were without doubt responsible for giving the name ‘Santo’ to the sweet wine of the island, from the first part of its name. However, it was under this name, *vino santo* - *vin santo*, indicating its origin, that it became familiar and famous in the markets and ports of the ‘White Sea’ (p. 41-59) and it was under this name that it was sold, in the times when the Cyclades were ‘the stone fleet of Venice’, in the wine market of the imperial city, the Ripa del Vin on the Grand Canal. “In former times their vineyards were not large and their voyages initially took them only as far as Candia, Chios, Smyrna, Constantinople and some of the neighbouring islands. Little by little, they went further afield: they forged their way as far as Venice, Ancona, Trieste, and followed this line for many years, chiefly to place their *santo* wine on the market”¹⁰. *Vin santo* written in the letters of the Greek alphabet produced the name ‘βινσάντο’ (*vinsánto*), by which the wine is referred to in the archives and texts of the period¹¹. Under this

Fig. 71 Spreading out the grapes in the village square for partial drying in the sun – the first step in the production of *vinsánto*.



Franco-Levantine name, the sweet wine of Santorini passed through the straits of the Bosphorus and reached, from the ports of the Black Sea, the markets of Russia (p. 47). Dispensing, as is their constant practice, with any letter which impedes the spoken word, the Santorinians have pronounced, in recent times, the name of their traditional sweet wine 'βισάντο' (*visánto*). This is just one more corruption of language, like so many others, in the long history of Thera - Santorini.

The double name of *vino santo* and *vinsanto*, which is borne to this day by certain dessert wines of northern Italy (particularly in Veneto and Tuscany), is a relic of Western European rule over Santorini and Venetian and French involvement in the island's wine trade. When Venice began, after the Fall of Constantinople to the Turks, to face commercial competition from the French and to lose its possessions in the Aegean when they came under Turkish occupation (p. 41), the Italian wine trade favoured the production of wines of the Greek type, which were sold under the names of the most famous Greek wines. A typical example is the sweet Byzantine *Monemvasia* wine, which, through a corruption of the name of the fortress of Monemvasia in the Middle Ages, became *Malvasia*. At that time, many Greek vine varieties, chiefly of Cretan and Cycladic origin, were cultivated in Italy, under the general name of 'malvasia', the most famous being 'Malvasia di Candia' ('malmsey of Crete'). It was from these, and from Italian varieties which were christened 'malvasia', that, from that time on, wines with the name of 'malvasia' were produced¹². This practice subsequently extended beyond Italy, and so today wines with a corrupted form of the name 'Monemvasia' are produced in many countries of the world, and thus one of the historic 'appellations of origin' of the Byzantines has been lost: it has degenerated into a common name indicating the type of wine (a generic denomination)¹³. There is a danger of the same happening with the name *santo*, which, as the first part of a place-name, does not decline. And yet in Italy *vino santo* has a plural - '*vini santi*' - exactly as 'Monemvasia' wine became 'malvasie' varieties and 'malvasie' wines.

In the attempt to interpret the roots and etymology of the names *vino santo* and *vin santo*, a wide range of theories and traditions have been examined in Italy. "... The bibliography is extensive and varied, since it approaches the issue in a variety of different ways and in distant periods... . The origin of the name may be found in the fact that some produced their vini santi at the beginning of November, at the time of the Feast of All Saints (dei Santi), while others bottled it at that season... . Others again kept the grapes until Holy Week and then made them into wine, while there were those who bottled the vino santo during Holy Week... . Others also used to call it 'Christmas wine' (vino Natalino), since it was made at Christmas, and 'the wine of the priests' (vino dei preti), since sweet wines were used in the Holy Communion... . In France sweet wine is called vin du curé..."¹⁴.

Clearly what is happening in the Italian approach to the matter is that an attempt is being made to find connections which would explain the 'sanctity' of the vini santi. The Florentine tradition, as given by Tachis¹⁵, is both inventive

Fig. 72 The grapes are spread out to concentrate in the sun. They will produce red and white vin Santo, the traditional wine of Santorini made from partially sun-dried grapes, and one of the few surviving examples of the sweet wines of ancient Greece.



and revealing: In Tuscany they used to produce a famous wine which was called 'vino pretto' until 1349, the year in which the Ecumenical Council was held in Florence under Pope Eugene IV. During the course of a break in its proceedings, the most learned Greek Patriarch Bessarion, in the retinue of the Emperor John VII Palaeologus, drinking the 'vin pretto', exclaimed "Ma questo e vino di Xantos" ("But this is Xantos wine"). The Patriarch, obviously meaning the famous Greek wine made from sun-dried grapes from Thrace, was wondering whether what he was drinking was wine which had been produced in Greece. But what those who were sitting at table with him understood was that the Father of the Eastern Church had found in the wine such merits that he had pronounced it holy – 'santo'. From then on, 'vino pretto' was called 'vin santo'¹⁶.

The Florentine tradition, when placed in its correct chronological context and when certain mistakes are corrected, is instructive. The Ecumenical Council of Ferrara - Florence under Pope Eugene IV did not take place in 1349, but in 1438-39, just a few years before the Fall of Constantinople in 1453, an ill-fated year for the Greeks, Christianity and the ruler of the seas, Venice, herself, since the Turks took a city which had been built to rule the sea¹⁷. In effect, this was the beginning of the end for Venice.

As with all traditions, truth is interwoven in this Florentine version with myth: the famous 'vino pretto', of otherwise unknown identity¹⁸, was renamed 'vino santo' thanks to a learned Greek who thought it resembled the wine of a non-existent Thracian region. The change in the name is dated to the 15th century, precisely at the time when Italy had started to give the names of wines from Greek regions under Venetian rule to Italian wines which resembled those of Greece. We know that the wines of these regions, like the rest of their commodities, were marketed through Venice. The fact that the godfather was a Greek shows that the Florentine tradition retained the memory of the Eastern origin of the name. But the godfather had to have some connection with the Church in order to provide an explanation for the name 'santo', which understandably gave rise to misunderstandings in the Italian language. And so Bessarion was selected, and represented as accompanying the Byzantine Emperor as Patriarch¹⁹. But Bessarion, one of Byzantium's wisest scholars, was not Patriarch: he was in the imperial retinue in the capacity of Bishop of Nicaea. How did the Florentine tradition come to choose him as 'godfather'? The explanation must lie in the fact that Bessarion was well known and popular in Italy, to which he returned a year after the Council of Florence, was made a cardinal and was sent as the Pope's legate to Venice. There he was very busy: he was actively involved in the Renaissance, translated ancient Greek authors into Latin and reached the point of being a possible candidate for the papal throne²⁰. The real *vino Santo* of Venetian-ruled Santorini would certainly have reached his table in Venice and perhaps his fellow-diners heard him speak of this or liken some Italian wine to *vino Santo* – not in the sense of 'sacred wine' but in that of the geographical origin of Santorini wine. A Greek scholar established in Venice as legate of the Pope was certainly an ideal candidate for godfather of the *vin santo* of Tuscany, one of the most renowned dessert wines of Italy. Thus

far the traditions – somewhere between actuality and myth. We are obliged to the Florentines for preserving so much that is Greek in their tradition.

In reality, the name ‘vin Santo’ has no need to be connected with religious festivals, ecclesiastical rites, patriarchs, monks and priests. It contains the notion of ‘holy’ or ‘saint’ because it is the wine of the island of Santo Erini - Santorini, the island of St Irene: vin SANTO, wine of SANTORini. The identification is glaringly obvious, but, after the domination of the eastern Mediterranean by the Turks, the Italians gradually forgot the possessions of the Venetians in the Archipelago. Lawley’s *Vine-grower’s Handbook*, published in Florence in 1870, provides indisputable evidence that the average Italian citizen did not even know where Santorini was. And yet the memory of the Santorinian *vino santo* lingered on in the minds of the specialists. Indeed, the author, speaking of sweet wines, mentions the wines of the Peloponnese, particularly *Malvasia*, and the *vino santo* of Santorini, which he locates among the... Ionian Islands²¹! Even earlier, François Richard, legate of the Pope to the Archipelago, who arrived on the island in 1644, recorded in his chronicle: “The variety of names which have from time to time been given to the island gives rise to confusion, so that many do not know what Sant-Erini, which some maps label with the popular name of Santorini, is”.²² He also tells us that an earlier date it had been called by some the ‘Island of the Devil’, since they believed that it had emerged from Hell. Such a name was, of course, in keeping with the spirit of the Middle Ages, but then equally so was the name Santo Erini - Santorini, used apotropaically.

In Greece, under the variations on the name of *vino Santo*, *vin Santo*, *vinsáto*, *visáto*, the product has always been the same: the *pássos* wine of Santorini, and only of Santorini. No other region is entitled to baptise its sweet wines with the name *vin Santo*, since they never marketed them under that name – not even the Cyclades under the rule of Venice did so. The name *vin Santo* connoted in those days the traditional wine of a specific island: Santorini. The tradition continues: there has been no change in the process of producing wine from partially sun-concentrated grapes on the island since antiquity, except that wooden barrels have replaced wine-jars. To read the description given by Abbé Pègues of the way in which *santo* wine was produced (p. 56) is to have the lines of Hesiod come back to life and for scenes from the life of Santorini today to pass before the mind’s eye: the grapes spread out on flat roofs and squares, and the winegrower’s family, from the youngest to the oldest, bending with care and concern over the fruit as it lies in the sun, turning it, picking out any berries which have rotted, estimating the degree of concentration and wedding the grapes of various varieties in such a way that the result of co-vinification will be a wine with its own special bouquet and taste. Do people ever think when they drink it what it represents in terms of toil and money? How little wine is made from a grape which dries in the sun, losing half its weight in the process? And how small is the yield per hectare from a vine in terms of this wine, given, moreover, that the vines of Santorini produce so few grapes? Such wines no longer have a commercial price.

As far as Greek legislation is concerned²³, *vinsáto* falls within the category of



‘naturally sweet wines’, that is, wines whose sweetness and alcohol content are due exclusively to the constituents of the grapes - that have not been fortified with any foreign substance. It also belongs among the wines with ‘Appellation of Origin Santorini, of High Quality’, since the legislator, on the basis of the historical sources, has accepted that it derives its name from the first part of the name of the island of SANTORini.

In EEC legislation²⁴, it is permitted for the name ‘vino santo’ to appear on the labels of ‘vino tipico’ Italian wines, as it does on the labels of Italian wines with denomination of origin. That is to say, the words ‘vino santo’ denote the type of sweet wine and must compulsorily be accompanied by a geographical name (e.g., vino santo di Gambellera, Trentino vino santo). Thus, the denomination ‘*vino Santo*’, from connoting the traditional sweet wine of Santorini, has degenerated into a generic denomination which defines a type of wine. That is, it has had precisely the same fate as the other great historic appellation of origin, *Monemvasia* – which has been corrupted to malvasia.

No disquiet has been voiced on Santorini. Just as in classical antiquity the people of Thera shut themselves off in the grandeur of Mesa Vouno without engaging in the affairs of the Aegean (p. 28) and the islanders of the 1960s showed no interest in the recognition of the place-name Santorini as an ‘appellation of origin’, so today they have not realised the significance of the Community regulation which threatens to leave their *vinsáto* without its historical and cultural heritage. One letter, one corruption of the language is enough for the history of centuries to be struck off the label of a wine. Of course, the Italian wines with a geographical place-name of origin may be entitled today to the use of the controversial description which the wine trade of their country has appropriated since the time of Venice’s rule of the sea, but the Greek *vino Santo* - *vin Santo* is a name of the origin of the wine and denotes the sweet wine of SANTORini, which continues the most genuine tradition of the *pássos*, produced on the islands of the Aegean Sea since the time of the ancient Greeks. There is thus no need for any geographical name to accompany it. It has its own self-sufficient geographical point of reference: SANTORini, isle of the Aegean Sea, the eternal Thera of water and fire.

Fig. 73 Three different hues of *vinsáto*.

→
Fig. 74 The grapes continue to arrive at the wineries of Santorini in the traditional grape harvest baskets.



From the lenos to the modern wineries

A centuries-old tradition

Stavroula Kourakou-Dragona

“This is how the treading of the grapes takes place everywhere in the Archipelago. In his vineyard everyone has a reservoir of the size he requires: square, well-built and plastered, but wide-open. They tread the grapes in this, after they have left them to dry out for two to three days. As the must runs from a spout into the vat which is below the reservoir, they fill skin bags with this and take it to the town. There they pour it into wooden barrels or into large clay wine-jars buried in the ground up to the mouth. In there the wine ferments in its own good time without the marc.”¹

It would be difficult to guess accurately to what period that text belongs, given that from antiquity to the mid 20th century nothing that had to do with the treading of the grapes and the fermentation of the wine changed in the islands of the Cyclades. It was in a shallow container called a ‘ληνός’ (*lenós*), sometimes of wood, sometimes of masonry, and sometimes carved out of rock, stone or marble, that the grapes were trodden in antiquity and in Byzantine times, and in very ancient times in a *kóphinos* – a kind of basket – as can be seen from ancient painted pottery. Below the *lenós* there was the ‘ὑπολήνιον’ (*hypolénion*), a ‘broad-mouthed’ and ‘wide-bellied’ jar, which either stood on the ground or was buried in the earth, or even another vat, into which the juice from the trodden grapes flowed from an opening at the lowest point of the treading container. Over this spout they usually placed a basket filled with brushwood or the hairs of sheep and goats, called a ‘plaited strainer’, because it serve to filter the juice: it held back leaves, stalks, skins and any other foreign bodies, so that the must which collected in the *hypolénion* was as clear as possible. It was by exactly the same system, without any alteration, that the treading of the grapes and the collection of the must took place in the *cánaves* of Santorini, as is so eloquently described in the *vendéma* (p. 127). As to the wine storerooms with jars, called ‘πίθοι’ (*píthoi*), buried in the earth, where “the wine ferments in its own good time”, excavations at the city of Akrotiri have brought to light a representative example of such a wine storeroom (*pithón*) of the 2nd millennium BC (Fig. 17).

There is, however, in the text above the word ‘barrel’, a key word, which places the description at a date later than the 13th century, since wooden barrels came to the Cyclades in the time of Venetian rule². In fact, the passage quoted dates from the 18th century and confirms that nothing had changed over the centuries in the wine-making technique of the islands. The presence of Venice left behind only one relic: the use of wooden barrels, which proved to be extremely valuable for the wine production and wine trade of Santorini. This was because the absence of clay in the soil of Thera after the great eruption and the total lack of firewood made it impossible to set up potteries, and, consequently, to make jars for the fermentation of the must³ and amphoras for



Fig. 75 Open-air masonry treading container with a cistern below ground serving as the ‘hypolénion’, as described by Pitton de Tournefort in the early 18th century.

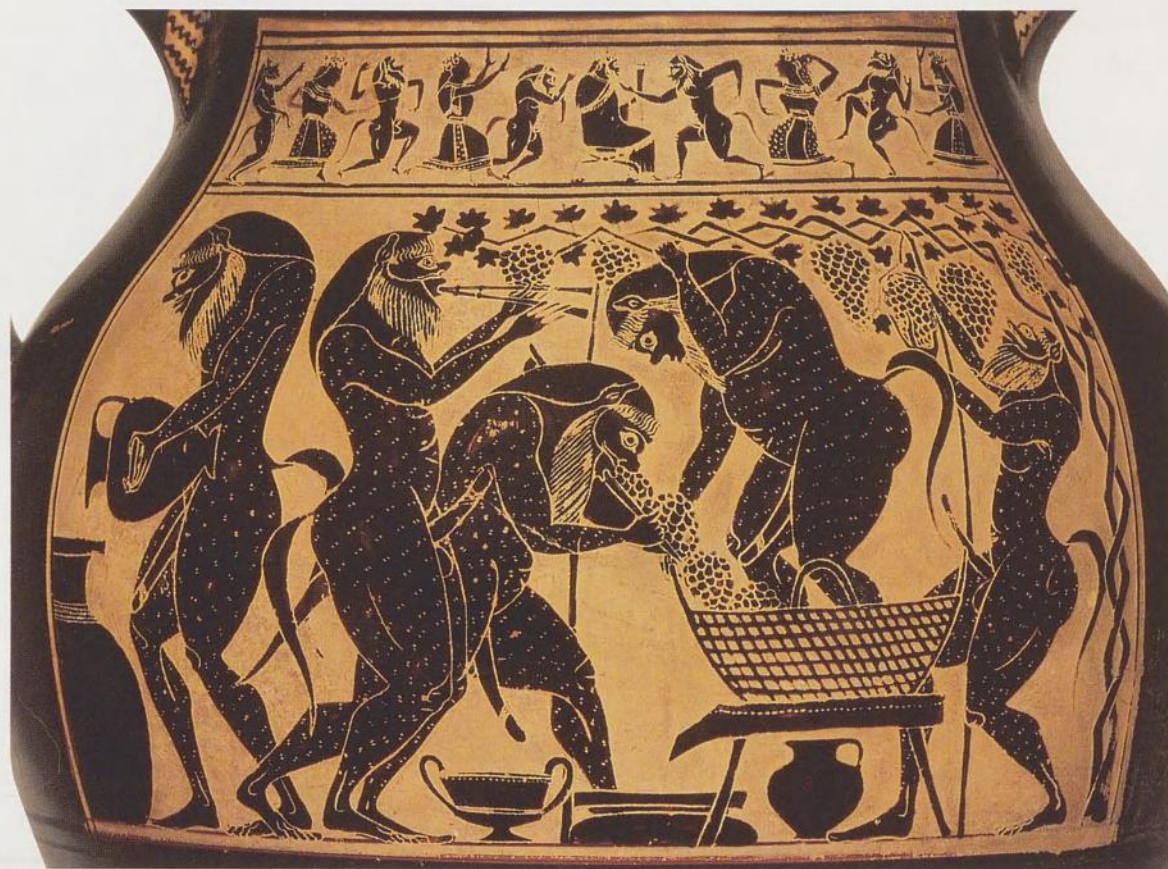


Fig. 76 A 'kóphinos' for the treading of grapes. A jar buried in the ground serves as a 'hypolénion' for the collection of the juice. Attic black-figure amphora by the Amasios painter. 540-530 BC.

the transporting of the wine by ship. Wooden barrels opened up the pathways of the sea for the wine of Santorini.

In this revealing description of the treading of the grapes in the 18th century, which we owe to the pen of Pitton de Tournefort, the word 'wide-open' is stressed. This means that he was surprised by the existence of open-air treading containers without any building around them or even any roof over them, as it is the custom to have in those regions which he was familiar with and where rain was, and is, usual at the time of the vintage. Santorini, which it is certain that he visited – and, indeed, was the first to describe the organoleptic characters of the wines (p. 46) – was no exception to this description. Are we to suppose that at that period the *cánaves* of Santorini served only as wine storage houses for barrels in which the wine fermented and was stored without there being any treading containers – or did the traveller not notice them? Katsipis is categorical: "The people of Santorini never trod the grapes out in the vineyards. All the grapes came to the *cánava* and, depending on their colour (black or white), were dumped into a separate treading container" (p. 132). It depends, of course, how far back in time that 'never' goes. However, it is certain that the French commercial mission under Olivier which came to Santorini a century after Tournefort did not notice the treading containers in the *cánaves*. In its book,

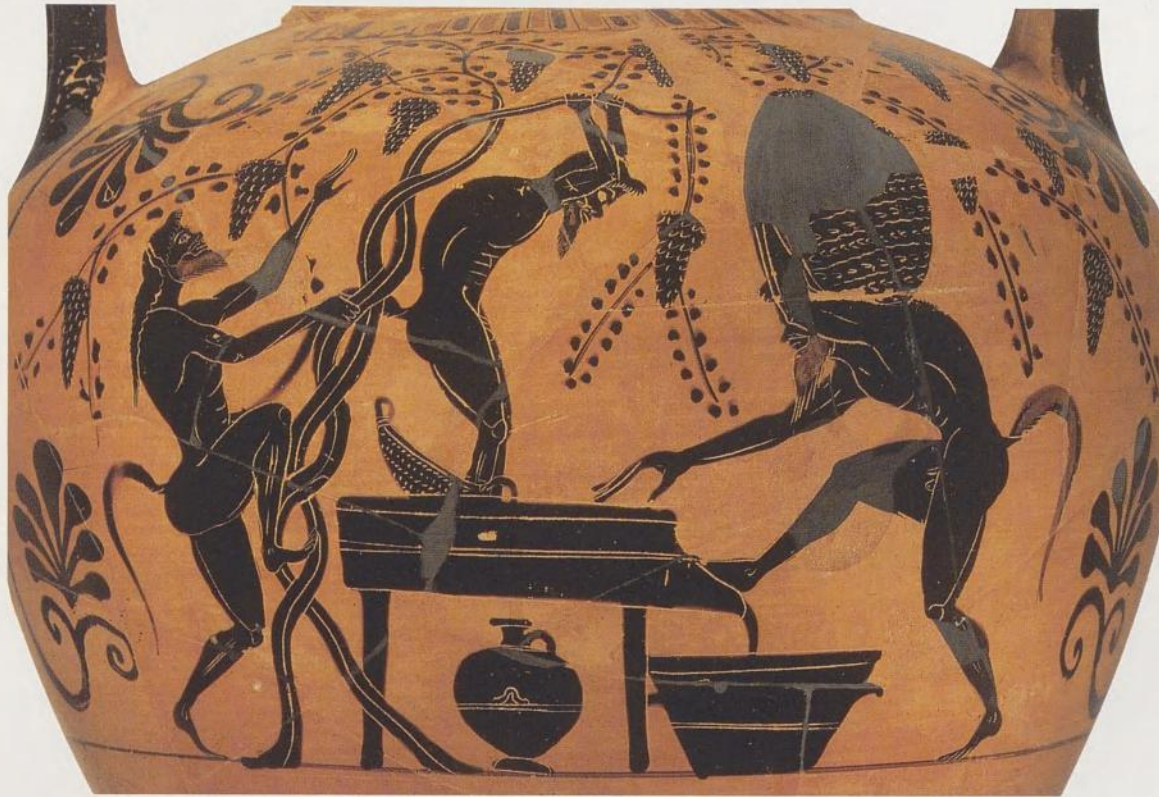


Fig. 77 A wooden 'lenós' for the treading of grapes, with a broad-mouthed vessels standing on the ground as 'hypolénion'. Attic black-figure amphora. 510 BC

which gives a wealth of information about the types of Santorini wine (p. 47-48), Olivier includes a brief description of the *cánava* as a wine storage house: "The wine cellars of Santorini are vast and very clean; they are dug out of the white pumice which covers the whole of the island. The ceiling is vaulted. Certain wealthy individuals plaster the interior of the *cánava* with mortar, but others do not do this at all, and it seemed to us that this is not necessary. This is because although this material is friable and quite soft, the vaulted ceiling is very strong and it is rare for a piece of any size to break off. The barrels are arranged in two lines. Near the entrance to the wine cellar there is a square 'cuve', of fair size, made of masonry, plastered on the inside with a mixture of lime and sieved pumice".⁴

The square plastered 'cuve' of Olivier was the square plastered 'réservoir' of Tournefort, the masonry treading container of Katsipis, the *lenós* of the ancients and the Byzantines. But the word was unknown to the foreign travellers, just as 'earth of Thera' was unknown to Olivier – it is for this reason that he describes the *áspa* as white pumice, which is not, of course, either cohesive or easily ground, nor does it combine with lime to produce mortar. All these are properties of the 'earth of Thera', the Andesite tuff (p. 89).

When did the *cánaves* of Santorini cease to function only as wine storeroom and become *lenónes*, buildings which housed the *lenós*, the buried vats, and the presses for the marc? This we do not know. However, in 1945, 399 *cánaves* with this double function were operating on the island, concentrated chiefly at Oia,



Pyrgos, Phira, Megalochori and Mesaria (74, 54, 50, 40 and 35, respectively). Table 8 shows how they were distributed among the island's fourteen communes and the total production of wine of each commune.⁵ It is clear from these data that Oia had the most *cánaves*, 18.5%, but that the largest percentage of wine production, 38.5%, belonged to Mesaria and Phira, the two principal viticultural areas of the island. Today the number of traditional *cánaves* still operating is very small; they produce wine to be sold from the barrel or which is intended for friends, relatives and home consumption.⁶ Now the vine-grower reposes the year's toil and hopes in the grape-receiving bin of the wineries.

The visitor to a modern winery tends to be overawed by the vast machinery used in winery operations which he sees in front of him when he is ignorant of how it operates and particularly of what task it performs – when he stands at the foot of a shiny metal tank which overwhelms him with its height, when he goes to the bottling plant which has the gleaming cleanliness of an operating theatre and imposing rows of wooden barrels, stacked in an orderly manner in the underground galleries with their numinous semi-darkness. He feels the same awe as an island woman, accustomed to light the hanging lamps in the churches of Santorini, built as they are to the measure of a human God, would feel if she went to worship her God in one of the Gothic cathedrals of northern Europe.

For this reason, the Santorinians feel more at ease in the traditional *cánava*, which is made to the measure of man. And for this reason it is unnecessary, and perhaps detrimental, to attempt to impress them with figures and magnitudes in connection with the number and capacity of the tanks and of the barrels and the fine yield of the machinery and other similar statistics. In order for them to appreciate and trust the wineries, all that is necessary is that they should realise that their operation is based on one very simple truth: that machines today are perfected and automated to such a degree that they can carry out more efficiently the tasks which were once performed by men in the *cánaves*. They are highly specialised 'workers' which perform their tasks in accordance with the specifications set for them by man – the 'boss' – who simply monitors, and where necessary co-ordinates their programmed functioning.

The series of tasks which leads to the liberation of the juice from the grapes and the collection of clear must is where one of the basic differences lies between the *cánava* of tradition and the modern winery. The grapes come to the wineries of Santorini in the traditional vintage baskets, but they no longer remain in the *lenós*, where they were subject to various forms of deterioration and bacterial infections. Without needless delays, the contents of the baskets are dumped into the cage of a press, which, as soon as it is full, begins to press the grapes softly, while the cage rotates on its axle, so that the juice is liberated and is separated immediately from the solid parts of the grapes (p. 144). The juice which runs from the press is automatically channelled into the settling tanks, where it remains for 12 to 24 hours at a low temperature, to allow all the undesirable suspended materials to settle. The juice of the grapes, the must, now 'clean', is then piped into the fermentation tanks, where the must is converted into wine. That is to say, the grape presses have replaced the treaders,

Fig. 78 The traditional 'Cánava Petros Nomikos' gives the impression of still being in use. It provides an ideal setting for the organoleptic sampling of the wines of the modern winery of the Goulas company.

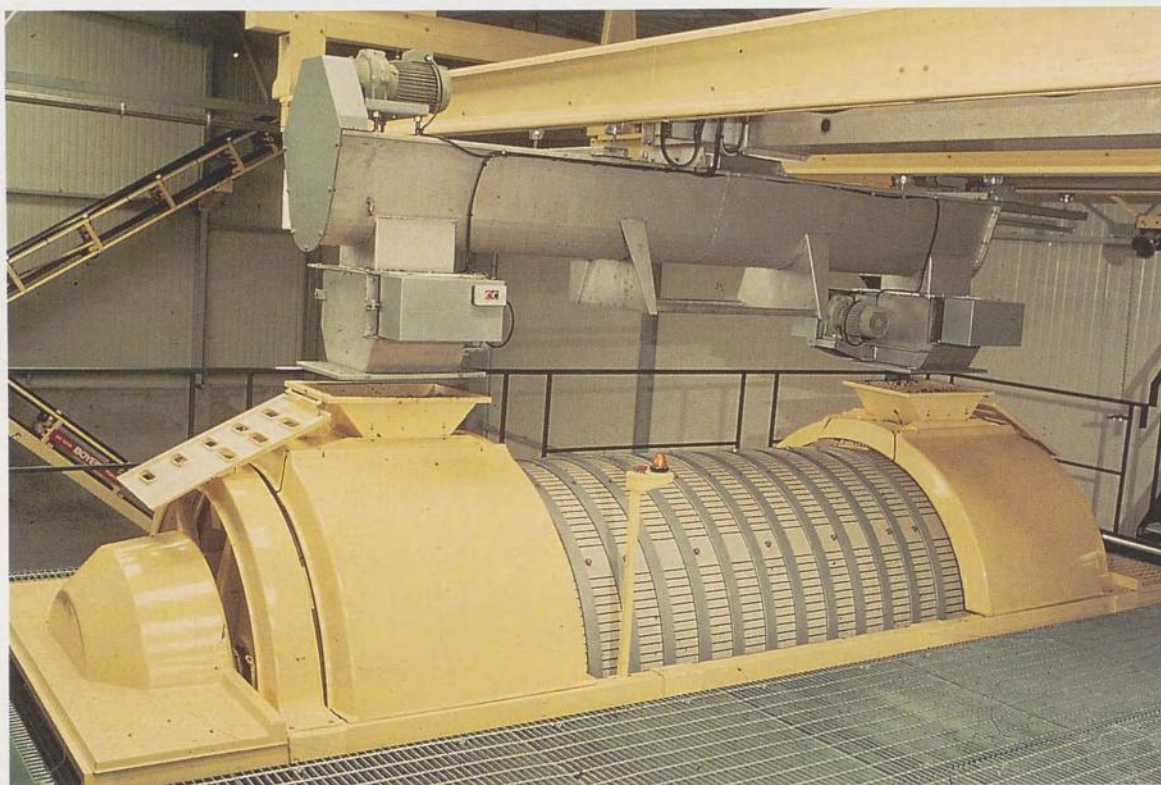


Fig. 79 Horizontal discontinuous presses for the extraction of the grape juice have replaced the treaders of the grapes.

the settling tanks the 'plaited strainer', and the pipes for the automatic transfer of the must the wooden pail. The order in which the tasks are performed is, then, the same both in the traditional *cánaves* and in the modern wineries; the difference lies in the manner in which they are carried out. This difference entails substantive subtleties of the characteristic sensory quality of the wines produced (p. 145). Furthermore, to avoid metallic contamination the tanks used for the fermentation and storage of the wine are made of stainless steel; the fact that they are easily washed, moreover, removes the danger of bacterial infections. It is protection from such infections which is the purpose of the gleaming spotlessness of the bottling plant and the guaranteed cleanness of the bottles. For all these reasons, bottled Santorini wine now travels without deteriorating, even when it has a low alcohol content.

All this equipment, which, when utilised in a rationalised manner, contributes to the safeguarding of the qualitative characters of the wines, is manufactured in different sizes, so that it can serve the need of all the wine-making complexes, regardless of capacity and potential output. For that reason, some of the wine-makers of Santorini have been able to modernise their family *cánaves* by equipping them with small technological apparatus and stainless steel tanks.⁷

The most impressive conversion of this kind took place in 1988 at the 'Cánava Petros Nomikos'. This had consisted up till then of the traditional family *cánava*, which supplied the vessels of the shipowning family of the same name with

Fig. 80 The 'forest' of wine tanks at the Boutari winery, built deep in the earth of Thera.





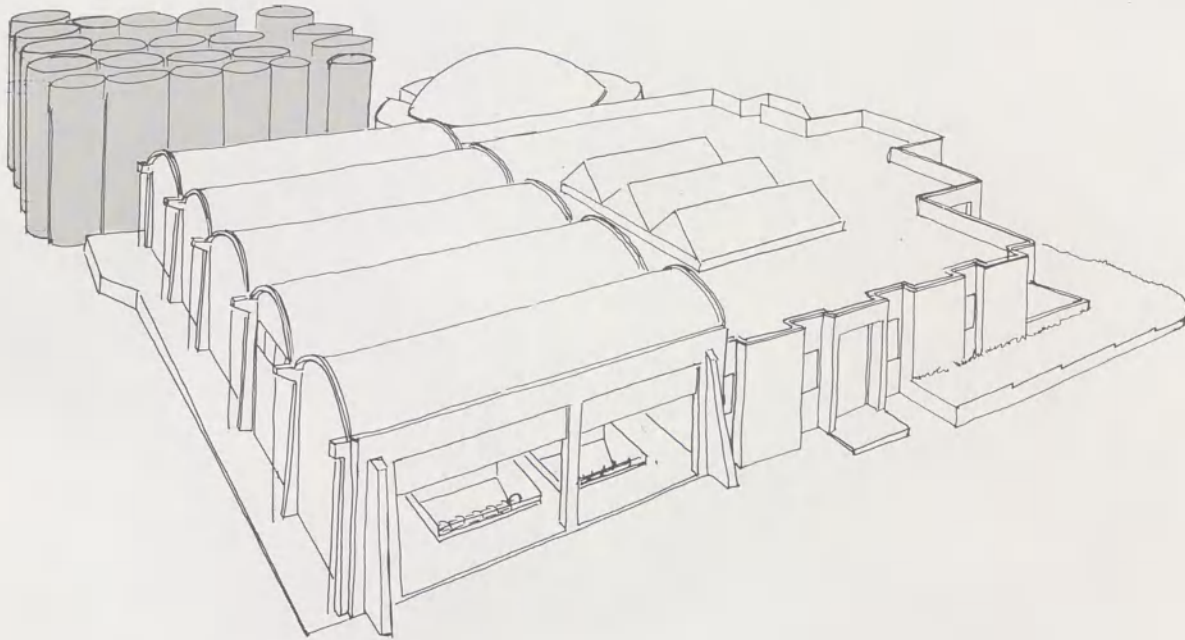
Fig. 81 The automated wine-bottling plant at the winery of the 'Union' of co-operatives.

Santorini wine produced by itself, and of 19th-century buildings, in which some superbly painted ceilings are still preserved (Fig. 34). In the surrounding courtyard with its blossom-covered pergola, a modern wine-making unit of 50 tonnes capacity was set up, without altering the character of the old buildings. The traditional *cánava*, wonderfully preserved, to the point where it gives the impression that it is still operating (Fig. 78), is the most appropriate setting for the 'organoleptic' tasting of the wines of this small winery and creates a sense of Dionysian well-being in those who have the good fortune to have the table spread for them with traditional Santorini fare on its wooden benches by the people of the *cánava*. This 'mixed' unit on Santorini is the pride of the 'Goulas' company, which also has establishments in Attica.

However, even the biggest Santorian *cánava* could not serve the needs in

Fig. 82 Complex of tanks at the 'Union' winery. The works of modern technology have a beauty of their own.





Illus. 2 Architectural plans for the Boutari winery as it is today (below) with its 'forest' of wine tanks in a dug-out area of a depth of 14 m. and as it would have been at so great a depth (above).

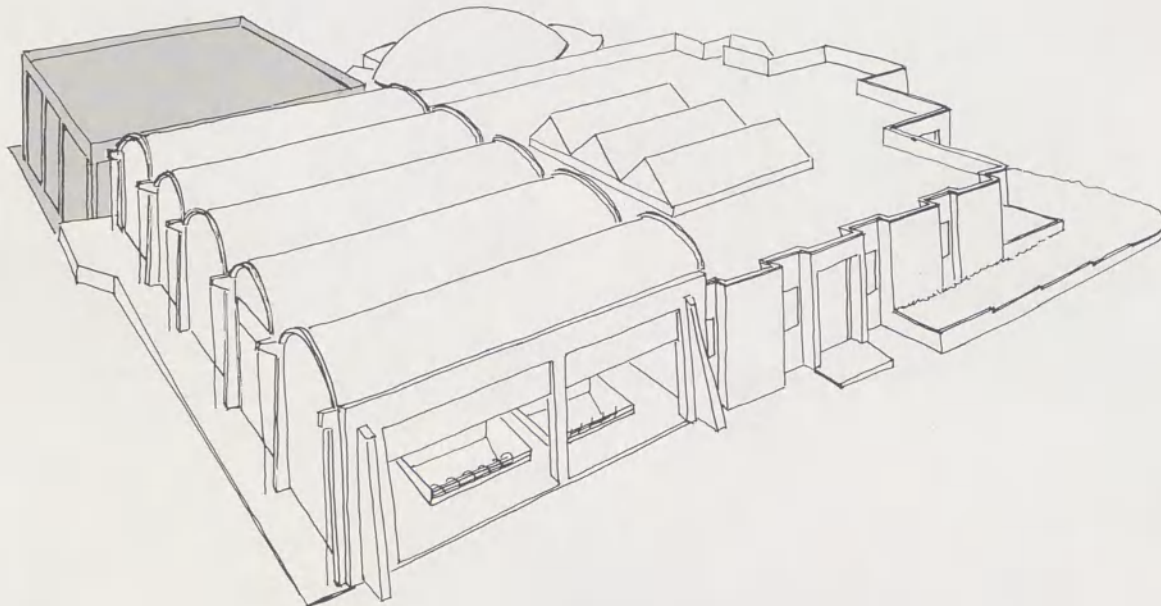




Fig. 83 The 'Tholos' of the Boutari winery. Traditional lines and modern materials.

terms of bottled white wine of a wine-making company of the size and range of activities of 'Boutari'. Thus, when the Boutari brothers finally decided to make use of the possibilities offered by the ecosystem of the vineyards of Santorini, they came to the island bringing with them the economic resources required for the setting up of the modern winery with a 2,000 tonne capacity which was built and came into operation in 1988. With them this family, with its mountain origins, also brought total respect for the island's ecological environment. For this reason the buildings of the gleaming white winery are no higher than 3.5 metres, and the forest of stainless steel tanks, which would otherwise have stuck out like funnels to twice that height, were sited in areas which, in spite of the extra cost, were dug out of the *áspa* at a depth of 6 and 14 metres. At the second, deeper level are the tanks and barrels for the storage and ageing of the wines. In order to break up the monotony of the line of the industrial building, the gleaming white 'Tholos', the small conference hall in which the multi-media display is shown, was built. This is inspired by the spirit of the fascinating "daughter of supreme wrath", as the poet Elytis called the volcanic island. It is here that the tasting of the company's wines takes place, while exactly opposite, in the exhibition hall in the colours of the caldera, brushstrokes of warm earth which break up the white of the walls, the most traditional cuisine of Santorini is served.

At the end of the 1980s, the excavators made their appearance on the top and sides of Profitis Ilias. The Union of Thera Products Co-operatives was



Fig. 84 The model of the winery of the 'Union' of co-operatives, which has been built on the slopes of Profitis Ilias.

preparing, on a 2.5 hectare site in its own ownership, to play its own renewed part in the vine-growing and wine-making of the island. In December 1991 a completed winery of a capacity of 3,000 tonnes, part of the cost of which had been financed by EEC funds, was handed over to it. As far as technology is concerned, this winery is in line with the most up-to-date theory, according to which the grapes, the must and the wine must be moved only by gravity, without the intervention of any mechanical medium in their transportation. Thus the grape receiving bin, the crushers and the presses were sited at the top of the mountain, while the tanks for the clarification and fermentation of the must, as well as those for the treatment and storage of the wine, were placed on different levels along the slope, down to the last 'step', where the bottling plant and the storage room for barrels for the ageing of the wine now stand. However, when a modern industrial unit is built, apart from the quality of the product, the saving of human effort, a basic condition for the functionality of the unit, especially in areas with a workforce which is limited – particularly in terms of specialisation – is also taken into account. In the case of Santorini's co-operative winery, it could be said that its design relied too much on the fact that the people of Santorini are used to climbing up and down the steps in their villages! This winery, equipped as it is with state-of-the-art machinery and stainless steel tanks with cooling jackets is indisputably a very up-to-date wine-making unit. What, however, made the edifice striking as a conception was the architectural plans: they provided

that the winery would be built on different levels, with terraces which would resemble those used in vine-growing, since they would be planted with vines. Under these would be the galleries with the tanks and the technological equipment and these would be reminiscent of the dug-out constructions in the traditional villages of Santorini. The outer walls, clad with the black and red stones which were the basic volcanic building materials of the island, would be a continuation of the dry-stone walling, built with the same stones, which holds in the farming soil of the island. When the model (Fig. 84) is compared with the fortress which now rises up on the site of prehistoric Aegeis, respected even by the volcano, all that one can do is to make a wish: that resources will be found to landscape the environment in such a way as to incorporate the winery into the space and the spirit of the island – because the ‘Union’ is, or should be, Thera-Santorini’s first and foremost cultural agency.

Thus the centuries have rolled by for the island’s wine: from the *lenós* and wine-jars of prehistoric Thera to the modern wineries which have sprung up on the soil of Santorini just a few years before the dawning of the 21st century. A centuries-old tradition on an island with its own unique history.



Canaves and rakidia

Traditional buildings on Santorini

Dimitri Philippides

The researcher into the history of Santorini is struck by the fact that while there is adequate information about the period of the island's prosperity, due to the impressive burgeoning of wine production, references to the places in which the wine was produced are totally lacking. Neither the foreign travellers nor the specialists of a later date (students of folklore, architects)¹ have left us anything more than hints on this very important item of the local economy. There are also difficulties in making even the most elementary reference to related production units in other regions of Greece, since this is a subject which has rarely been studied².

The aim of this study is to make a first presentation, with the aid of material collected on-the-spot, of the traditional buildings on the island where wine was made (*cánaves*) and *rakí* was distilled (*rakidiá*). The island is even today full of such buildings, though the majority have been abandoned and are thus in poor condition. This permits us to concern ourselves with a large part of the total architectural production, a portion sufficient to lead to general conclusions about spatial relations in the traditional society of Santorini. Of course, the large number of examples would not in itself normally suffice, but the nature of these units is such, in that they are closely related to the rest of the architecture, for them to adequately represent it. Apart from that, the architecture of Santorini quite frequently encouraged the combining of such production units with similar ones or with houses. This scope for unlimited combination with elements of the built or natural landscape is one of its basic characteristics.

Another basic feature is its consistency with the principle of work produced with limited means, its attempt to make the best use of the possibilities provided by local materials and the conditions for construction arising from them. The building materials of Santorini are *sui generis*, because they come from the volcano. The stones which are used in building – ‘black stones’, ‘red stones’ or pumice³ – and the raw material of the mortars, *áspa* (‘earth of Thera’) are easily distinguished strata of the deposit created by the great eruption of the island's volcano around 1640-1620 BC. The lack of timber on the island also contributed to the replacement of the flat roof supported on wooden beams, common on the other islands, with the vaulted roof, which uses timber only for the moulds of the vault. This construction is based upon the property which the *áspa* has, when it is mixed with water and lime, of producing a hydraulic mortar, a kind of cement, suitable for rubblework, that is, a compact mass of mortar and stones, exceptionally cohesive. This is the basis for vaulting on Santorini. The vaults are of different kinds, ranging from the simplest (and most common) cylindrical vault to the most complicated trapezoidal forms, with the central portion level,

Fig. 85 Traditional hand-operated press with a cage made out of rope (Wine Museum of Santorini).

and the even more complex vaulting employed in churches. The use of the cylindrical vault encourages the laying out of rectangular spaces of relatively small, but uniform, breadth, and unlimited depth. The architecture of Santorini, in its older, 'anonymous' phase and down to its recent more humble examples, is based precisely on these properties of the cylindrical vault. Furthermore, the cylindrical vault was so widespread that the concept of the vault came to be identified with that of the room which was housed in this way and thus with the house which consisted of such a central nucleus with the various ancillary premises built on to it.

However, the great ease with which the vault can be employed is not due only to the fact that it can be built with a wooden mould, which can be re-used many times. The great advantage which Santorini enjoys is that vaulting can also be employed without any need for timber in 'dug-out' constructions. These are dug out of the face of the soft layer of volcanic ash, the *áspa*, and only their facade with the apertures (doors and windows), which faces on to the open space (the street or the yard), is of ordinary walling. There are, of course, intermediate instances in which a part of the premises is dug out while the rest is constructed normally, as in a conventional building.

The typical nucleus is the *thólos* (=vault), that is, the building, whether it is conventionally built or dug out, is covered by a cylindrical vault. In its simplest version, this nucleus may be a single room, as is the case with the farm buildings pure and simple which stand in many places in the fields. More complex is the *thólos* which is divided into two sections, the larger one immediately behind the facade, serving as a living-room and kitchen, and the smaller at the back, which is the bedroom. This bedroom does not, as a rule, have its own windows, and so it is lighted and ventilated 'indirectly' from the living-room. For this reason, the openings in the dividing wall between these two areas replicate those in the facade: a central door and two symmetrically flanking windows. This pattern is encountered in a number of variations, devised to accommodate the premises to irregular or limited sites or just in order to obtain more space. In ordinary houses, the kitchen area is often no more than a mere recess, like a bulge into the typical right-angled space with just enough room for the cooking fire and chimney.

Different in type are the houses which have monumental proportions and a more or less square shape. In this case the symmetrical layout of the premises is reminiscent of urban art architecture. The facade of these houses, with their double band of pillars and cornices in strict sequence, stresses their formality even more. The origin of this type has not yet been established with certainty. The most likely explanation is that it is derived from Renaissance (Italian) models, which, however, are not to be found anywhere else in the Cyclades or in any other part of Greece. This is somewhat unusual, since there was on the islands a 'common' language of architecture under Western rule. It has no connection with neo-classical morphology, which succeeded it at the beginning of the century. These neo-classical houses retain the ground-plan of the older mansions unaltered and have had their facades re-worked in such a way as to

resemble more closely the architecture of the capital⁴.

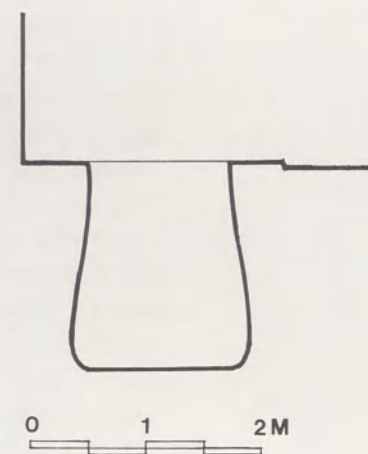
This introductory review of the architecture of Santorini has been necessary in order to provide an understanding, by comparison, of the architecture employed in the case of the *cánaves* and the *rakidiá*. A basic unit of this kind is housed in a *thólos* and consists of the *patitíri* (treading container), the *linós* (vat) and the place for the barrels (*stíves*). The *thólos* of the unit may be of relatively modest dimensions – like a small house – just big enough to contain a row of barrels down one side and to leave a gangway to the far end or it may be roughly double that size, to reach a width of 5 metres, in which case it may have two rows of barrels with a gangway in between them (Illus. 15). In the same way, the height of the *thólos* may be between 2.60 and 3.70 metres and its length from 7 to 22 metres.

The *patitíri* (treading container) is a masonry basin, separated from the rest of the premises of the production unit by a low wall (of a height of 80-90 cm.); it is into this that the grapes are poured in order to be trodden. Its place is always at the back of the *thólos*, either in the middle or at one of the sides. On Santorini one frequently sees units with two (sometimes even three) treading containers, which were for the separate treading of white and black grapes (Illus. 15). They also used an industrially produced press with a receptacle fitting on to the circular slot of a rectangular metal base with a run-off (Fig. 30). When the treading of the grapes was finished, they would stand the press in the *patitíri*, fill it with *tsíkouda*, as the solid residue of the grapes is called, and, when the must it contained had been strained off, press it. The filling of the press with the *tsíkouda* was done only with a wooden shovel.

The *linós* is a vat (Illus. 3) below ground level, of a cylindrical shape, which from an opening of a diameter of 0.70-1.30 metres, level with the floor of the winery, broadens out below. The lip of the vat is slightly raised, to prevent any water on the floor from running into it. It is here that the must which runs from a special opening in the bottom of the treading container initially collects; it is then transferred from the vat to the barrels in a wooden pail.

The barrels in question are not always of the same size. The commonest type is about 1.55 m. high, and has a diameter of 1.10 m. (at the base) and of 1.25 m. in the middle. There is, however, another barrel, which is stored in an upright position, with a base broader (1.50 m.) than the top (1.00 m.) and a height of 2.20 m. The ordinary barrels are laid on their sides along the side of the *thólos*, between its entrance and the *patitíri* (Illus. 15-16), on special bases, in one or two rows depending on the width of the *thólos*, called *stíves*. These bases are as a rule of masonry at the end near the wall and of masonry or improvised (with loose stones or blocks of wood) at the end near the gangway.

Regardless of the size of the *cánava*, the procedure of transferring the wine was always, in the old days, the same. It would be progressively emptied from the barrels into leather wineskins, to be carried down to the landing stage on beasts of burden. There were no roads at that time and these animals did all the carrying of goods on the island, along pathways. When the wine reached the landing-stage, the merchants would transfer it into barrels, which were ranged out on the quay, to then be loaded on to the anchored vessels.



Illus. 3 The *linós* of the *cánaves* of Santorini.

Rakí is produced from the *tsíkouda* by distillation. A *rakidió* (Illus. 17) does not have a *patitíri*, since no form of crushing is involved, but it may have a vat, or more than one. From the outside its distinguishing feature is an often imposing chimney, and inside the special arrangement, with the masonry base of the retort and the distillation equipment. The distillation pipe for the *rakí* vapours passes through a tank of water. Thus the vapours cool and condense. This water has to be changed constantly in order to keep its temperature low. A typical *rakidió* contains two joined tanks, of a depth of approximately 25-40 cm.

Today there are no more fully equipped *rakidiá*, but from what has survived we may conclude that they were perhaps not all of the same form. The large ones, however, like the Venetsanos *rakidió* at Mesaria, used copper stills in three parts (a base like a boiler, a more or less spherical main part fitting on to the base, and a conical extension for condensation). The diameter of the latter becomes markedly smaller towards its end. Normally, leading from this was the spiral or worm, in which, thanks to the cold water surrounding it, the vapour condensed. However, no trace of this has been discovered anywhere by the present author in the course of his research. Apart from these large *rakí* stills – on special masonry bases, with complete stoves underneath them – there were installations smaller in size, but the details of their construction remain, in the case of Santorini, without documentation.

Since we have here two different production processes, the way in which these were combined takes on particular interest: *radikiá* and *cánaves* are to be found side by side or facing on to the same yard. After 1890, the separation of the two categories was imposed by law⁵, and the *rakidiá* were moved away from the *cánaves* and constituted autonomous units. Naturally, there are intermediate instances, where the *radikiá* which had been closed down co-exist with the new ones, with some distance between them. This was the case with the Venetsanos *radikió* at Mesaria: a large central building linked with shops facing on to the road (Illus. 17), sited at a considerable distance from its old *cánava* (Illus. 15-16).

Also of interest is the position of the production units in relation to the complex of fields and settlements. In the traditional geography of the island, it is obvious that arable land was so precious that any squandering of it would be unthinkable. The remains of the walling of the terraces which climb up the steep hillsides of the island and the tragic poverty of its inhabitants of which we know from a number of sources, even in the period of its great prosperity, provide sufficient evidence of how valuable land was at that time. For this reason, the settlements of Santorini are marked by the exceptionally tightly-packed arrangement of the buildings: one property is literally on top of or wedged between others. Under these conditions, only farm buildings of very small dimension for the storage of tools and seed were built in the open countryside.

Occasionally, though not very often, we can find *cánaves* (with or without *rakidiá*), alone or in groups, at some distance from the neighbouring settlement or on its edges, linked with threshing-floors and with access to vineyards. By their presence there they perhaps take advantage of certain favourable conditions created by the morphology of the terrain or comparative ease of access to the vineyards or the network of paths and tracks. Here special mention

should be made of the *cánava* of the ‘Monsignore’, that is of the Roman Catholic Bishop of Santorini, at Mesa Gonia – an unusually large building for the island, with six *thóli* in a row – belonging to this once very powerful landowner, who also had in the area a country residence on a similar scale of grandeur.

Where the *cánava* is sited outside the fabric of the settlement because there was more space, some of the jobs could have been done in the open air, as is the case on other islands.⁶ The vat, for example, for the *tsíkouda* at the *cánava* of Karamolengos at Exo Gonia, in its original layout, was open-air.

The traditional architecture is in general adapted to the special conditions: the dense building cover in the settlements of Santorini dictated the existence of a new type of *cánava*, while greater spacing of the buildings permitted another, which happens to be in use elsewhere.

Also worth noting is the correlation between the local construction – and therefore morphological – systems and the size of the units of production. For example, in the village of Finikia, the *cánaves* can be picked out in the dense fabric by their arched double gates. These typical gates had to be wide enough to allow the passage of the barrels, which, as we have seen, had in their most common form a diameter of approximately 1.25 m. This relatively large aperture was necessarily arched, since in this way it could be bridged without technical acrobatics. There are also, of course, *cánaves* with straight lintels, such as those of the Monsignore and Venetsanos.

There is no other external feature to distinguish the *cánaves* from houses around them: they have a yard similar to theirs, with the easily-seen outhouses around its perimeter, and follow, with their interpenetrations, the typically irregular patterns of the properties there. The *cánaves* are usually – but, strangely, not always – dug out, because it was only in this way that the conditions of temperature and humidity, so crucial for the maturing of the wine, could be controlled.

The combining of a house with a *cánava*, on the same or a different level, presented no particular difficulty in the case of the basic unit of residence, the single-room *thólos*, which could easily be incorporated into the yard next to the *cánava* with their outhouses shared. But even more developed houses, the ‘mansions’ of monumental pretensions, with their complex layout of rooms, sometimes on two levels, were also combined with *cánaves* (in the basement, with the ancillary areas). In other instances, a kitchen can be seen in or in direct contact with the *cánava* without any other sign of habitation – perhaps the house was somewhere nearby. The existence of the kitchen in this case shows that there was usually a need for such a place for the preparation of food to be handy when work in the *cánava* had to go on for many hours on end. When the *cánava* was combined with a house, it is obvious that it would serve as a storage area (for example, for the baskets in which the grapes were gathered) in the period when it was idle, while during the relatively short period of its intensive use it would be natural for it to be served by the facilities of the house. The feature which played an important role was the water cistern (*yistérna* in old documents), which was essential chiefly for the operation of the *rakidió*. The siting of the

cistern and the manner in which the water was collected and channelled to the interior of the distillery frequently demonstrate the resourcefulness of this architecture and provide a picture of the close functional link between the house and the unit of production on pre-industrial Santorini. Even in the case of examples more developed in the specialisation of production, such as the large Venetsanos *cánava* at Mesaria, with its three vast vaults and its multiplicity of outhouses⁸, the owner's house is just opposite the *cánava*, on the central road of the settlement.

The close relationship between houses and *cánaves* determined, in the period when wine production on the island was at its zenith, the siting and the size of the units of production in relation to social stratification. Unfortunately, it is not known exactly how the system of sale of the wine worked, whether, that is, there were co-operative networks of some sort, or whether each producer worked entirely independently of the rest. However, a characteristic feature is the low level of exclusive specialisation of the inhabitants, which is to be expected in a traditional environment. There were rich landowners and merchant sea captains (though the relation between them cannot be traced in detail), ordinary seamen, yeoman farmers and, finally, muleteers at the lowest level, probably, who owned land, were involved, *inter alia*, with wine, had to a striking extent their own *cánaves*, and came into direct contact with the merchants, Greek or foreign, who handled their product.⁸ The involvement of a significant portion of the population with shipping, at least in the 'sea captains' villages' (such as Epanomeria, the Oia of today) should not be thought to preclude their seasonal employment in wine production – there was never such watertight compartmentalisation. It is also obvious that it is difficult to generalise about such unclear issues. If at some 'initial' period the major landowners constituted the upper social bracket, the position of the merchant-captains when the local economy 'took off' by means of shipping in the 18th century and whether at that time these merchants were able to play a double role by sub-letting their land while they were away on their voyages remains unknown.

Coopering in Santorini

Dimitrios Oikonomidis

Introduction

The interest of folklore researchers is not confined to the various customs, arts, monuments of vernacular literature, superstitions and the social and intellectual modes of expression of ordinary people; it includes also their material life, that is, matters which have to do with the dwelling place, diet and occupations. It is under the latter heading that the subject of our title comes.

Coopering is an occupation which was practised and still is practised by the residents of certain communities in Greece¹, either as permanent residents in the given place or as itinerant craftsmen². The first place in this occupation is held by the villages of Sopiki and Tsiatista in the Pogoni region of Northern Epirus, now within the borders of Albania. The *vayenádes* (coopers) of Sopiki, who have invented their own private language, ‘Sopika’³, used, in earlier times, to travel all over the Balkans and the centres of the Greek world on the shores of Asia Minor making or repairing *krasováyena* or *krasovárela* (wine barrels), *ladovárela* (barrels for oil), *drevenítses* (water barrels carried on the shoulder), *vítsélles* or *f’tsélles* (large water barrels carried by beasts of burden), *pinákia* and *nópi* for the measurement of cereals and dried fruit, *ambária* for cereals, *karroutes* for the treading of grapes and so on.

Their craft – that of the *vayenás* – was renowned, and still is, throughout the Balkans. The tale is told in Epirus (and it would seem that this is not entirely mythical) that once the people of Sopiki made in their village a large barrel which belonged to the priest Yannis Papas and was divided into three parts on the inside, the middle one of these being empty. It was in this empty part that the priest hid Ali Pasha when he was being pursued by Kurt Pasha of Berat. The two other outer parts of the barrel were filled with wine. Ali Pasha in gratitude for being saved in this way built a luxurious residence in Sopiki for the priest, which, it is said, can be seen to this day and is called the *sarai*.

Epirot coopers also came from the villages of Drymades and Stavroskiadi in the Pogoni region, now within the territory of Greece, from the villages of Lia and Grava in the Filiates region, from Metsovo in Epirus and from Milia. In the various villages of the rest of Greece these coopers were known as *gioúsides*.

Coopers who lived and worked in their villages or who were itinerant also came from the village of Sokraki on Corfu, from Souvala and Kyriaki in Boeotia, from Gallipoli in the Dardanelles, from Skopelos in the northern Sporades, and from Ios, Paros and Santorini in the Cyclades.

A. Coopers’ workshops on Santorini

Sizes and capacities of barrels – other receptacles

The coopers’ workshops of Santorini are called *voutsádika* and were to be found in former times at all the landing stages of the island – Ammoudi, Armeni

of Apano Meria, Phira, Yialo and Athinio – from which wine was exported. It should be noted that “...the various caïques which transported wine not only to Syra, but also to Piraeus, Thessaloniki, Constantinople, Egypt and Russia did not have a permanent stock of barrels to put the wine in, but put on board barrels from the port, which they left in the place of their destination”⁴.

The coopers of Santorini are called *voutsádes*⁵ and *voutsá* have on the island various names, depending upon their size and capacity. Thus *áfoura* – plural *áfoures* – is the name given to barrels “which take three *voutsá* of wine, that is 1,008 okas”⁶. On the word ‘*áfoura*’, N.G. Petalas, in 1876, has this to say: “The *áfoura* [is] a large container for wine equivalent to three *voutsá*, containing seven barrels each, that is in total, 21 barrels, [i.e.], 945 okas. There can be no doubt that this is the ancient word ‘amphora’ corrupted by time; this was also called ‘metretes’, that is, it was a measure of capacity for liquids”⁷.

Voutsí is a barrel which holds 336 – or more – okas. The barrel, which has a capacity of 400-600 okas is called ‘*bómba*’ in Santorini. *Misobómbes* are those which hold 250-300 okas, and *varéla* 48 or more okas. The *varéla* is equal to six *sékia* and the *séki* equal to eight okas.

The words *áfoura*, *voutsí* and *varéla* have the meaning, besides that of a barrel, of a measure of capacity. Which meaning they have in a given context can be understood by the way in which they are used. The local people say, for example, “Wedge the *áfoura* (the *voutsí*, the *varéla*) with a stone so that it doesn’t roll around the yard” or “This year I made ten *voutsá* of wine all in all”, or again, “This barrel just takes a *voutsí*”.

The coopers of Santorini made, and still make, smaller *rakí* barrels, cognac barrels, cheese barrels, as well as various utensils necessary for the *cánava* (wine cellar) from the same materials which they employ for the making of the large barrels. These are: 1) *Kouvádes* (pails) “With the *kouvás* (pail) they used to empty the vat and take the must to the *áfoures*. The *kouvás* was not used as a measure”⁸. 2) The *bírlia* (Illus. 4) “This was a special container, like a deep kneading trough with a hole in the bottom. A tin plate pipe used to be fitted to this hole which led to the bung hole and so the wine went into the barrel without being spilled”⁹. 3) The *séki* “This was a smaller kind of pail which took exactly eight okas and was used by the seamen to measure the wine when they were filling the *touloúmia* (skin bags) in which they carried the wine in the caïques”¹⁰. 4) The *mastélla* – “An open container (round bowl) which was used when they were going to open the tap of the barrel, and they put it under the tap so that the wine wouldn’t drip on to the floor”¹⁰. For the home they made *voútes*, in which they salted pork fat, small *alatserés* in which they put cooking salt, and *glástres* in which they grew rubber plants and other decorative shrubs”¹¹.

B. Materials used

The *voutsí* (barrel) in general is a receptacle more or less cylindrical with a slight swelling in the middle, completely closed and with two holes for filling and emptying. It is of wood, made of staves (*doúghies*), which are held together with wooden or iron hoops (*tsérkia*), with barrelheads (*foúdia*). Since barrels usually



Illus. 4 Barrels with *bírlia*.

contain liquids, they are made of selected materials and are hermetically sealed. We were told by the cooper Eleftherios Evdaimon from Megalochori, Santorini, in the year 1948, when he was 40 years old, in the *voutsádiko* of the brothers Michail, Emmanouil and Meletios Gavalas, also from Santorini, that “the best wood for the barrel, the first wood is oak. The second is chestnut. Barrels made of oak or chestnut are for wine and brandy. The chestnut we bring to Santorini and to Athens from Mount Athos and Italy. In the old days they used to get oak from Russia. Now we get it from Macedonia, but we mostly use chestnut nowadays. In recent years we’ve been working with chestnut; before the Second World War we used to work with oak as well. We used to get oak from Romania, Serbia, Turkey and other places”.

The wood used to make barrels must be ‘healthy’, without knots and other defects and “should not be cut when the moon is on the wane”. The cutting is not carried out by repeated sawing in the direction of the axis of the trunk but radially from its centre to the circumference and in the direction of the grain, so that its fibres will not be affected by damp. The traves are usually of a length of 0.80 to 1.75 metres and of a width of 0.10 to 0.30 metres, as well as of rather larger sizes. “In the old days on Santorini the *voutsá*, the *áfoures*, had *tsérkia* or *vergiá*, that is, wooden hoops, but in recent years, they have been made of galavanised iron”¹².

Rushes are another material used on the barrels. These grow on the banks of rivers and in marshes, exactly like reeds. “The chief source of rushes is Argos. The best rushes come from Argos. The nails with which we nail on the barrel-heads are double-pointed. In the old days, when they didn’t have nails, they made wooden ones – *píri*. The nails which we use for the wooden hoops are called *pirtsínia*”¹³.

C. Technique

In order to make the barrels the cooper first carries out the dressing of the wood, working on each trave separately. He rests it on the *kormós* (Illus. 34), an oak block, and gives, by the use the adze (Illus. 27), the appropriate shape to the long sides, with a slight inward curvature, so that the traves fit together well. But we will let Eleftherios Evdaimon describe his job for us: “What traves we use depends upon the breadth of the barrel. An *áfoura* can take 40 or fewer, depending again on the breadth, not only of the barrel but also of the traves. The narrower these are, the better. We cut them all with a saw called *xeyiristári*. The same saw but with a broader blade is called a *kourastári* (Illus. 32). We cut them in equal sizes; one shouldn’t be longer or broader than the other, that is. The traves are trimmed with the adze. Then we smooth them with the plane (Illus. 33). We take them and put them together, picking the size of the iron hoop (*fórma*) in accordance with the okas of the barrel”.

The assembling of the barrel is the second stage in its construction. The traves are set up in a circle next to each other and are encircled and held together at their upper ends by the *fórma* (iron hoop). Wooden or iron bands like these, but of a somewhat greater diameter are added one after the other and clamp the

traves together up to approximately midway up their height. Since there are still spaces between the rest of the traves they are brought closer together by the lighting of a fire inside the barrel, which makes the wood more flexible. the lower part of the barrel then has a wire rope tied round it, which is tightened little by little by means of a special vice, drawing the traves together until they fit together completely. They are then bound and held in this position by a series of hoops. In the case of small barrels, hot water is used instead of the fire.

“When we have assembled it”, says Eleftherios Evdaimon, “then comes the *savayárisma*. This is when we level off the traves at the top. Then we take off the *fórma*. We go over the top hoops first and tighten the barrel with the *sfína* (hoop setter) and the *sfyrí* (hammer) (Illus. 25-26).

“We used to tighten the wood hoops with the *kópano* (wood hammer), the hammer and the *klóva* (wooden hoop driver). In the old days, we used to light a fire in the barrel when it had been assembled and, using water, we use to turn the traves (the whole of the barrel) with *maïstres*. These were hoops used to tighten the traves. To begin with, they used to bend the traves one by one and then assemble them. Now there is a hand-operated machine to turn the barrels. We then put the hoops the other way up, and again we take off the *fórma*. Then we will tighten them for *kavárisma*, doing the ‘*koúrema*’; then we go over them on the inside with the *kavaroroúkano*.” Thus the third stage of the construction of the barrel is the *kavárisma*, which is done with the tools called *tsiniadóros*, *kavárosképarno* and *kavaroroúkano* (Illus. 22-23). That is to say, grooves are made in each end of the trave into which the head will later be wedged. This is called *grádosi*. On Santorini, it is with the little plane (Illus. 28) that they go over the *órlos*. The *órlos* is the name given to the circular extremities at the top and bottom of the barrel. The fourth stage is the putting in of the *foúdia* – the heads. Each head consists of traves which are placed side by side and joined either with wooden pins or double-pointed nails. The head as a whole is trimmed round its edge to the size of the barrel and is tapered off around its circumference so that it will fit into the groove of the traves. The last hoop is then taken off and the head is pressed into position and trapped in the groove.

In the case of *áfoures*, the head are usually reinforced by a strong wooden bar (*travérsa*), placed diametrically across their surface. “With the hoop driver (Illus. 29) we put together pieces of the heads which we call *dabánia*. When we have put in the heads we add the rushes. We then go over the outside of the barrel with a plane, and then, last of all, comes the *sidéroma*. This consists of putting the hoops into their final position. The cooper uses a hoop driver for this, which he taps with a hammer in order to shift the hoops. Instead of iron hoops they sometimes use two wooden ones which serve as buffers to prevent damage to the barrel when it is rolled on the ground. The tap hole (*kánoula*) and the bung (hole) (*karkoúna*), the big hole in the middle of the barrel, are then made with a special tool, the *karkounára* (Illus. 30). The tap hole is made in the head. The bung hole is closed with the *píros* (bung), usually of hard cedarwood or oak, with a linen rag wound round it. The word bung is encountered in a number of proverbial sayings: “It’s not your fault; it’s the fault of the *píros* of the barrel”,

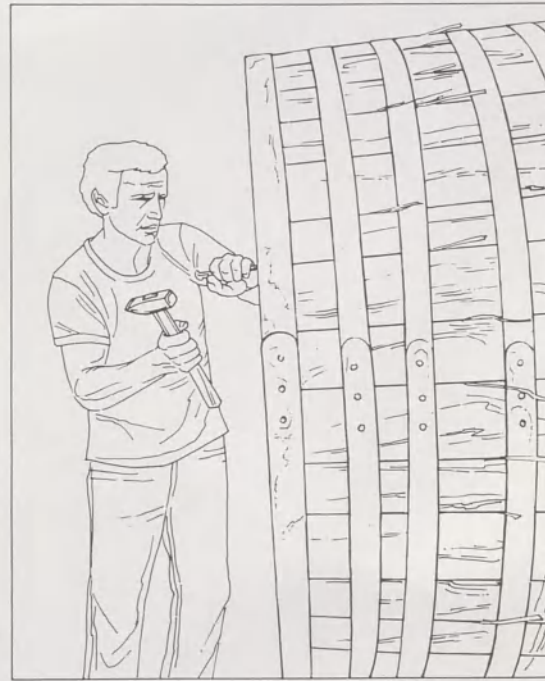
which is said to someone who is behaving badly as a result of drink, and “If you feel sorry for – or fear – the *píros*, you’ll lose from the *karkoúna*”¹⁴.

The chips of wood which remain after the construction of the barrel have various names on Santorini depending on the job done by the wood from which they come. If the barrel runs, this is put right with a steel tool called a *kalafatikó* (Illus. 20). “If the barrel is very old, we plane all the traves and put them back in position”¹⁵.

Finally, before must or some liquid is put in the barrel, “the old dregs must be cleaned out. If the tartar is dried up, we dissolve it with hot water. If the barrel has been empty for a long time, we take off one of the head and light a fire of shavings in it or put hot water in it which has been boiled up with quince or some other aromatic fruit”¹⁶. The *foúdi* is then put back in position.



Illus. 5 Coopers at work.



→
*Fig. 86 A Santorini basketmaker
in his workshop.*



Basketmakers and baskets on Santorini

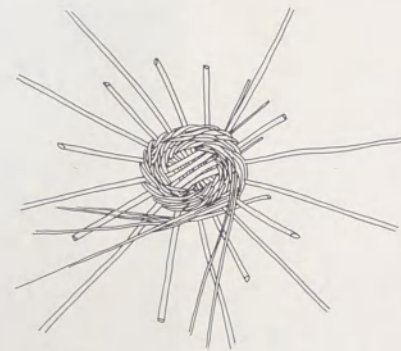
Eleni Tsenoglou

The wine of Santorini, the best of all the Cyclades, was in recent centuries a basic exportable product and a principal source of livelihood for the island¹. It was the need to collect and carry not only the wine grapes to the *cánaves* and the wineries, but also products of every other kind, and the relative abundance of the basic raw material, basket willow or osier, which caused basketmaking to flourish on Santorini. *Kaláthia*, *kofínia* and *kofákia* were in daily use on the island both by individuals and by factories (wineries and canneries) down to the early 1960s, when basketmaking was dealt a severe blow by the drop in production and a decline in these industries, the drift to the cities and, later, the introduction of plastic crates and cases.

In the 20th century, the *kofinádes* (basketmakers) of Santorini did not confine themselves exclusively to this craft; they were in parallel farmers, most commonly vine-growers. Things changed, however, when the production and industrial exploitation of wine and tomatoes became general: demand for woven containers became limited to those which are used in the gathering and carrying of fruit: *kofínia*, *kofákia*, *kaláthia*, and, to a lesser extent, *misokófina*.

Preference was always given to the most skilful and the best organised craftsmen. The boys of the area would come to their workshops to learn the craft or to improve their technique. In order to qualify as craftsmen themselves, an apprenticeship of about three years was required. Often, those junior craftsmen who were good at their job went into partnership with their masters. The normal custom was for the craft to be continued by the sons or the eldest son of the basketmaker, given that this craft was regarded on the island as being exclusively the work of the men. In the 'good years', as the basketmakers call the period after the First World War until the early '60s, craftsmen with a good reputation could weave to order 500 to 600 *kofínia* a year, working from morning till night and weaving on average two *kofínia* a day². The great demand sometimes forced the real 'practised hands' to weave as many as three such baskets a day, and the famous workshops some 1,500 a year.

Wages were good for everybody, both for those who worked for the factories and the major producers and for those who dealt only with the small-scale producers. This latter category of craftsmen marketed their products by touring the villages of Santorini and of Therasia, Naxos, Ios and Anafi. Their payment was usually in the form of foodstuffs: two kilos of wheat for a *kofíni*, two loaves of bread for a *panéri*, an oka of cheese for three *stomóchia*, and so on. Mesaria and Vothonas were in the 20th century the basic basketry centres of the island. Around 1934, of the 14 basketmakers of repute on Santorini, ten lived and worked at Vothonas and two at Mesaria.³ Today, the only craftsman to practise basketmaking systematically is Yorgos Kafouros at Megalochori.⁴



Illus. 6 The beginning of the weaving of the base.



Illus. 7 The staves rising from the base.



Fig. 87 Three generations go out with their *kofínia* and baskets to harvest the sweet fruit in the vineyard.

The basketmakers set up their workshops in *cánaves* or warehouses which they either own themselves or rent for this purpose. A basketmaking workshop consists of the storage area and the area where the work actually takes place. The former is used for the storing of a part of the raw material: the basket willow which is being soaked, that which is ready for working, divided up by size, and the finished products piled one on top of the other. Because of shortage of space, the work may spill over into the yard or out on to the road outside the workshop.

Besides his hands, his legs and his eyes, the Santorini basketmaker uses a very few tools: a *ferendíni* (picking knife), a *kópanos* (mallet), a *metrári* (measure) and a *psalída* (secateurs). The *ferendíni* (Illus. 35 e), also called *ferendína* or *ferendináki*, is made by the blacksmiths of Santorini or is imported from Athens or Crete. It has small blade curved at the end and a cylindrical wooden handle. It is used in the harvesting and preparation of the willow rods and reeds. The improvised wooden mallet is used to tap the rods during weaving⁵. The mallet (Illus. 35 b) can also be used to measure the depth or the height of the *kofíni*. The notches on the *metrári* or measure (Illus. 35a) serve in the calculation of the size of the base and the height of the handles of the *kofínia* and *misokófina*. The *psalída* (Illus. 35d), shop-bought secateurs which are used instead of a knife, are used in the trimming and splitting of the rods and the tidying up of the *kofíni*. To these tools are added a few 'aids': an old *kofíni* turned upside down serves as

a guide for the weaving of the bottom; the special seat of the craftsman (Illus.12) with its narrow wooden back and with a sloping plank for the legs, and a small wooden, slightly inclined base, and a piece of material for where the *kofíni* rests on the leg of the basketmaker make his task easier.

The willow or osier rods⁶, basic for the weaving of the base and the frame of all such containers, and reeds, a supplementary material in the making of *panéria*, are materials of which there is a relatively generous supply on the island. The osier rods are to be found around the vineyards; they are cut after the Feast of the Dormition of the Virgin on 15 August, dried in the sun for 15 to 20 days, are beaten against stones to strip them, and are taken by the producers to the basket-making workshops, where they are kept upright in an open space. Usually they are exchanged for woven goods. Little by little they are stacked in the special area of the workshop and are sprinkled with water for five to ten days. They must be used within a week, otherwise they will dry out. Unlike the rods, the reeds are cut, stripped and split by the basketmakers and are usually used green.

The basic basketry products are used in the harvesting and carrying of produce, chiefly grapes: *kaláthia* of various sizes, *kofákia*, *kofínia*, *misokófina*, *krasokófina* and the little brushes that go with them. Those who have beasts of burden order *stomóchia* or *mourísia*, *kalathariés*, and *tyrovólia* or *tsimískia*. For household tasks, *panéria* are essential, as are brooms for yards and threshing-floors. Retailers used to store the fruit and vegetables which they sold in *misokófina* and to weigh them in basketwork scale pans. Small quantities of wine are stored in *tamitzánes* and *galónia*, which are protected with wickerwork. But the *kofíni* is the commonest type of woven container, with a wide variety of uses⁷.

Those woven containers used for the grape harvest are the basic ones. The *kaláthi* is in the shape of a truncated cone, with a thick and relatively low handle emerging from two diametrically opposite points of the border. It comes in different sizes, such as the 'tall' and the 'short' (for women). The *kaláthi* is used in the gathering of fruit, as is the *kofáki*. Approximately four kilos of osiers are required to make it and it has a capacity of some 20 kilos. Today it costs 5,000 drs, or changes hands for 20 kilos of rods. There are eight sticks in the slath for the tall and seven for the short version. The *kofáki* is cylindrical in shape. It resembles the *misokófino*, but each handle emerges from points on opposite sides of the border. It too is used for gathering fruit, but its shape is such that it is easier to carry grapes to the *kofíni* with this than with the *kaláthi*. It requires 4-5 kilos of osiers for its construction and has a capacity of 15 to 20 kilos. At the present time it costs 4,000-5,000 drs or can be exchanged for 20 kilos of rods. There are eight sticks in the slath. The *kofíni* takes the shape of a truncated cone with two handles opposite each other a little above midway up its body. It is used to transport wine grapes from the vineyard to the vat or the factories. The handles make loading on to beasts of burden easier, where the *kofínia* hang in twos on each saddle. Some 10 kilos of osier (very rarely reeds) are used to make them and they hold 50 kilos. At present they change hands for 10,000 drs or 30-33 kilos of rods. There are nine sticks in the cross of the slath. A *krasokófino* is a variant of the *kofíni* (of the same size and shape, but with thicker handles and a



Illus. 8 Weaving of the upset.



Illus. 9 Weaving of the handle.

more open weave). It holds back the grape skins and filters the must as it flows from the treading container into the vat. It is woven with osiers and costs the same as the *kofíni*. The *misokófino* is the same shape as the *kofíni*, but slightly smaller, and is used for the carrying and sale of agricultural produce. Approximately six kilos of rods are used in its construction and it has a capacity of 35 kilos. At present it is sold for 8,000 drs or exchanged for 25 kilos of rods. It has eight sticks in its slath. The *stomóchi* (or *mourísi*) is again in the shape of a truncated cone with two small handles opposite each other on the upper opening. It is used as a muzzle for animals and is woven from osier. Its present price is 2,000 drs and it has seven sticks in the slath. The *skoupáki* is made from the ends of the rods which are left after the weaving of *kofínia*. This is used to brush the *kofínia* clean and is given away free to customers.

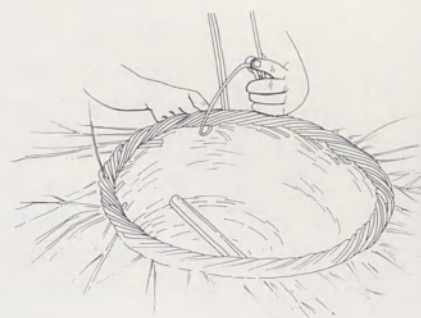
All the products of basket-weaving consist of the same parts: the base, the upsett, the sides, the handle(s), and the border. It takes at least half a day's work to make a *kofíni* and the job involves a series of interdependent technical processes.⁸ Before beginning the weave, the basketmaker will have sorted out the sticks and rods which will be used for each different part of the *kofíni*. First he makes the slath, the cross at the centre of the base (Illus. 6): with his picking knife he slits four thick sticks which have been sharpened at one end, through which he forces five more. This creates a total of 18 staves. The cross is then tied with four thin rods which form the first warps across the woof of the base. Weaving is always done from left to right by waling, that is, in front of two stakes and behind the next two. The basketmaker stands over the upturned basket – whose shape can be seen emerging from the base – and places his bare foot on each rod he weaves, pulling apart the staves so as to keep the distance between them equal. After about nine rounds, the base has reached the desired size of approximately 35 cm. The staves are then picked with the secateurs and reinforced with more rods to support them. The four thickest, straightest and longest rods are inserted facing each other and are destined to serve as the handles of the basket. Then the base is lifted: the basketmaker turns it over, so that its outside becomes its inside and pricks up the staves, tying them, after he has checked that they are at the right angle and distance from each other (Illus.7).

The upsett is a circular band which joins the base to the sides. It consists of three rounds which are of randing, woven first with the base held towards the basketmaker's chest and then resting on his knee as he sits (Illus. 8). While weaving, his fingers regulate the distances between the stakes (8 cm.). Then he picks and hammers the upsett, unties the stakes and measures the diameter of the *kofíni*. The sides are woven with the basket resting on the basketmaker's knee and subsequently on a special wooden stand, using a pair of thin rods and the randing technique for 14 rounds (Illus. 12).

The next step is to weave the handles (Illus. 9). The handle staves are reinforced at their 'tying' and 'finishing' points, the basket is hammered, and the central rod in each handle added. The tying and finishing rods are then wickered round the central rod, which is tied into place. Three more rounds of weaving follow. The handle then has to be 'separated': the basketmaker stands



Illus. 10 The border of the *kofíni*.



Illus. 11 Tying of the last staves.

inside the *kofíni* and, using his mallet (Illus. 35 c) hammers the *kofíni* and pushes the handles outside, while pulling inwards the intervening staves. After the handle has been separated, six more rounds of weaving are added, followed by reinforcement of the staves and hammering. Using two thick rods as warps, the basketmaker weaves the last two rounds – the border – locking the staves into the weave one by one (Illus. 10). The *kofíni* is then well hammered. The ends of the staves protruding above the border are then tied into place (Illus. 11). The last jobs are picking inside and out and the making of a little brush from any rods which are left over after picking. The *kofíni* is now ready for delivery.

In Greece's other basket-weaving centres, even in those close to Santorini, Tinos, Crete, Argos, Cyprus, we encounter differences in the technique of the weaving, but also in the materials and tools used and the types of products and their uses.⁹

In earlier times, the repair of *kofínia* whose bottoms had broken was common. A slath was woven exactly to the measurements of the old basket, its edges were opened out with the staves which were added to the upsett and it was woven in with the ends of the staves which were left. On the other hand, damaged handles or holes in the weaving of the *kofíni* were not repaired. Frequent use, careful washing – preferably with sea water – after the vintage with the use of the brush and their storage in a dry place protect the *kofínia* from moths and ensure that they last longer. Naturally, the long life of Santorini's *kofínia* is not due

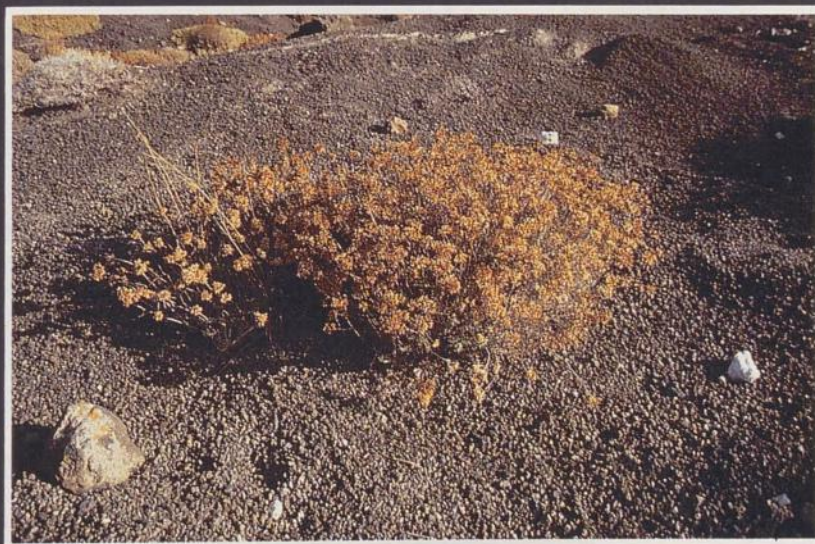


Illus. 12 The weaving.

exclusively to correct maintenance, but also to the materials and the technique used in making them. The island's basket-weavers are well aware of the uniqueness of their craft and have no fear of competition: the basketwork which is imported into Santorini is used to meet needs which have to do exclusively with tourism and ornamentation.

In spite of this, there is no younger generation of basketmakers on the island. The art of basket-weaving, the product of a society which was self-supporting, reflects an economy of self-sufficiency, based on the rational use of natural resources and the recycling of materials and products. The craft has declined with this economy, yielding place to mass production and consumption.

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Documentation

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Abbreviation

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Agriculture and Forestry) of the Aristotelian University of Thessaloniki.

Select Specialist Bibliography

For books and articles cited in abbreviated form, see General Bibliography.

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Tables

TABLE 1
Area under cultivation
during the period 1916-20

	Area in hectares	
	Thera	Therasia
Vineyards	3,285	197
Farm land	265	403
Total	3,550	600

TABLE 2
Wine production
during the period 1916-20

Year	Production in litres
1916	3,450,017
1917	3,556,963
1918	3,485,720
1919	3,808,220
1920	4,098,914
Average	3,679,967

TABLE 3
Wine production by municipality and commune*

Municipality	Commune	Production in litres	
		1916	1920
THERA	Thera	566,614	685,620
	Imerovigli	78,910	173,721
	Karterados	149,500	156,864
Total		795,044	1,016,205
KALLISTI	Pyrgos	360,142	433,705
	Mesaria	410,572	475,238
	Vothonas	184,105	251,904
	Exo Gonia	209,424	206,864
	Episkopi Gonias	111,821	134,610
Total		1,276,064	1,512,321
EMPOREIO	Emporeio	220,047	199,200
	Megalochori	324,040	489,615
	Akrotiri	167,731	162,215
Total		711,818	851,030
OIA	Oia	555,270	622,512
THERASIA	Therasia	111,821	95,846
GRAND TOTAL		3,450,017	4,098,914

(*) Following the administrative divisions of the period.

TABLE 4
Wines marketed in litres during the period 1916-20

Year	in Greece*	abroad	Year	in Greece*	abroad
1916-17	3,490,652	16,587	1918-19	3,754,137	249,323
1917-18	2,522,813	—	1919-20	1,500,672	1,741,517

(*) Apart from Santorini.

TABLE 5
Increase in cultivation expenses per zevgariá (0.3 ha)

Nature of work	Day wages	1916			1920		
		Value of day wages	Payable by job	Total	Value of day wages	Payable by job	Total
Gathering of canes	1/2	0.75	—	0.75	2.50	—	2.50
Three ploughings	—	—	7.00	7.00	—	25.00	25.00
Ditching and digging	—	—	4.00	4.00	—	12.00	12.00
Pruning	6	9.00	—	9.00	30.00	—	30.00
Sundry jobs	2	3.00	—	3.00	10.00	—	10.00
Sulphiting	1 1/2	2.25	—	2.25	7.50	—	7.50
Vintage and wine-making		4.00	4.00	4.00	—	20.00	20.00
Sulphur 4 okas			0.80	0.80		4.40	4.40
General expenses				30.00			111.40

Source: Archive of the Wine Institute

TABLE 6
Area and average annual production of the Cyclades vineyards
in the period 1933-37

Island	Area of vineyards (hectares)	Average annual production	
		Must (okas*)	Table grapes (okas*)
Thera	3,000	3,500,000	280,000
Paros	1,000	1,500,000	135,000
Naxos	920	850,000	450,000
Andros	580	300,000	380,000
Tinos	570	800,000	150,000
Serifos	230	50,000	500,000
Milos	220	200,000	65,000
Amorgos	200	50,000	45,000
Syros	160	5,000	500,000
Kythnos	120	120,000	50,000
Ios	120	90,000	20,000
Mykonos	100	20,000	65,000
Sifnos	90	100,000	60,000
Kea	60	150,000	45,000
Sikinos	60	40,000	15,000
Folegandros	60	20,000	15,000
Kimolos	40	20,000	15,000
Irakleia	40	10,000	6,000
Schinousa	35	12,000	6,000
Koufonisi	10	7,000	4,000
TOTAL	76,800	8,904,500	2,851,000

Source: Archive of the Wine Institute

* 1 oka = 1.28 kilos.

TABLE 7
Production of grapes and wine by commune in 1992

Commune	Grapes		Wine*	Commune	Grapes		Wine*
	tonnes	%			tonnes	%	
Pyrgos	1,125	24.6	9,000	Vothonas	225	5.0	1,800
Megalochori	675	14.7	5,400	Kamari	180	4.0	1,440
Akrotiri	675	14.7	5,400	Imerovigli	135	3.0	1,080
Emporeio	450	9.8	3,600	Exo Gonia	90	1.9	720
Vourvoulos	315	6.8	2,520	Karterados	90	1.9	720
Oia	225	5.0	1,800	Phira	90	1.9	720
Mesaria	225	5.0	1,800	Therasia	80	1.7	640
SANTORINI					4,580		36,640

* For the conversion of grapes (kilos) into wine (litres), the figure of 80% has been used.

TABLE 8
Cánaves and production of wine in okas in 1945
Distribution by commune

Village	Number of <i>cánaves</i>	Wine	Village	Number of <i>cánaves</i>	Wine
Akrotiri	20	31,856	Therasia	25	93,692
Vothonas	13	40,083	Karterados	11	55,708
Vourvoulos	14	34,629	Megalochori	40	174,981
Emporeio	23	61,300	Mesaria	35	337,078
Exo Gonia	12	84,516	Oia	74	215,039
Episkopi Gonias	14	57,774	Pyrgos	54	176,975
Imerovigli	14	47,037	Phira	50	335,560
TOTAL: <i>Cánaves</i> 399					
		Wine (okas)			1,746,228*
		Wine (kilos)			2,235,172

* According to the declarations to the Tax Office.

This amount of wine represents approximately 3,200 tonnes of white and red grapes.

Notes

The complete reference for the books and articles cited in the notes in abbreviated form is to be found in the General Bibliography.

Santorini of water and fire

* Odysseus Elytis, *The Axion Esti*, poem translated from Greek by Edmund Keeley and George Savidis, Anvil Press Poetry, London 1980.

1. Pègues 1842, pp. 243-245.
2. *Ibid.*, pp. 240, 244-245.
3. The greater geographical area which was called 'Aegeis' by the geographer and geologist Philippson (Berlin) consisted of a quadrilateral bounded to the north by the southernmost section of the Balkan peninsula (Thrace, Macedonia, Epirus), on the west by the Ionian Sea, on the east by Asia Minor, and to the south by Crete.
4. Georgalas 1971.
5. Diapoulis 1971.
6. Dumas 1992, p. 27.

7. Marinatos 1972, pp. 14-15.
8. The exact and definitive dating of the eruption continues to be a burning issue of modern research. In recent years, thanks to the contribution of the natural sciences, it tends to be put a few decades before the end of the 17th century BC (see Dumas 1992, p. 30).
9. From the Spanish word caldera, meaning 'cauldron'.
10. The following eruptions are known from historical sources: 197 BC, 19, 46, 726, 1570 or 1578, 1650, 1707-1711, 1866-1870, 1925-1926, 1928, 1939-1941, 1950 (see Georgalas 1971, pp. 22-24).
11. Stoyannis 1971, pp. 41-42.
12. Davi 1971.
13. Kontaratos 1971.

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1. In spite of their many gaps, inscriptions from Thera mention landowners who, *inter alia*, possessed vineyards of an area of some 18 to 30 hectares (IG XII, iii 343, 345, 346). We can be certain that the wine produced from vineyards of such an area was not intended only for domestic consumption.

The absence from the ancient sources of any mention of Thera as an exporter of wine may be

a question of pure chance. Given, however, the scarcity of clay on the island after the eruption of the 17th century BC, it could be argued that the vessels for the transporting of the wine exported came ready-made from elsewhere. However, the study and publication of the finds from the continuing excavations on the island are likely to contribute to the elucidation of the issue.

The historical testimony of the ampelies

1. Pègues 1842, pp. 281-282.
2. Koutsoyannopoulos-Thiraios 1971.
3. Dumas 1992, p. 27.
4. According to one of the many myths, Membliarus and Cadmus were Phoenicians.
5. Marinatos 1972, p. 18.
6. Fregoni 1991, pp. 57-58.
7. *Ibid.*
8. In his work *Περί φυτῶν ἱστορία*, Theophrastus provides very interesting information about pruning and the technique of

cultivating the vines, which came from Egypt, where they had been introduced by the Phoenicians. Athenaeus, some five centuries after Theophrastus, states that the Athenians brought the best pruners from Egypt. Furthermore, in the *Περί γεωργίας* of the Carthaginian Mago, the founder of agricultural science, which was translated into Greek by Cassius Dionysius, there is a detailed description of the techniques of viticulture, including pruning and the shaping of the plants.

The wine of Santorini: Testimony in the writings of foreign travellers

1. A summary of Edrisi's Geography was printed in Latin in 1593 in Rome. The whole work was published twice in the 19th century: a. A. Jaubert (Paris 1811): *Géographie d'Edrisi*; b. Société de Géographie (Paris 1840): *Géographie d'Edrisi. Recueil de voyages et de mémoires*.

2. The existence of the small bay in front of the Church of St Irene is evidenced in various 'portolans' (mariners' guides). One of these, written by Dimitris Tayias, was published in 1559 in Venice. Another, written in 1534, is mentioned by Tselikas 1985, p. 12.

3. Maps: Thomaso Porchacchi 1576; Dapper 1703; Lasor [Alfonsus], i.e., Rafaele Savonarola, *Universis terrarum orbis scriptorum calamo delineatus*, 2 vols, Padua 1713.

4. Dumas 1987, pp. 14-15.

5. *Insula Sancti Herini, Insula sancte Reni Herina, Sancturini, Santo Erini, Santa Erini, Sant-Erini, Santorin, Santo Orini* and other similar names given by Georgakas 1971.

6. *Ibid.*

7. Decree 539/71 and Ministerial Decision 21385/1572/72.

8. Joint Ministerial Decision 36973/5701/78 "concerning particulars recorded on bottles, labels and means of packaging of wine for ordinary consumption". Paragraph 5 (b): "... the name of the wine and the trade mark of the enterprise may be recorded, on condition that the name or part of the name of a *appellation of origin* is not included in these...". As soon as this decision came into force, the printing of the trade name 'Santino' on the label of the *ordinaire* wine put on the market by the *cánava* of Georgos Markezinis at Mesaria was stopped by official action. By virtue of the same provision, it is an infringement for the words 'Santo wines' to appear on the labels of table wines, since, following the accession of Greece to the EEC, 'wines for ordinary consumption' were renamed 'table wines'.

9. Today's *appellations of origin* Port (Portugal) and Bordeaux (France), like the name derived from the place-name 'Monemvasiá' during the Byzantine period, do not denote a vine-growing area producing the wines of that name, but their port of loading.

10. One of the most typical cases is that of the sweet Byzantine wine 'Monemvasiá', which by the progressive corruption of the name of the castle of Monemvasia between the 13th and 18th

centuries became Malvagia, Malvasia, Malevasie, Malvoisie, vino Monovaxie, Monovaxia, Malfasie, Malfatinos, Malmsey, and then in Greek Μαλβαζία (Malvazia), through reintroduction from foreign languages!

Another example on the international scale is the wine from the Spanish Jerez de la Frontera region. Both the Spanish name 'Jerez' (part of the place-name) and the two corrupt historical names for the same area: the French Xérès, a derivative of the Phoenician name for the region, Xero, and the English 'sherry', both coming from the Roman place-name 'Ceret' and the Arabic 'Scherish' – are protected by EEC legislation as an '*appellation of origin*'.

11. The contract also contained terms which concerned catering: the captain was obliged to provide hot meat twice a day together with good wine, and to ensure that there was fresh drinking water. He also had to provide each day before breakfast a glass of Greek wine (of the malmsey type). Since the shipowners usually did not honour the contract, travel guides advised pilgrims to provide themselves with three little barrels, two for wine and one for water, and a chest with a lock to hold them. In one corner of the chest they were to put bread, rusks, cheese, eggs and dried fruit and nuts (raisins, figs, almonds), so that they could be sure of their light repast. Details and bibliography in Simopoulos 1970, pp. 66-73.

12. Tselikas 1985, p. 10.

13. From 1309 to 1316, the ruler of Santorini, Andrea Barozzi, sought and received from the Venetian Senate permission to be supplied with wheat to meet the island's needs (see note 12).

14. Svoronos 1992, p. 55.

15. Logothetis 1974, p. 193.

16. Vakalopoulos 1961-1980, Vol. 3 (1968), p. 418.

17. Svoronos 1992, p. 57.

18. Richard 1657, p. 31.

19. See Tselikas 1990, p. 11.

20. Thévenot 1665, p. 202.

21. Richard 1657, pp. 35-41.

22. *Ibid.*, p. 37.

23. Pègues 1842, p. 327.

24. Tselikas 1985, pp. 46, 99.

25. Tournefort 1717, p. 269.

26. Balta 1986.

27. At the end of the 18th century we have the publication in French of the travel writing of the

German Frieleman 1789, a reading of which gives rise initially to some surprise, since it ignores the vast change which had come over Santorini as a vine-growing region. This is explained by a careful reading and comparison of the travel writing of the 18th century. Frieleman's text on Santorini is a faithful copy of that which Pitton de Tournefort wrote at the beginning of the century, when totally different conditions prevailed in the Aegean.

28. Phillipides and Konstantas 1791, modern edition 1988, pp. 226-227.

29. Olivier 1800/1-1807, Vol. 2 (1800/1), pp. 257-259.

30. *Ibid.*, pp. 255-256.

31. Marcellus 1839.

32. The report was written by N.G. Inglesis, who is mentioned in various documents as plenipotentiary, civil servant and a freedom-fighter in the uprising of 1821, and is in the General Archives of the State (General Secretariat, File 10). It was first published with a commentary by N. Kephalliniadis, 'The internal state of Santorini in the year 1828' (in Greek), in SANTORINI 1971, pp. 115-116.

33. Kephalliniadis, *op. cit.*

34. About 1854, p. 122.

35. Ludwig of Bavaria, like King Othon and

Queen Amalia, was a Roman Catholic.

36. Sketch from the *Political History of Greece* of S. B. Markezinis. See I. Marinos, 'Historical reviews' (in Greek), in SANTORINI 1971, p. 108.

37. About, see note 34.

38. From the book of Lois Knidlberger *Santorin*, translated into Greek by the architect K. Ioannou, in SANTORINI 1971, pp. 189-190.

39. Pègues, 1842, pp. 292-293.

40. *Ibid.*, pp. 286-290.

41. *Ibid.*, p. 288.

42. On the two-word name *vino santo* and *vin santo* given even today to certain dessert wines in northern Italy, see pp. 150-153 in the present volume.

43. Benoît 1850.

44. Lacroix 1853, pp. 484-492.

45. A.F. Katsouros, 'Louis Lacroix: Σαντορίνη' (in Greek), *Κυκλαδικά*, Vol. 1 (1956), n° 3-4, pp. 170-176.

46. Lacroix 1853, p. 488.

47. *Ibid.*

48. About 1854, pp. 120-123.

49. *Ibid.*, pp. 120-121.

50. *Ibid.*, p. 122.

51. Olivier 1800/1-1807, Vol. 2 (1800/1), p. 258.

52. Pègues 1842, pp. 289-290.

The vineyards as the object of juridical acts on Santorini from the 16th to the 18th century

1. Richard 1657, p. 37. See also Tselikas 1985, p. 16, and, by the same author, 'The vineyard in the 16th and 17th century. Notary documents of Santorini' (in Greek), in HISTORY OF WINE 1992, pp. 84-90.

2. The whole archive has been microfilmed by the History and Palaeography Archive of the Cultural Foundation of the National Bank and a summary of it was published in the 4th volume of its Bulletin, Athens 1988, pp. 89-98.



Fig. 88 The coats-of-arms of the Barozzi and Gyzi families.

Wine in the Economy of Santorini in the 19th Century

1. See in this connection Asdrachas 1988.

2. Tselikas 1985, pp. 10 ('Introduction') and 70 (list of owner-captains: earliest mention in a document of 1597).

3. S. Lambrou, 'Unpublished account concerning the explosion in Thera in the year 1650...', *Δελτίον Ιστορικής και Έθνομολογικής Έταιρείας*, Vol. 2 (1885), p. 110 (in Greek).

4. *Τηλέγραφος τῶν Κυκλάδων* (Hermoupolis), 30.7.1857 (in Greek). The advantage, so important at that period, was of course, possessed by all the high alcohol wines, and for that reason all the well-known wines which were exported at the time (malaga, port, sherry, commanderie, etc.) were of this category.

5. Detailed information on the island's crops in 1731 is to be found in Balta 1986. See also 17th century travellers' description in Tselikas 1985, pp. 15-24 ('Introduction').

6. Balta 1986, pp. 293, 297, estimates the vineyards of Santorini in 1731 at 5,938 *dona*, i.e., 0.5457 hectares (the *donum* = 919 square metres) and average production at 100 okas of wine per *donum*, that is, approximately 600,000 okas in total. In 1841, De Kigallas 1850, p. 4, gives the area which the municipal authorities declared for purposes of the implementation of taxation of vineyards per *strémma* (1/10 of a hectare) as 11,723 *strémmata*. This area is, however, too small for the production of the period (56,000 barrels - again according to De Kigallas 1850, p. 79, or 2.7 million okas). It will come as no surprise to the reader that even then the Greeks made it a practice not to declare all their property to the tax authorities. The true ratio was noted by the French Consul in Syros, A. Guérin, in 1852. He calculated at that time the area of the vineyards, on the basis of the production of the period, at 25,000 *strémmata* (Archives du Ministère des Affaires Etrangères - hereinafter AMAE - Syra 4, 28.12.1853). Our own estimate is approximately 20,000 *strémmata* for 1841, on the basis of an average yield of 120-140 okas per *strémma* (3 barrels of 48 okas). The majority of items of information available for the 19th century would seem to converge on these figures. This is on the assumption that the measure by which the quantities are quoted, the barrel, is the 48 oka barrel and not the *voutsí* of 336 okas, with which De Kigallas 1850, p. 83, appears to be reckoning at another point.

7. The traveller Francois Richard estimated the population at approximately 7,000 in 1650 (P. Zerlenti and F. Katsouros, *Νησιωτική Επετηρίς*, Vol. 1, Hermoupolis 1918; reprinted by N. Karavias, Athens 1987, p. 57). In spite of the uncertainty of the information on the point, it is probable that there was a subsequent reduction in the population, by the early 18th century, since in 1731 (Balta 1986, p. 286) only 949 'hanédes' (= heads of families paying taxes) are listed, i.e., a population of 5,000 at the most. The increase in the population after that was constant (with some

interruption, in all probability, at the time of the Orlof uprising): in 1770 it is estimated at 9,000 (Zerlenti and Katsouros, *op.cit.*, p. 58), and in 1780 at 8,000 ('A Description of the Volcanic Islands of Santorini...', *The Universal Magazine*, October 1781, p. 190), while in 1841 De Kigallas 1850, p. 45, puts the figure at 13,072.

8. See in this connection J.C. Delendas, *Οί καθολικοί τῆς Σαντορίνης. Συμβολή στήν ιστορία τῶν Κυκλάδων* (The Catholics of Santorini; a Contribution to the History of the Cyclades), Athens 1949, p. 194 *et seq.*

9. For comparative date on production in 1731 and 1741, see Balta 1986, p. 296, and De Kigallas 1850, p. 79.

10. Pègues 1842, p. 243.

11. *Ibid.*, p. 326.

12. For 1813, see Pouqueville 1826-1827, Vol. 6 (1827), pp. 296-297, with every possible reservation, naturally. The figures for 1841 are proposed by De Kigallas 1850, p. 89, and accord well with the information from newspapers of the period (approximately 40 vessels of 100-200 tons), if we assume that what are being cited here are only ships under



Fig. 89 Santorini. Front door of a mansion.

the Greek flag (*Ἑλληνικός Παρατηρητής*, 7.2.1842, from a copy in the General Archives of the State [GAS], Vlachoyannis Collection, Δ118). However, according to one source (I.T. Papamanolis, *Ἡ νῆσος Θήρα-Σαντορίνη* (The island of Thera-Santorini), Piraeus 1932, p. 67), in 1832, Santorini had 96 vessels “of class (b) and (c)”, but it is not clear which categories of vessel are being included here (division into classes of above and below 30 tons was introduced by the Royal Decree of 29.10.1833). See in this connection Maria Synarelli, *Δρόμοι καί λιμάνια στήν Ἑλλάδα τοῦ 19ου αἰώνα* (Roads and Harbours in Greece in the 19th Century), Athens 1987, p. 115. As to 1848, see AMAE Syra 2, 20.4.1848. In 1855, there was a reduction in the number of vessels over 30 tons entered in the Santorini Register of Shipping: 69 (see K. Papathanasopoulos, *Ἑλληνική ἐμπορική ναυτιλία 1833-1856* (Greek Merchant Shipping 1833-1856), Athens 1983, p. 78).

13. In 1848, nine vessels, large and small, were built in Santorini, of a total of 1,596 tons (AMAE Syra 2, 20.4.1849). On the shipyards, see De Kigallas 1850, p. 29.

14. In 1841, one-third of the active population of the Municipality of Thera (which includes the northern part of the island) were seamen (a total of 912 persons). The figure for the Municipality of Kallisti (southern part) was one-fifth. The agricultural population represented 42% and 55% respectively (De Kigallas 1850, pp. 46-47).

15. De Kigallas 1850, p. 36.

16. All the above information comes from the GAS, Vlachoyannis Collection, Δ87, which contains extracts from *Ἀθηνᾶ*, 6.11.1835 and 29.2.1836, which published a report by Alexandris himself, from *Ἑλληνικός Ταχυδρόμος* (2.3.1837), from *Ἑλληνικός Παρατηρητής* (7.2.1842), the source of the quotation, and from Vlachoyannis, *Χιακόν Ἀρχεῖον* (Archives of Chios), Vol. 5, pp. 332-334.

17. See E. Stamatiadis, *Σαμιακά*, Vol. 5, Samos (1891), p. 642 (according to the copy in GAS, Vlachoyannis, Δ87).

18. “The last consignments to Russia were not sold at worthwhile prices”, it is noted in 1842 (*Ἑλληνικός Παρατηρητής*, 7.2.1842, *op.cit.*).

19. Consignments to Russia stopped completely in 1854 and wine prices initially fell sharply, as they did at the end of the War and again in 1859, see AMAE Syra 4, 28.1.1855 and 5, 12.4.1860.

20. There was a significant increase in the duty on imported wines in Russia, in order to protect

wine-making in the Crimea, in 1857, see *Τηλέγραφος τῶν Κυκλάδων* (Hermoupolis), 30.7.1857. By the end of the century the duties had become virtually prohibitive.

21. See in this connection C. Agriantoni, ‘The Greek wine industry in the 19th century: from the search for quality to wine from dried grapes’, in *HISTORY OF WINE* 1992, pp. 133-144.

22. These wines, table wines and those with an alcohol content of 8-13%, were already described as ‘noble’ at the beginning of the 20th century (see K.A. Stasinopoulos, *Τό κρασί* (Wine), Athens 1904, pp. 83, 205). The large parenthesis of the phylloxera crisis contributed to these changes. Typical are the changes which took place in French vineyards of the period, when the ‘mass vine of southern France’, of American origin, replaced the various ‘vins de pays’. See *Histoire économique et sociale de la France*, F. Braudel and E. Labrousse (eds), Vol. 3/II, Paris 1976, pp. 687-689, and Vol. 4/I, Paris 1979, pp. 378-390.

23. *Τηλέγραφος τῶν Κυκλάδων*, 30.7.1857.

24. AMAE Syra 4, 28.1.1855.

25. See Foreign Office, Annual Series, Report on the Trade and Commerce of the Cyclades for the Year 1893, No. 1362 (Syra, 1.4.1894) [hereinafter ‘FO, Report’ and the year to which it refers], p. 15: exports to Britain had stopped at that time. See also J.T. Bent, *Aegean Islands. The Cyclades, or Life among the Insular Greeks*, Chicago 1965 (1st ed. 1885), p. 121.

26. As early as 1857-59, when there had been a marked reduction in exports to Russia because of the consequences of the War and the duties, Turkey absorbed half of the exports of wine from Santorini (AMAE Syra 5, 17.5.1859). In 1902-1908, Russia was absorbing just 6% of production. At that date 35% went to Turkey and Egypt, while one-third was now consumed in the rest of Greece (*The Wines Crisis: Report of the Parliamentary Committee*, Athens 1909, p. 41 - in Greek).

27. We do not have, naturally, series of prices for the wines of Santorini, or for any other Greek product of the 19th century. The scattered information, however, gives evidence of significant fluctuations from one year to the next, as well as large differences in the prices of the various qualities. As to ordinary wine, De Kigallas 1850, p. 79, gives a price of 7.4 drs the barrel for 1841, but he points out that this was “one of the most difficult” of years as far as prices were concerned. In the 1850s, the

average price was reckoned at 15 drs a barrel, with a jump in 1857 and 1858 up to 22-25 drs (poor vintage – see AMAE Syra, 28.12.1853, 28.1.1855 and 12.4.1860, and ‘Note concerning Greek products...’ (in Greek), ms. in the Gennadios Library on the Great Exhibition in London in 1851). In 1881 and 1884, prices of 9-12 francs a barrel are mentioned – again for ordinary wine (Archives Nationales [Paris, AN] F¹² 7128, Syra, 12.9.1881 and 10.6.1884), and for 1893, 7.5-9 francs a barrel (FO, *Report* 1893). The price of *vinsánton* was reckoned at 30-35 drs the barrel.

28. *Τηλέγραφος τῶν Κυκλάδων*, 4.5.1857.

29. See in this connection Kolodny 1974, Vol. I, p. 64.

30. “After Syros, nowhere else in the Cyclades are there as many wealthy men as there are in Santorini”, the English traveller James Theodore Bent, who visited the island around 1880, wrote (*op. cit.*, p. 112).

31. Of the 11,723 *strémmata* with vine plantations mentioned by De Kigallas 1850, p. 5, in 1841, 39% belonged to various monasteries and churches both of the Orthodox and the Catholics. One large property which belonged to the Monastery of St John the Divine on Patmos, at least according to information from the second half of the 19th century, seems to have been leased for 20 years to businessmen, who then sub-leased it to small farmers (*Σαντορίνη*, 17.3.1891). There were still on the island quite a number of large private estates, most of them in the hands of the Roman Catholics, in the region from Phira to Pyrgos (Pègues 1842, p. 251).

32. The population of the island was 14,965 in 1856 and 14,846 in 1861, see *Στατιστική τῆς Ἑλλάδος. Πληθυσμὸς τοῦ ἔτους 1861* (Statistics for Greece. Population in the Year 1861), reprinted by the ETBA Cultural Foundation (foreword and ed. by G. Bafounis), Athens 1991, p. 23. In 1870, it was 14,783, in 1879, 12,761 and in 1907, 12,109, according to the official statistics. In spite of the dubious accuracy of the figures (given that seamen who were absent at the time of the censuses are not included), the tendency for the numbers to remain the same and then drop is clear.

33. De Kigallas 1850, p. 38.

34. Papamanolis, *op. cit.*, p. 115.

35. *Σαντορίνη*, 7.3.1891.

36. M.K. Zorzos, *Ἡμερολόγιο Θήρα-Ἀμοργός 1933* (Thera-Amorgos Calendar 1933), Piraeus 1933, pp. 24-25.

37. *Σαντορίνη*, 7.4.1891 and 17.10.1891. Also Zorzos, *op. cit.*

38. H. von Gaertringen, ‘The island of Thera’, *Ἀρμονία*, 1901, p. 443; Zorzos, *op. cit.*, p. 51, and Papamanolis, *op. cit.*, p. 185, in which, however, there is considerable confusion as to dates.

39. The methods of cultivation are recorded in detail by Pègues 1842, pp. 274-286, and cited by Lacroix 1853, p. 488. The section on Santorini (pp. 484-492) which Lacroix copied, as he himself says, from the work of Benoît 1850, was translated into Greek by A.F. Katsouros in *Κυκλαδικά*, Vol. 1 (1956), n° 3-4, pp. 170-176. See also J.T. Bent, *op. cit.*, p. 121. De Kigallas 1850, p. 81, and Pègues 1842, p. 278, maintain that certain practices were similar to those customary in the Languedoc or Bordelais regions. See also Anaghia Sarpakis, ‘Traditional techniques of viticulture’ (in Greek), in *HISTORY OF WINE* 1992, pp. 54-60.

40. G. Palaiologos, *Περί ἀμπελοποιίας καὶ οἴνοποιίας...* (Concerning Viticulture and Wine-making...), Athens 1836, p. 45.

41. See the comments of Pègues 1842, pp. 290-291.

42. “Presque à l’état de moût”, Pègues 1842, p. 290, says. See also AMAE Syra 4, 28.1.1855.

43. See the table of production and exports.

44. See the illuminating article entitled ‘Why we hasten towards the vintage’ in the newspaper *Σαντορίνη*, 11.8.1891 (in Greek). In that year the start of the vintage was set for between 20 and 22 August in the various municipalities (*Σαντορίνη*, 14.8.1891). Fifty years earlier, Pègues 1842, p. 291, tells us that the grape harvest began in early September.

45. *Σαντορίνη*, 21.8.1891. On the way in which the dates for the *vendéma* were determined, see A. Nomikos, ‘The vintage on Santorini’ (in Greek), *Κυκλαδικά*, Vol. 1 (1956), n° 3-4, pp. 180-183.

46. *Σαντορίνη*, 10.4.1891.

47. “Our more prosperous fellow-citizens”, *Σαντορίνη* commented (“The Fate of our Wines”, 29.5.1891), “instead of sending their children to Athens to study Law and Medicine, would do well to send them to Europe to study wine-making...”. Pègues 1842, p. 341, listed six young men from Catholic families (Demathas, Albis, Pintos and De Kigallas) who were studying Law and Medicine in Paris and Pisa. The wine production of Santorini seems to have acquired a scientific framework only in the inter-War years. In 1933, however, there were two chemists-oenologists at Phira: Evangelos Tokmakidis and Georgios Mavrommatis; the latter worked at the Wine Production Defence Fund, which had been

founded in 1910. See Zorzos, *op.cit.*, pp. 24, 41.

48. A. Mansolas, *La Grèce à l'exposition universelle de Paris en 1878*, Athens 1878, p. 61 of the catalogue of exhibits. N. Demathas, 'Concerning industry in Greece', *Ἀττικόν Ἡμερολόγιον*, Athens 1876, p. 423 (in Greek), gives the date of the foundation of the winery as 1874.

49. The 'marginalisation' of Santorini, where a certain amount of cultural and social life had flourished in the period of development and down to the beginning of the 20th century (newspapers, clubs etc.), became complete in the years between the Wars. "Now the same is happening in Thera", writes Papamanolis (*op.cit.*, p. 17) in 1932, "as in the other islands... little by little the families which played a leading part in social life and in the life of the island in general are leaving year by year and migrating to... Piraeus, Athens and Syros".

50. See FO, *Report 1893, op.cit.*. According to Papamanolis (*op.cit.*, p. 108), this wine was exported to France, where, however, it was used for blending. Exports came to a halt "by reason of the fact [France] found cheaper [wine] in other parts near at hand" and thus "it is not manufactured any longer [= 1932] in large quantity".

51. Papamanolis, *op.cit.*, p. 28, and M. Danezis, *Santorini 1939-1940*, pp. 107 and 216. See also Karras's *cánava* with its *rakidió* in a sketch in D. Filippides 'Cánaves and rakidiá on Santorini' (in Greek), in *HISTORY OF WINE 1992*, p. 75.

52. Danezis, *op.cit.*, p. 216.

53. Chick-peas and tomato paste began to be exported in 1902-1903 to Russia, Egypt and Turkey. See FO, *Report 1902, 1903, 1904, etc.* The first mention of tomatoes which we have been able to trace is in Pègues 1842, p. 297, i.e., in 1842. De Kigallas, however, does not mention them.

54. Papamanolis, *op.cit.*, p. 109, Zorzos, *op.cit.*, p. 43, and Danezis, *op.cit.*, p. 216.

55. The women of Santorini traditionally wove and knitted cotton goods in the home. See Tselikas 1985, p. 18, and Pègues 1842, pp. 296-297.

56. Santorini shipping began to re-organise itself towards the end of the 19th century, going over from sail to steam belatedly, as was the case with the whole of Greece. According to Zorzos (*op.cit.*, p. 187), the first steamship was purchased by K. Platis of Oia (no date is given). Nevertheless, the pioneers in this field were undoubtedly the Nomikos family: in 1891 there was already the 'Thera Steamship Line'

("Θηραϊκή Ατμοπλοΐα") belonging to Emmanouil P. Nomikos, which provided regular services between Santorini, Syros and Piraeus (see *Σαντορίνη*, 29.6.1891).

57. See Zorzos, *op.cit.*, pp. 42, 60, 115.

58. See Zorzos, *op.cit.*, p. 42, Papamanolis, *op.cit.*, p. 87 and Danezis, *op.cit.*, p. 216. The knitting factories belonged to Grigorios Koutsoyannopoulos (opened 1926), Margitsa Vazengioui and the nuns of St Nicholas at Phira, Iakovos Darzentas (opened 1929) at Oia, and Emmanouil Damigos at Karterados. Tinned tomato paste was produced at the factories of Dimitrios Nomikos at Monolithos, Antonios Karamolengos, and the Agricultural Manufacturing Company of Santorini ('ABIS', set up in 1935). The power station for the lighting of Phira was set up by Evangelos Sigalas, while the flour-mill belonged to Dimitrios Nomikos. It has not proved possible to establish whether this mill was the successor to the first steam-mill operated on Santorini c. 1870 by Emmanouil Kanakaris and N. Syrigos (subsequently 'N. Syrigos and A. Alafouzos').

59. *Τηλέγραφος τῶν Κυκλάδων*, 24.6.1858. From the relevant article in this newspaper, it would seem that the first efforts, made at the time by the businessman Kalimeris, to extend mining operations, had met with strong opposition on the island.

60. According to Pègues 1842, p. 270, the earth of Thera was used in the first works to be carried out on the harbour of Syros.

61. Between 1847 and 1852, exports fluctuated between 4,000 and 8,000 tons per annum approximately (AMAE Syra, 28.12.1853). Between 1899 and 1902 they were at the level of 60,000-90,000 tons. A large part of these went to Romania, for the harbour of Constantza (FO, *Report 1899, 1900, 1901, 1902*). In the inter-War years, mining had passed into the hands of major companies, as was the case with the whole of the mining industry in Greece. The 'Hefaistos' company of Groman had established itself in 1904 and in 1930 set up a large electrically-powered pulverisation plant, while the Athenian 'Atlas' company installed an electrically-powered conveyor for transportation to the point of loading. See in this connection Papamanolis, *op.cit.*, pp. 87-88, and Zorzos, *op.cit.*, pp. 67-74. Finally, in 1927, the company of M. Mavrommatis was set up for the exploitation of the earth of Thera in the Oia area (Ammoudi), see Zorzos, *op.cit.*, pp. 46-47.

62. FO, *Report 1900*.

TABLE 9
Production and exportation of wine on Santorini (in 48 oka barrels)

Year	Production		Exportation		Home consumption
	Total	Vinsáto	Total	To Russia	
1731 ¹	[12,370]				
[pre-1821] ²	[34-36,000]				
1841 ³	55,990	2,350	73,120		
1850 ⁴				38,000	
1852 ⁵	74,000	4,000	68,500		5,500
1854 ⁶	49,000				
1855	70,000 (average)		65,000 (average)		
1857 ⁷	37,700		28,000	14,000	
1858	42,000		34,000	13,000	
1859	66,500		69,000	23,500	
1860 ⁸	46,600				
1870 ⁹			41,652		
1880 ¹⁰	81,250				
1881 ¹¹	62,000				
1884 ¹²	[64,500]				
1890 ¹³	53,116				
1891	53,758				
1893 ¹⁴			33,600	16,260	48,780
1902 ¹⁵			10,014	1,395	10,651
1903			14,023	5,214	10,073
1904	→ 54,500 (average)		42,848	7,059	10,666
1905			49,189	217	16,119
1906			33,264	1,241	20,393
1907			31,395	2,520	20,978
1908 ¹⁶		70,000 (average)		35,454	2,544
1928 ¹⁷	140,000				
	91-105,000 (average)				
1931 ¹⁸	84,000				

Sources

1. Calculated by Balta 1986, p. 298, on the basis of an area of vineyards of 5,937 *dona* and an average production of 100 okas per *donum*, i.e., in total, 600,000 okas = 12,370 × 48 oka barrels.

2. According to the French Consul in Syros, in AMAE Syra 4, 28.12.1853.

3. De Kigallas 1850, pp. 79, 88.

4. 'Note concerning Greek products...', *op. cit.*

5. AMAE Syra 4, 28.12.1853.

6. 1854-1855: AMAE Syra 4, 28.1.1855.

7. 1857-1859: AMAE Syra 5, 12.4.1860.

8. S. Spiliotakis, *Statistics for Agriculture*, Athens 1864 (in Greek).

9. Demathas, *op. cit.*, p. 423.

10. AN F¹² 7128, Syra 12.9.1881 (3.9 million okas).

11. AN F¹² 7128, Syra 24.2.1882 (2.976 million okas).

12. AMAE Syra 8, 10.6.1884; estimate of the year's production 40,000 hectolitres.

13. 1890-1891: *Σαυτοσίμη*, 1.11.1891.

14. FO, *Report* 1893. The British Consul gives the

quantities in hectolitres. The calculation has been made on the basis of 1 barrel = 61.5 hl.

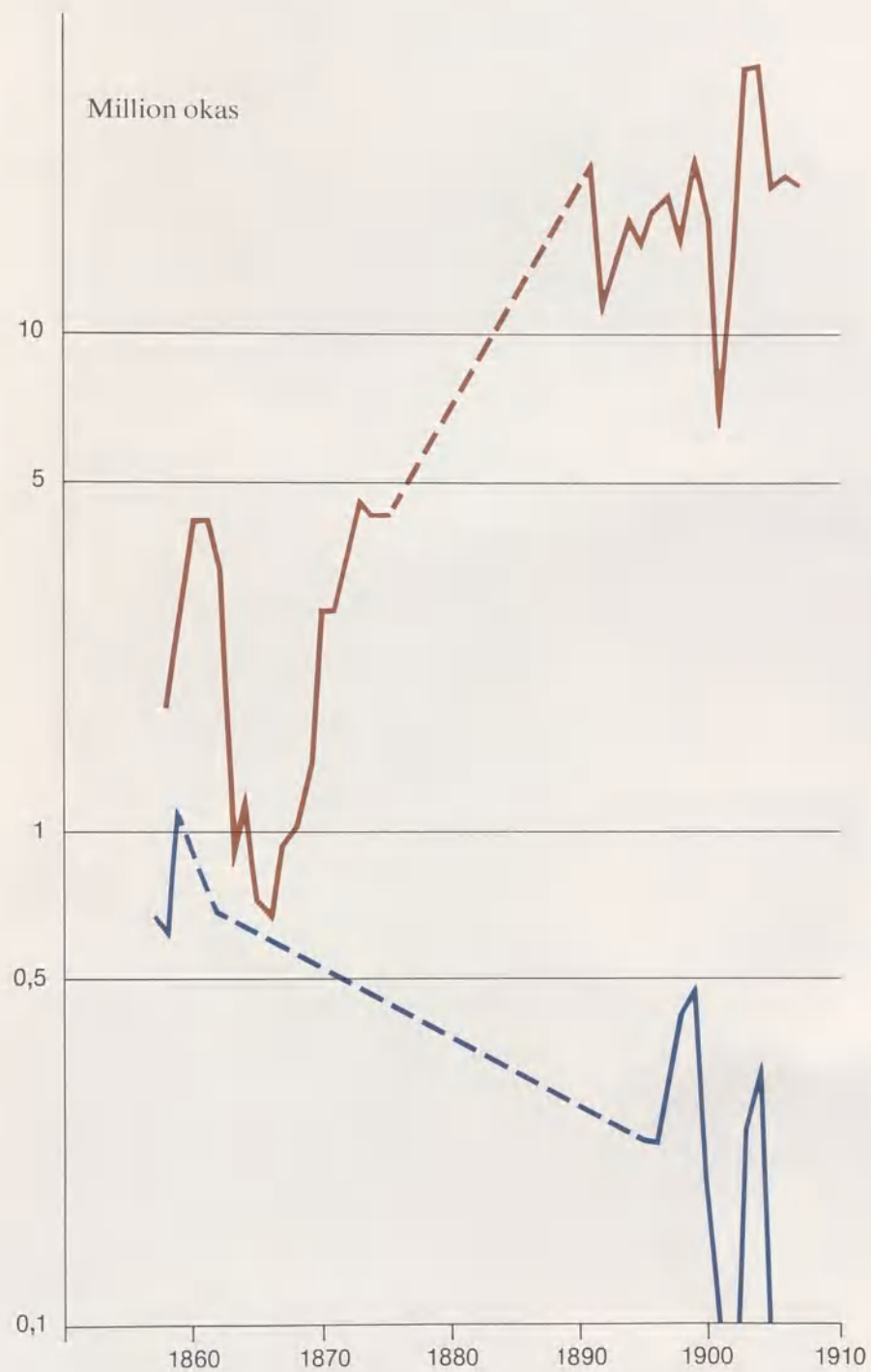
Unfortunately, in all the later British consular reports where information is given on the wine of Santorini, there is such confusion about the unit of measurement (sometimes it is hectolitres, at others gallons) as to render them useless. Here only those quantities which have been checked against other sources have been used.

15. *The Wines Crisis...*, *op. cit.*, p. 41 for exports (the figures are in okas, on the basis of information from the Thera customs house), and p. 102 for the average production of the five-year period.

16. This average production is given by the Member of Parliament B. Markezinis, *The Wines Crisis...*, *op. cit.*, p. 122.

17. Papamanolis, *op. cit.*, pp. 107-108. The production of 1928 was exceptionally high. Papamanolis gives in information in terms of *vytia*, barrels of 336 okas.

18. Zorzos, *op. cit.*, p. 43. Here the figures are also given in *vytia*.



Illus. 13 Exports of wine from Greece 1857-1907.

- Total exports of wine.
- Exports to Russia. Figures for the years 1857-59 concern only exports from Santorini to Russia, which, however, to all intents and purposes, are identical with total exports of Greek wine to that country.

From the wines of the pre-industrial canava to the wines of modern technology

1. Archive of the Wine Institute, Ministry of Agriculture, report by A. Zoukas: *Oenological and Viticultural State of the Islands of Thera and Therasia 1916-1920* (in Greek). The author of the report served as official agronomist on Santorini during the period 1916-20.

2. According to the 1917 census, the population of the island was 13,500.

3. Logothetis 1980.

4. Zoukas, *Oenological...*, *op. cit.*

5. *Ibid.*

6. Each *zevgariá* (0.3 ha) yielded some 500 okas of grapes (approximately 640 kg), from which about 336 okas of wine (approximately 420 litres) were produced (yield of approximately 67%). Expenses of cultivation per *zevgariá* were approximately 112 drs. and receipts from the sale of products were 265 drs the *zevgariá* in 1919 and 351 drs in 1920 (5 drs from canes, 10 drs from sediment and skins, 250 and 336 drs, respectively, from the sale of 420 litres of wine).

7. This conclusion was purely logistic: since a *zevgariá* produced approximately 640 kg of grapes and the average price of grapes in 1920 was 0.31 drs the kg, the farmer received 205 drs (200 from the sale of the grapes and 5 from the canes), with 112 drs cultivation expenses. He thus had a profit of approximately 93 drs the *zevgariá*. However, from an accounting point of view he was making a loss, since the sale price of grape plantations was 2,000-2,500 drs the *zevgariá*, and the interest on land capital came to 100 drs, which, added to the expenses of cultivation, produced a small loss. Of course, these calculations held good for the vineyard owners, who had to pay wages; for the family which lived by cultivating the vine and did all the work themselves, the expenses were minimal and viticulture profitable.

8. Archive of the Wine Institute, Ministry of Agriculture. Report by A. Zoukas: *The Prefecture of the Cyclades from the Point of View of Viticulture and Wine* (in Greek), 1938.

9. Tomatoes, which were first grown in 1880 on the slopes of Mt Profitis Ilias by the inhabitants of the Commune of Pyrgos, subsequently spread to the whole of the island, usurping the grape at many points.

10. Zoukas, *Prefecture of Cyclades...*, *op.cit.*

11. *Ibid.*

12. Communication of the Thera and Therasia Wine Production Defence Fund (Ταμείο Ἀμύνης Οἰνοπαραγωγῆς) to the Wine Institute, Ministry of Agriculture, June 1938.

13. Wine should not come into contact with copper objects, since it becomes contaminated by this undesirable metal. Contemporary wine legislation sets limits to the content of various metals in wine, for the protection of the health of the consumer. In the case of copper, the upper limit is 1 mg/l.

14. Zoukas, *Prefecture of the Cyclades...*, *op. cit.*

15. *Ibid.*

16. 'Vafiká' is the name given to the deep red wines of Paros and Lefkada which are used to deepen the colour of other red wines or to 'dye' (Greek 'váfo') red various rosé and white wines.

17. Later, two other large wineries were set up: that of Ilias Chrysos (1,000 tonnes), and that of Georgios Koronaios (1,500 tonnes). All the wineries delivered their wine to the landing-stage by pipes, but since plastic had made its appearance in the field of industrial applications, these were now of that material.

18. Association of Cooperatives of Theraic Products (Ἐνωση Συνεταιρισμῶν Θηραϊκῶν Προϊόντων), Foundation Law 359 of 1947.

19. Important information on the state of viticulture and wine-making on the island, the wine trade, and the movements of the Union's loans, etc. is to be found in the annual reports of the different departments of the Agricultural Bank of Greece.

20. K. Sigalas, 'The agricultural and economic position and development of Thera' (in Greek), in *SANTORINI 1971*, p. 284.

21. Phylloxera does not develop easily on sandy soil.

22. Royal Decree 539/71 and Ministerial Decision 21385/1572/72.

23. Regulation (EEC) 817/70.

24. vqprd – from the initials of the French 'Vin de Qualité Produit dans une Région Déterminée'.

25. Ministerial Decision 335757/7665/79.

26. Regulation (EEC) 2019/93 'introducing specific measures for the smaller Aegean islands concerning certain agricultural products'.

The wine potentiality of the vineyards of Santorini

1. Tuff is the name given to the compact rock formation formed with the passage of time by the agglomeration of volcanic ejecta. Tuffs have the composition of the lava of the volcano from which they are derived and, consequently, differ from one another. The tuff of Thera corresponds to the rock formation *andesite*, while that of Etna is *basalt*. Andesite is a rock formation which is very common in the Andes (the South American mountain range) – hence its name. Its principal minerals are feldspars and hornblende.

2. Stoyannis 1971, p. 52.

3. The foot as a unit of measurement has 12 digits. In the English system, 1 digit (an inch) is equal to 0.0254 m., while in the old French system, which Abbé Pègues must have been using, a digit (doigt) was equal to 0.02707 m. Thus, when he speaks of a depth of 1.5 to 2 feet, the equivalent is approximately 49 to 65cm. and not 45 to 60 cm., as it would have been if he had

been using the English system. Three or four digits correspond to approximately 8 and 11 cm.

4. See note 3.

5. Pègues 1842, pp. 265-269.

6. Stoyannis 1971, p. 14.

7. O. Rackham, 'Observations on the Historical Ecology of Santorini' in Hardy 1990, Vol. 2, p. 385. However, according to oral information supplied to the author by Professor C. Dumas, roots of modern vines have been found at a depth of two or three metres in the excavations at Akrotiri. However, Rackham talks of trees and makes clear (p. 386) that the vine and the fig tree are among the few woody plants whose roots penetrate the earth of Thera; it is for that reason that they have survived on post-volcanic Thera.

8. *Ibid.*

9. See note 6.

10. Herodotus, *Ἡροδότου Ἱστορία*, Book II, Euterpe.

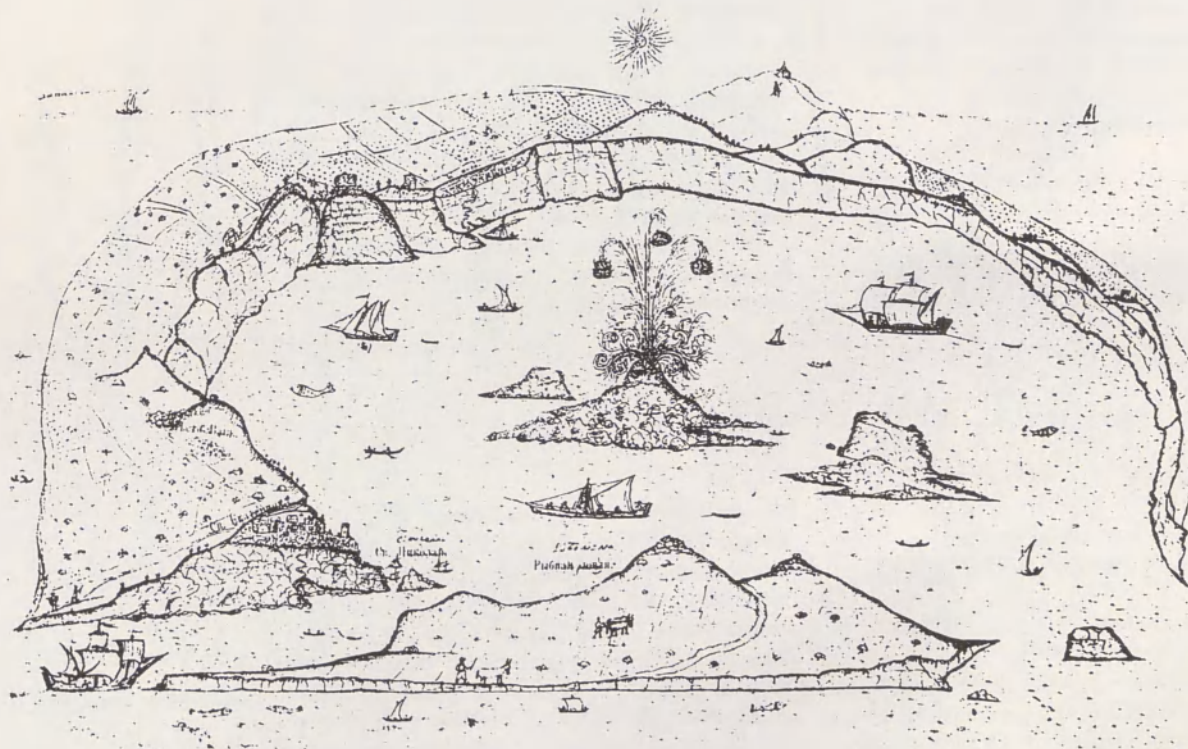


Fig. 90 'Santorini with the volcano active'. Ink sketch: an exceptional perspective view of the islands which make up the 'volcano of Santorini'. Vasilij Barskij, Russian monk from Kiev, 1745.

11. Koutsoyannopoulos-Thiraios 1971.

12. Pègues 1842, p. 266, states that Pindar, in Pyth. 4, praises the land of Santorini [sic] as being very fertile, because it consists of pumice: “Διά τό περί τήν γήν ἰδίωμα κισσηρώδης γάρ οὔσα, πολύφορος ἐστὶ καὶ πολὺκαρπος”. But this line was not written by Pindar, who simply speaks of Thera as a “sacred island” (line 11, Pyth. 4). The phrase in question is that of the commentator on Pindar, who thought that the poet called Thera “sacred” either because of the property of its earth (at this point the sentence quoted by Pègues follows), or because when Cadmus colonised the island, “he set up altars to Poseidon and Athena”. (August Boeckh, *The Remains of Pindar*, Gottlob Weigel, Leipzig 1811-1821, Vol. 2, Part I, p. 344, and K. Garmpolas, *Commentary on Pindar from the edition of Augustus Boeckhius*, Athens 1841, Vol. 2, p. 58 – in Greek).

13. Karapiperis 1971.

14. According to Stoyannis 1971, pp. 16-18, the average relative atmospheric humidity on Santorini in the months of July and August is 59-60%.

15. Mildew (peronospora) is the most destructive disease of the vine; its development is favoured by humid and warm weather. The fungus botrytis, which causes rotting of grapes, is favoured by ‘enclosed’ areas, where the ventilation is too poor to drive out the humidity. Oidium is regarded a disease as serious as mildew. In a large number of vine-growing areas of Greece it is the most serious threat each year, because the fungus can develop even in conditions of limited humidity.

16. See note 15.

17. All the information given in this volume on diseases of the vine is derived from the study of Rumbos 1989.

18. This diagram (Illus. 14) is one of the many produced between 1924 and today by Georgos

Venetsanos of Megalochori, a chemist and oenologist, formerly a wine-maker and still a vineyard-owner, on the basis of the data from the vineyards in his ownership. This specific diagram deals with data on his vineyards in the southern part of the island, from Pyrgos down.

19. Rackham, *op. cit.*, p. 390, asks “How did Classical Thera make its living? The city seems too important to be sustained by the meagre area and rather precarious cultivation of the island”. And Pègues 1842, pp. 293, 326, tells us that the prices of the wines of Santorini in the ports of Russia were dependent upon the island’s annual production. When production was high, the bottom fell out of the market and there were years when the merchants were ruined.

20. Letter to the author from Georgos Venetsanos together with the diagrams mentioned (see note 18).

21. Santorini Agricultural Development Bureau.

22. Phylloxera is an insect whose root-inhabiting form attacks and destroys the root system of the European vine plants. It was brought from America to Europe and its rapid spread led to the gradual destruction of the vineyards. In the regions which had been attacked by phylloxera the vines could only be reconstituted by the grafting of native varieties on to American phylloxera-resistant rootstocks.

23. Great cost of establishment of the vineyards, the need to learn the grafting systems, problems of adaptation of the assorted anti-phylloxera stock to, chiefly soil, conditions, problems of affinity of grafts of native varieties with the stock, renewal of the vineyards every 30 years or so, etc.

24. In scientific terminology, phylloxera, because it is an insect, is classified among the ‘pests of the vine’.

The Asyrtiko: The vinifera variety of Santorini

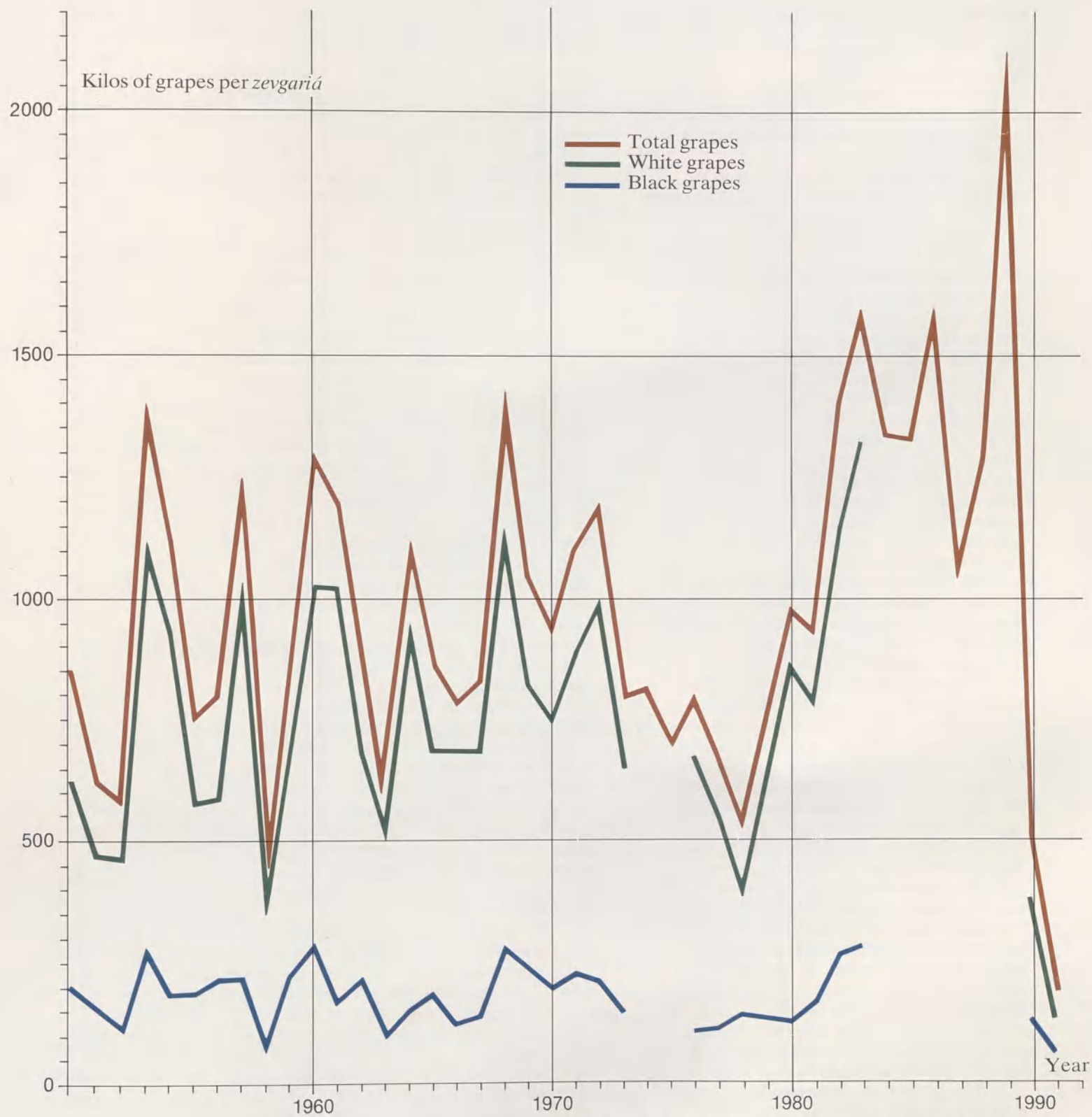
1. Diapoulis 1971.

2. O. Rackham, ‘Observations on the Historical Ecology of Santorini’, in Hardy 1990, Vol. 2, p. 386.

3. An investigation of the relevant sources has been made by Logothetis 1974.

4. Florentinus, who lived in the 3rd century, was particularly interested in the varieties of vine of his age. The information he provided was

incorporated into the relevant chapter of the *Γεωπονικά* (Geoponika), a work of the 10th century attributed to Cassianus Bassus, who lived in the 6th century, and a summary of whose works has survived. The edition of H. Beckh, Teubner, Leipzig 1895, has this quotation from Florentinus (E, 2, 19): “In the production of sweet wine, the theriake is indisputably the best. Democritus testifies to its wholesomeness and



Illus. 14 Variations of the main annual yield of vineyards in the southern part of the island.

quality. Its vine is by nature slight and weak”.

5. Logothetis 1965, pp. 178-221. Also, G. Hatzidakis, *Ἀθηνᾶ*, 20 (1908) p. 546, is quoted by Logothetis 1974, p. 181.

6. Claudius Galen, *Περί τροφῶν δυνάμεως* (Concerning the properties of foods), Chap. 11, and *Περί ὑγιεινῶν* (Concerning healthy foods), Chap. 5.

7. The transportation of wine in wooden barrels began, at least in the West, in the Roman period. It is first mentioned in Pliny.

8. The wine legislation of the EEC (Regulation 2392/89, Article 5, para. 1(d)) lays down that the name of a vine variety cannot be used for the description of a wine unless it is accompanied by a geographical reference. That is to say, the twinning of Galen and Prodrimos (see Note 10) is today obligatory!

9. The cultivation of the *Athíri* variety in Crete is confirmed at least from the 14th century. Ilias Anagnostakis states in *Οἶνος ὁ Βυζαντινός*, published by the Fany Boutari Foundation, Athens 1995, p. 142, that the poet Sachlikis, when he returned to Candia in 1390, sold a part of a vineyard containing this variety (*unam peciam vinee de athiri*). The problem is that this text does not reveal how the name of the variety was written in Greek.

10. By Theodoros Prodrimos (known as Ptochoprodrimos – ‘Poor Prodrimos’) in his poem to the Emperor Manuel Comnenus, *Κατὰ Ἠγουμένων* (Against Abbots).

11. Logothetis 1974, p. 181.

12. The berry of the white *Athíri* variety is roundish, tending towards the oval and of medium size. It has a resistant skin, with little bloom and a colour which is greenish yellow with a hint of gold. The flesh is juicy, delicious to the taste, sweet and with a subtle aroma. That of the black *Athíri* is round and a little flattened at the end opposite the stalk, its skin being somewhat soft, of a bright bluish violet colour. The flesh is juicy and colourless.

13. In Galen’s work *Περί συνθέσεως φαρμάκων* (Concerning the composition of drugs), ‘theriake’ (θηριακή) is mentioned not as a variety but as a drug, an antidote to bites of venomous beasts (θηρία). It consisted of 61 medicinal substances and had been made up by Andromachus, physician to Nero, who was of Cretan origin. It was in use until the 19th century and was prepared by pharmacies in Venice, Holland and Germany.

14. It is called *Mandilári* in Crete, *Amorgianó* in Rhodes, and *black Kondoúra* in Euboea.

15. This dowry contract is mentioned by

Tselikas 1985, Document No. 26, p. 41. In the historical archive of the Catholic Archbishopric of Santorini there must certainly be other information on Santorini as a vine-growing and wine-making centre, but the relevant documents in the archive have not yet been subjected to the scrutiny of experts on oenological matters.

16. The Malaga raisin, of the *Muscat d’Alexandrie* variety, is still sold today in this way: the raisins on the dried stalks. It is regarded as a luxury dried fruit.

17. Pègues 1842, pp. 292-293.

18. From the Apeiranthos region of Naxos.

19. Report by A. Zoukas: *Oenological and Viticultural State of the Islands of Thera and Therasia 1916-1920* (in Greek). Archives of the Wine Institute of the Ministry of Agriculture.

20. Report by B. Logothetis: *Vine Cultivation and Wine Production of the Island of Thera* (in Greek). This was written in 1946, when its author was Inspector of the Agricultural Bank of Greece. It is in the Logothetis Archive of the Fany Boutari Foundation.

21. In the 1980s a census was carried out of the varieties of vine by a team from the Ministry of Agriculture and, apart from the *Asýrtiko* and *Mandilariá* varieties, which account, respectively, for 3/4 and 1/4 of the grapes harvested, the following 53 varieties were found in small quantities: WHITE: *Agrioglykáda*, *Aïtonychi*, *Aidáni*, *Athíri*, *Asprovoudómato*, *Aspromandilariá*, *Aspromoscháto*, *Asprosyríki*, *Asproúda* of Santorini, *Avgouláto*, *Begléri*, *Flaskáto*, *Flaskosýrtiko*, *Fráoula white*, *Gaidouriá*, *Glykáda*, *Katsanó*, *Kounenáto*, *Kourendí*, *Kritikó*, *Patinióitis*, *Platáni*, *Potamísi*, *Rozakí white*, *Savatianó*, *Sámio* (Muscat de Samos), *Soultanína*, *Stavrochióitis*, *Tsaoulí*, *Váftra white*. COLOURED: *Aidáni mávro*, *Aïtonýchi mávro*, *Avgoustiátis*, *Eftákilo*, *Fráoula red*, *Katsanó black*, *Kourendí black*, *Korinthiakí*, *Mavráthiro*, *Mavromoscháto*, *Mavrotrágano*, *Mavrofráoula*, *Moscháto red*, *Rodítis*, *Rodomoúsa*, *Roússso*, *Rozakí red*, *Siderítis*, *Syríki*, *Tsibímbo*, *Váftra*, *Voïdomátis*.

22. The traditional sweet wine of Santorini was sold on the Venetian markets as *vino santo*. The French-speaking Catholics of the island called it *vin santo*, hence the Franco-Levantine *βινσάντρο* (vinsánto) and Hellenised *βισάντρο* (visánto), which means simply ‘wine of SANTORINI’.

23. Diapoulis 1971.

24. Davi 1971.

25. O. Rackham, *op. cit.*, pp. 384-385 tells us that “the flora of Santorini – that is, the list of

species – is surprisingly rich for an island of its size, to a degree which suggests that the Minoan

eruption was not big enough to sterilize the whole island”.

Cultural practices. Adaptation to the ecological environment

1. Fregoni 1991, pp. 74-76, 78-85.
2. Free translation from Pègues 1842, pp. 281-282.
3. *Ibid.*, p. 281.
4. *Ibid.*, p. 282.

The cultivation of the land

1. O. Rackham, ‘Observations on the Historical Ecology of Santorini’ in Hardy 1990, Vol. 2, p. 386.

2. *Ibid.*

3. Archive of the Wine Institute of the Ministry of Agriculture, report by A. Zoukas, *Oenological and Viticultural State of the Islands of Thera and Therasia 1916-1920* (in Greek). The author of the report served as agronomist responsible for Santorini during the period 1916-1920.

4. *Agriada* (*Agropyrum repens*, in English: the creeping couch grass), the *agrostis* of the ancients, is a perennial grass, a forage and pharmaceutical plant, but one which is difficult to get rid of. On the islands of the Aegean it is known as *aoústa*. This plant and its jointed roots make an excellent foodstuff for animals (see Gennadios 1959, pp. 11-12, 547).

5. *Atriplex Halimus*, in English: tree purslane. The *halimos* of Dioscurides and the *halimon* of Theophrastus (see Gennadios 1959, p. 147).

Vendema*

(*) Reprinted from SANTORINI 1971, pp. 237-241.

The Mediterranean and the European type of Santorini wine

1. O. Rackham, ‘Observations on the Historical Ecology of Santorini’, in Hardy 1990, Vol. 2, p. 390 and Doumas 1992, p. 27.

2. Olivier 1800/1-1807, Vol. 2 (1800/1), pp. 257-259.

3. Pègues 1842, pp. 287-288.

4. *Ibid.*, p. 288.

5. M. J. Salaha-Moutsopoulou and M. Voudouri-Tsoukala, ‘Anion chlore et sodium dans les vins. Problèmes posés aux échanges internationaux’, *Bull. O.I.V.*, Paris 1991, Vol. 64, pp. 363-388.

6. The plants take up sulphur from the soil through their roots in the form of sulphate ions, as well as directly from the atmosphere through their leaves as sulphur dioxide (Polyzopoulos 1976, pp. 504-505). On Santorini, in spite of the fact that the volcano is quiescent, hot steam and

sulphurous gases, which the plants assimilate through their leaves, emerge in various places.

7. About 1854, pp. 120-123.

8. S. Kourakou, ‘Degré de maturité optimal du raisin en relation avec le type du vin à élaborer’, *Bull. O.I.V.*, Paris 1975, Vol. 48, pp. 788-809, and S. Kourakou, ‘The grape as a raw material of vinification in warm regions’, *International Symposium on the Quality of the Vintage*, Cape Town 1977, pp. 301-309.

9. The soil of Santorini is sandy, with a very small percentage of argil. It is also poor in organic substances and, with the exception of a small area round Profitis Ilias, lacking in calcium carbonate. For these reasons, although the soil is rich in potassium, the plants are unable to absorb the quantities which are required in order to neutralise to a great extent

the tartatic acid, to which the good acidity of the wines of Santorini is due. The climate and the low rainfall, as well as the fact that the vineyards are not irrigated, also contribute to the low absorption of potassium.

10. In the case of certain fresh wines, an odour, of varying strength, due to the formation of certain sulphur compounds, develops. In these cases, the oenologist must not relax his vigilance. If he cannot manage to prevent their formation, he must at least take care to get rid of them before they become strong and unpleasant.

11. Decree 539/71 and Ministerial Decision 21385/1572/72.

12. vqprd—initials of the French 'Vin de

Qualité Produit dans une Région Déterminée' (Quality Wine Produced in a Specified Region—Quality Wine p.s.r.).

13. See note 11.

14. A yield per *strémma* of 700 kilos of grapes, which is much greater than the average yield which the vines of the island achieve under present conditions.

15. In order that these high-alcohol dry wines could be produced, Greece sought and obtained, during the negotiations on her accession to the EEC, a special regulation (Regulation EEC 337/79, Annex II, para. 11).

16. Ministerial Decision 304653/2962/74, published in the Government Gazette, B, n° 978/4.10.74.

The wine of the sun: from passos wine to vin Santo

1. Hesiod, *Works and Days*, lines 610-614. Orion, Sirius and Arcturus are among the brightest constellations in the firmament. The celestial equator passes through Orion. By the the description of the stars, Hesiod is indicating that the vine harvest should take place at the autumn equinox (23 September in modern calendars).

2. Kissopoulos 1947-1950, Vol. 12A (1947), p. 26.

3. Claudius Galen, *Περί ευχυμίας και κακοχυμίας τροφών*, Discourse E.

4. A summary of Edrisi's *Geography* was printed in Latin in 1593 in Rome. There were two editions of the entire work in the 19th century: a. A. Jaubert (Paris 1811): *Géographie d'Edrisi*; b. Société de Géographie (Paris 1840): *Géographie d'Edrisi. Recueil de voyages et de mémoires*.

5. E. Konstantinidis, 'The metropolis of Thera, Amorgos and the Isles', in *SANTORINI* 1971, p. 157.

6. Porcacchi 1576, reprinted 1620, p. 120.

7. The decodification of the names of islands and cities mentioned in the medieval period is not always easy. Many names had changed or been corrupted by time and ignorance as early as the 6th century.

8. Dapper 1703, pp. 379-381.

9. *Ibid.*

10. Pègues 1842, p. 327.

11. De Kigallas 1850, p. 88; Tselikas 1985, p.10.

12. Logothetis 1965, pp. 175-221.

13. Debuigne 1988, pp. 183, 186.

14. Tachis 1988, pp. 8-16.

15. *Ibid.*

16. The variations in the spelling of 'vino pretto', 'vin pretto', 'vin santo', etc. are due to the Italian text of Tachis and not to the English translation. Further, when Tachis refers to the "famous... wine... from Thrace", he means the 'Ismaric' wine of the Homeric age, which was not produced, of course, in Byzantine times.

17. Braudel 1979, Vol. 3 (*Le Temps du Monde*), p. 112.

18. Tachis, *op. cit.*, states that according to the alphabetical lexicon of viticulture and oenology of Cusmano (1889), 'vino pretto' was the name



Fig. 91 Utensils of the traditional *cánava*.

given to pure, undiluted wine, and notes that this wine is entirely unknown to today's Italian oenologists.

19. The Ecumenical Council of Ferrara-Florence was attended by the Patriarch Joseph II and 20 bishops.

20. N. Bèès, entry on 'Bessarion', in the

Eleftheroudakis Encyclopedia-Lexicon.

21. Mentioned by Tachis, *op. cit.*

22. Richard 1657, p. 17.

23. Royal Decree 539/71 and Ministerial Decision 21385/1572/72.

24. Regulation (EEC) n° 3201/90, Art. 14, para. 2 (c).

From the lenos to the modern wineries: a centuries-old tradition

1. Tournefort 1717 (modern edition 1982, p. 164).

2. Kissopoulos 1947-1950, Vol. 13A (1948), p. 58.

3. It would not be too bold to maintain that in ancient Thera, because of the shortage of wine-jars, the must was collected and the wine fermented in vats opened in the tuff, plastered with a kind of mortar consisting of earth of Thera, lime and pumice – just as the vats below the treading containers are constructed in the *cánaves* of Santorini. Furthermore, in the earliest wineries on the island, fermentation of the must took place in concrete tanks.

4. Olivier 1800/1-1807, Vol. 2 (1800/1), p. 258.

5. Kindly supplied by Georgos Venetsanos (of

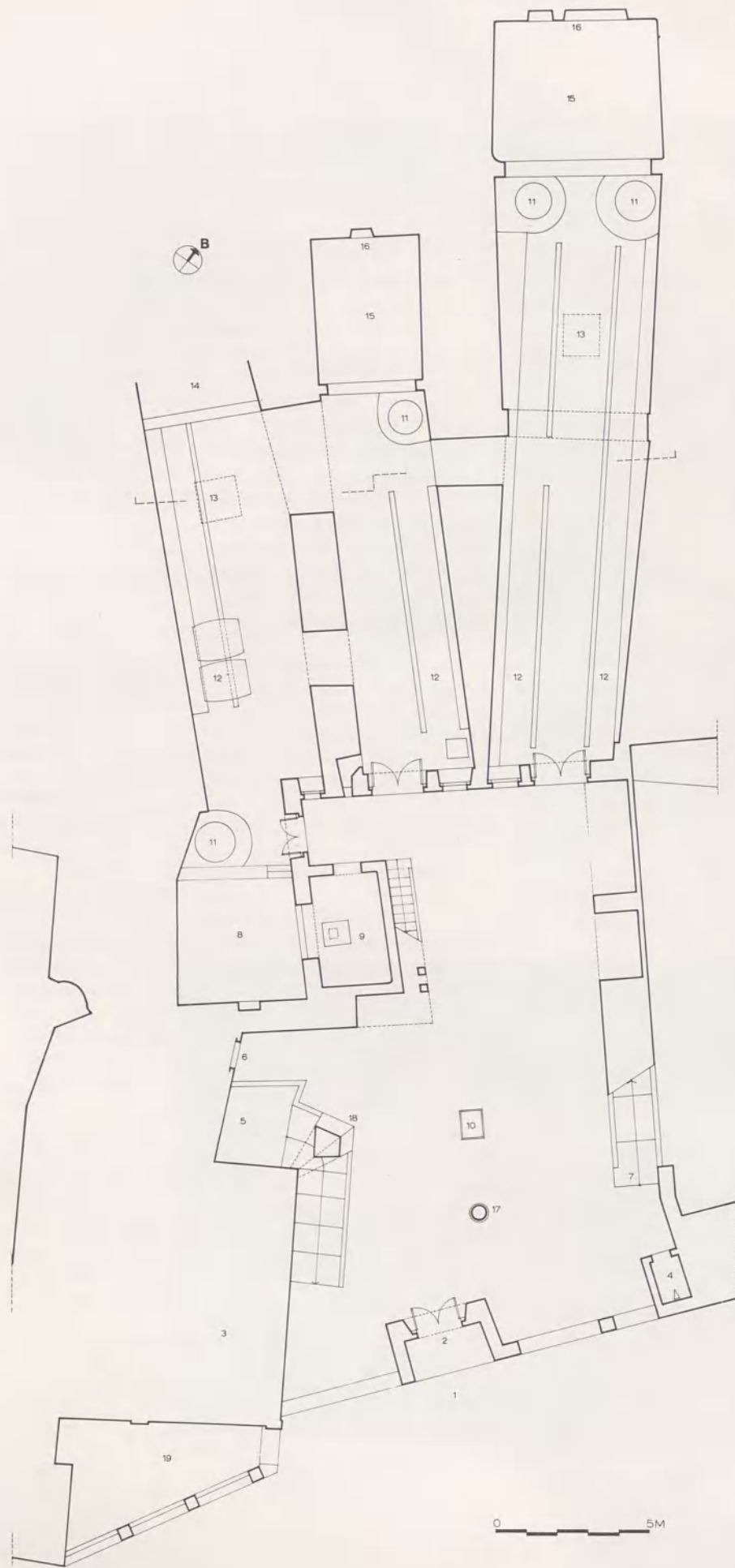
Megalochori) from his valuable archive.

6. In Santorini's small 'Wine Museum', which is housed in the old Koutsoyannopoulos *cánava*, certain representative examples of the equipment which the *cánaves* used to have are maintained in excellent condition and with great care. Vessels from the traditional *cánaves* and carpenters' shops are also to be found in the Santorini Popular Art Museum, on the Lygnos estate at Phira.

7. Modernisations of this kind have been carried out at the Argyros *cánava* (Episkopi Gonias), which processes 110 tonnes of grapes from family vineyards, the Sigalas (Oia) and Koutsoyannopoulos (Vothonas) *cánaves*, which process 25 and 20 tonnes, respectively.



Fig. 92 The Boutari winery on Santorini.



Illus. 15 Venetsanos cànava at Mesaria (1887).

Ground floor plan.

- 1. Main road of the settlement.*
- 2. Entrance.*
- 3. Accommodation for labourers.*
- 4. WC.*
- 5. Entrance to basement (use unknown).*
- 6. Entrance to service area from yard.*
- 7. Steps/ramp leading to the roof of the cànava.*
- 8. Patitiri, subsequently made into passageway to area 9.*
- 9. Later addition, for the manufacture of tomato paste.*
- 10. Rainwater grating.*
- 11. Linós.*
- 12. Row of barrels.*
- 13. Ventilation shaft.*
- 14. Water tank behind a high wall.*
- 15. Patitiri.*
- 16. Recess to support plank.*
- 17. Support pole for pergola.*
- 18. Buttress reinforcing the corner of the building.*
- 19. Veranda of labourers' accommodation.*

Canaves and Rakidia: traditional buildings on Santorini

1. Here it should be mentioned that on the occasion of the three-day meeting held on Santorini in 1990 on the subject 'The History of Greek Wine', organised by the ETBA Cultural Foundation and sponsored by J. Boutaris and Son SA, papers were read by architects, dealing with this little-known subject (K. Palyvos, D. Philippides). The present author owes much to the help given to him by the late Kostas Roussos, which ranged from personal reminiscences to advice and instructions on visiting old wineries.

2. An exception to this is D. Vasileiadis, who carried out a census of farm buildings in the same systematic way as he did with other categories of building. More particularly in the case of *patitíria* and *kazanariá* (a term used on Nisyros, which corresponds to *rakidiá*), he is the author of 'The vernacular architecture of Aegina'. *Λαογραφία*, Vol. 16, n° 2 (1957), pp. 488-491, and 'Farm buildings on Nisyros', *Λαογραφία*, Vol. 24 (1966), pp. 352-355. See the papers of D. Zivas (on Zakynthos) and P. Tournikiotis (on Arcadia and Samos), in

HISTORY OF WINE 1992, pp. 160-170 and 148-153 respectively.

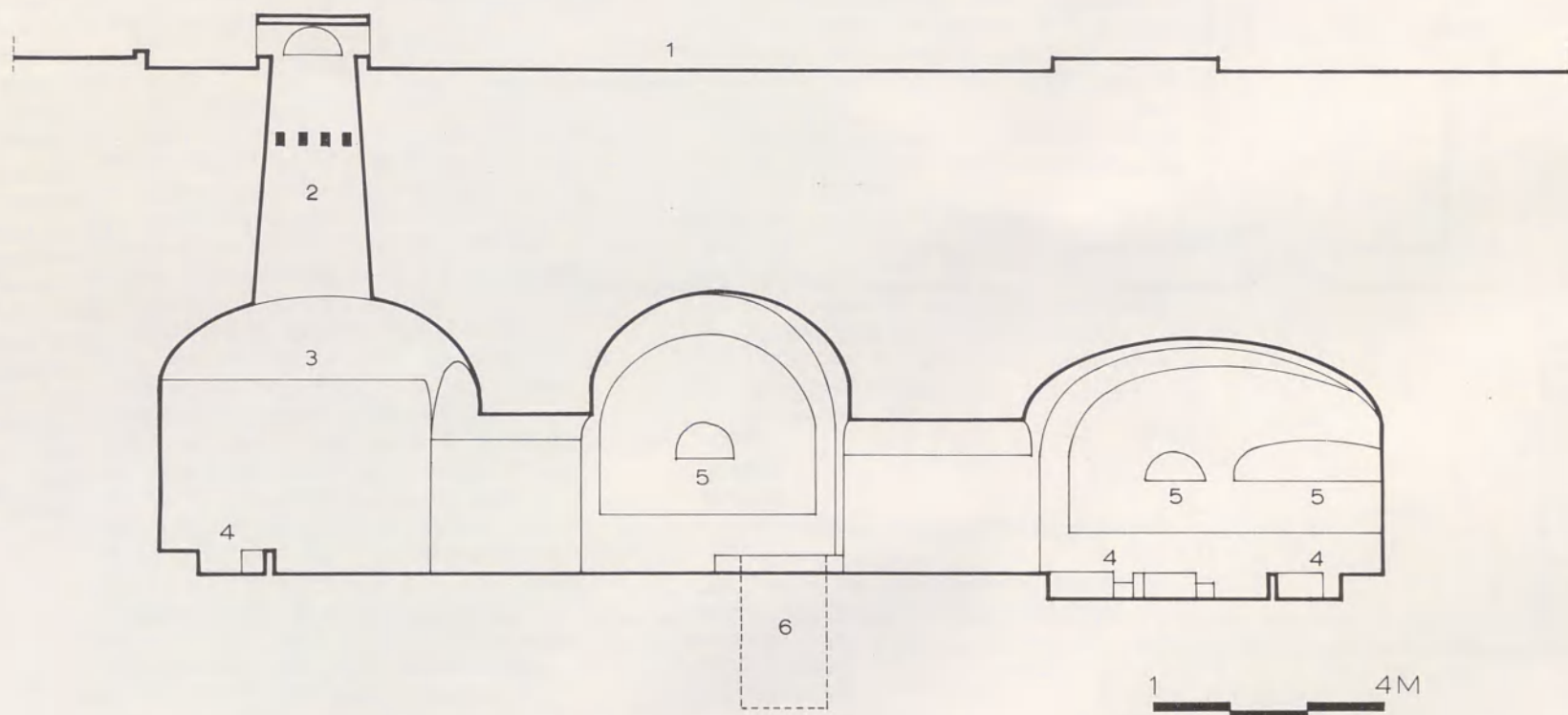
3. The black stone is harder, and therefore more difficult to work. The red stone is more porous, and therefore lighter and easier to work. Pumice is spongy, brittle and is used as an inert material in mortars (see, as the most readily available source, D. Philippides, 'Santorini', in *Greek Traditional Architecture*, Vol. 2, Melissa, Athens 1983, p. 155).

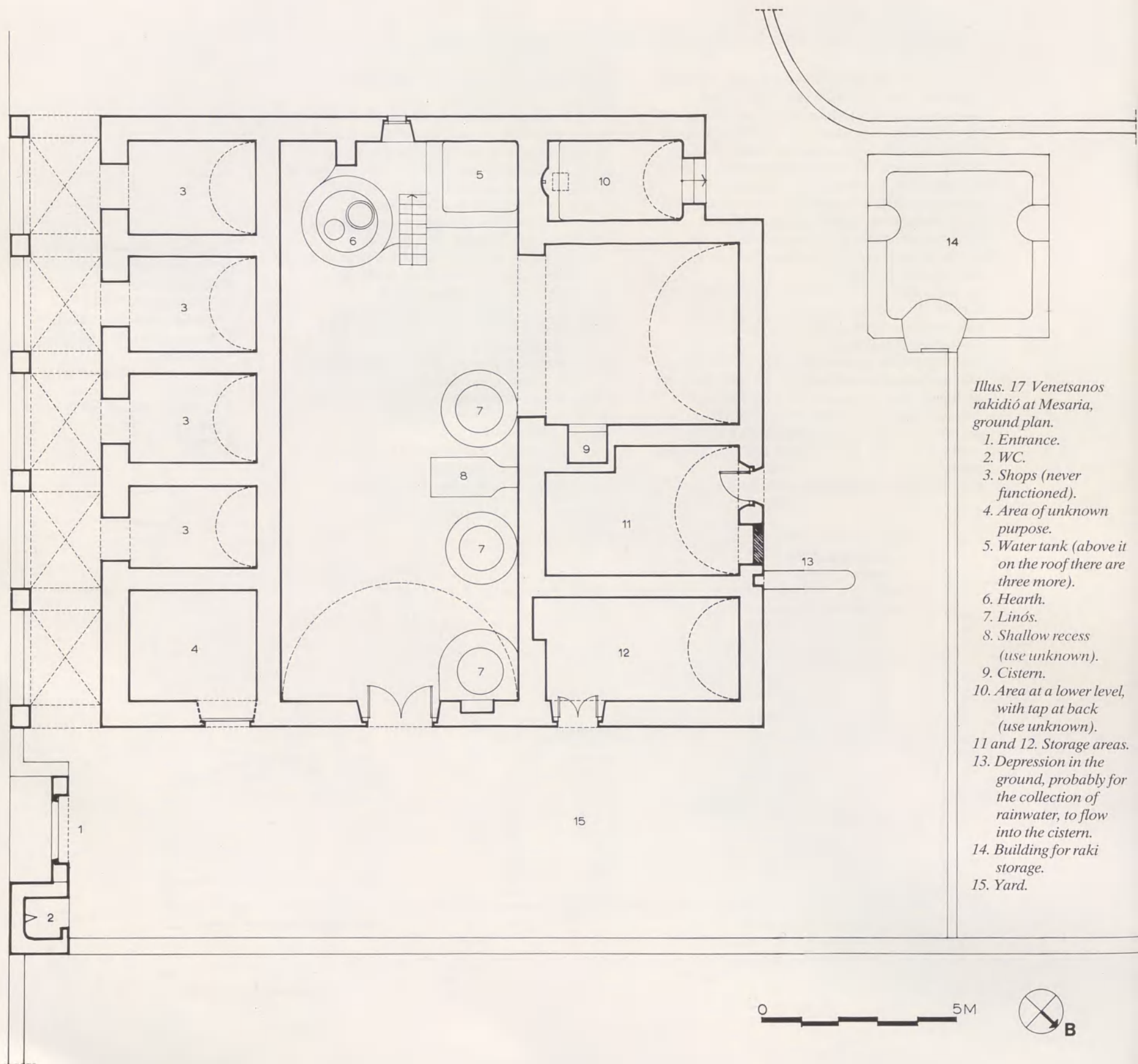
4. These monumental buildings have as a rule been ignored or accorded very little attention. It is worth noting that D. Vasileiadis, while acknowledging the legitimacy of the older morphological types ("with the pilasters"), denies it in the case of the later neo-classical ones: "What interaction can there be between such houses and this place"? (*Ψηφίδες του νεοελληνικού μύθου* - Tesseræ of Modern Greek Myth), Gnosi, Athens 1986, p. 90.

5. According to information supplied by Christine Agriantoni in the course of the three-day meeting on Santorini, this change may

Illus. 16 Venetsanos cánava at Mesaria, cross-section.

1. Ground level.
2. Ventilation shaft with wooden beams at intervals.
3. Water tank at the back of the *thólos*.
4. Masonry base for rows of barrels.
5. Recess at the back of the *patitíri*.
6. *Linós*.





Illus. 17 Venetsanos rakió at Mesaria, ground plan.

1. Entrance.
2. WC.
3. Shops (never functioned).
4. Area of unknown purpose.
5. Water tank (above it on the roof there are three more).
6. Hearth.
7. Linós.
8. Shallow recess (use unknown).
9. Cistern.
10. Area at a lower level, with tap at back (use unknown).
- 11 and 12. Storage areas.
13. Depression in the ground, probably for the collection of rainwater, to flow into the cistern.
14. Building for raki storage.
15. Yard.

0 5M



coincide with the setting up of *rakí* stills for use as opportunity arose round about 1890, to meet the need to utilise unsold dried grapes. This prompted the government of the day to introduce regulations favourable to local spirit distillers (Law 1512 of 1887, Law 2193 of 1892 and Law 2627 of 1899) and to set up mechanisms to monitor this private production to combat tax evasion (permitted duration of operation, quantity and sale of the product).

6. Such examples are known, apart from those recorded by D. Vasileiadis (see Note 2 above), from information collected in person in Crete (e.g., dependency of the Toplou Monastery with *patitíri* in the Siteia region)

Coopering in Santorini*

(*) Reprinted from SANTORINI 1971, pp. 231-236.

Translator's note: Certain items of information of a linguistic nature, meaningful only to Greek readers or students of Greek, have not been translated. The reader interested in the terminology of Greek coopering can find details either in the original source: D. Oikonomidis, 'Η βαρελοποιία εις τήν Σαντορίνην' (Coopering in Santorini), in SANTORINI 1971, or in the Greek edition of the present volume, pp. 177-181.

1. In antiquity, it was Pliny (Natural History XIV, 27) who first speaks of wooden containers, with circular hoops, used by the inhabitants of the Alpine regions for the storing of wine. On the Byzantine period, F.I. Koukoules (*Byzantine Life and Culture*, Vol. B1, Athens 1948, p. 188 – in Greek) cites a written source which provides evidence for the use of barrels in Greece.

2. K. Faltaits, 'Itinerant Epirot craftsmen', *Ελληνική Επιθεώρησις*, Vol. 20 (1926/27), n° 240, pp. 6-8 (in Greek). By the same author 'Itinerant craftsmen in Greece', *Ελληνικά Γράμματα*, Vol. 3 (1928), pp. 8-13 (in Greek).

3. Athanasios Papacharisis writes: "Those with the surname 'Vayenas' in various parts of Greece usually are descended from *vayenádes* who came from Sopika" (A.C. Papacharisis, 'Sópika or the private language of the cooperers of Northern Epirus', *Ηπειρωτικά Χρονικά*, Vol. 5 (1930), p. 266 - in Greek). The word *voutsí* (barrel) is derived from the medieval noun *voutsíon*, which is in turn from *voutíon* and

and on Karpathos (Arkasa region).

7. This large complex is perhaps the only one on the island with special accommodation for the labourers in a separate ground-floor building, which on the outside, as it faces on to the road, looks like an ordinary house. According to the inscription on the facade, this "wine store" was built by Antonis Venetsanos in 1887.

8. In the description of such a composite role we should distinguish between those items of employment which are based upon the economy of production for domestic consumption (barley, melons, fishing, etc.) and those, such as wine production, aimed at the market.

vytíon. The following popular expressions contain the word: "He became a *voutsí* from eating", meaning that he became fat, and "He gave him a beating that made him a *voutsí*" - he beat him up so badly that he swelled up, as do the proverbs: 1. "The poor saint and the empty *voutsí* have no respect", i.e., the poor and those who have no benefit to offer are not respected; 2. "As long as the *voutsí* had wine in it, Vassilis, Kyr Vassilis, and now that it's run out, where are you to be found, you bald beggar?" used of the ungrateful.

4. Information from F. Katsipis of Santorini.

5. This is what it was called, as we have seen above, in the last century of the Byzantine Empire, as noted by F.I. Koukoules, *op. cit.*, p. 188.

6. See note 4.

7. N.G. Petalas, *Θηραϊκής γλωσσολογικής ύλης, Α, Ίδιωτικόν τής θηραϊκής γλώσσης* (Thera Linguistic Material, issue A: Idioms of the language of Thera), Athens 1876, p. 36.

8. See note 4.

9. *Ibid.*

10. *Ibid.*

11. *Ibid.*

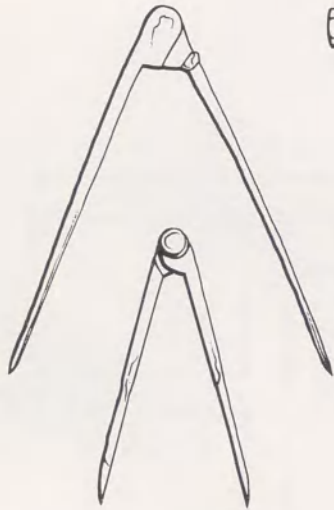
12. Information from Eleftherios Evdaimon.

13. See note 12.

14. The proverb is a variation on the more familiar; "He who pities the nail loses the horseshoe".

15. See note 12.

16. See note 4.



Illus. 18 Koumpáso.



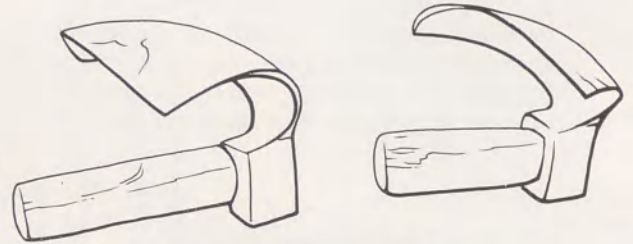
Illus. 19 Xylofás.



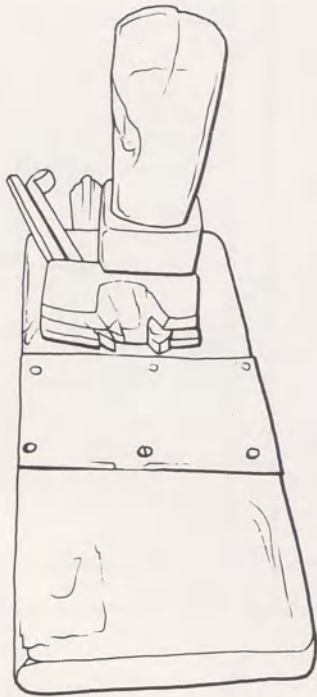
Illus. 21 Glýftis.



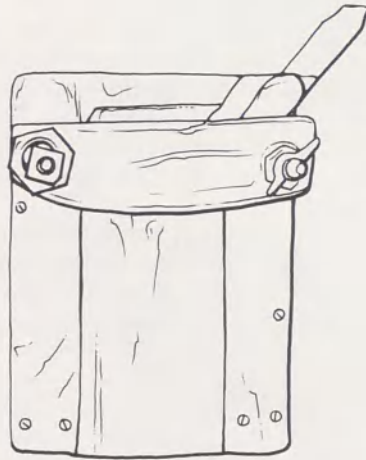
Illus. 20 Kalafatikó.



Illus. 22 Kavarosképarno.



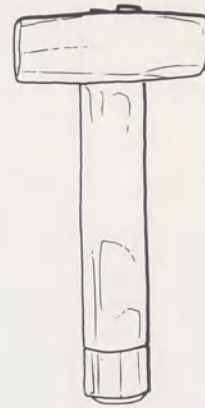
Illus. 23 Tsiniadóros.



Illus. 24 Kavaroroúkano.



Illus. 25 Sfína.



Illus. 26 Sfyrí.



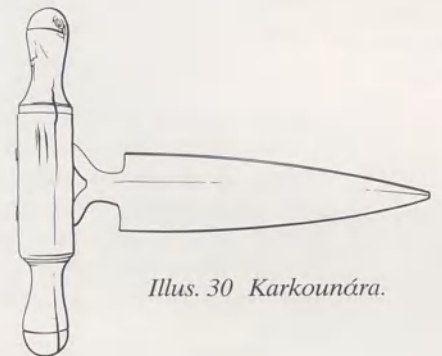
Illus. 27 Taliadoúra.



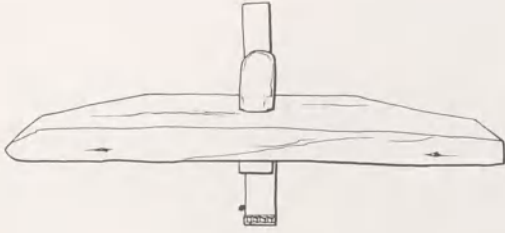
Illus. 28 Planiopóula.



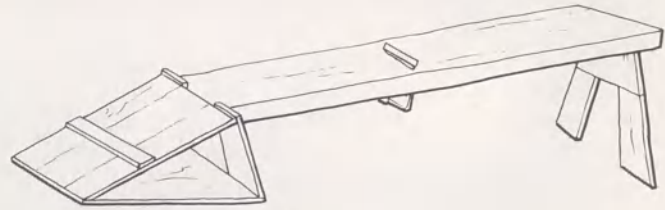
Illus. 29 Klóva.



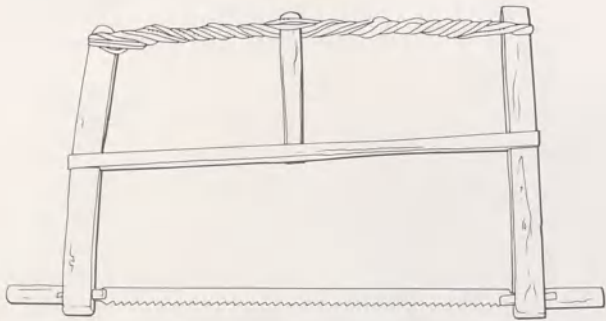
Illus. 30 Karkounára.



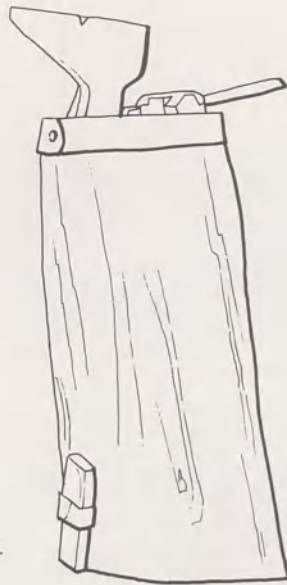
Illus. 31 Párma.



Illus. 33 Pláni.



Illus. 32 Kourastári.



Illus. 34 Kormós.

*Sketches of tools used by the
coopers of Santorini*

- 18 *Pair of compasses.*
- 19 *Wood file.*
- 20 *Caulking metal tool used for
filling interstices between
joints of barrels.*
- 21 *Tool used for scraping the
chimb of the traves.*
- 22 *Adze used for trimming the
surface of the barrels on the
inside.*
- 23 *Various types of tools
used for making*
- 24 *the groove which*
- 31 *holds the heads of barrel.*
- 25 *Steel hoop setter to tighten
the hoops on barrels.*
- 26 *Wooden hammer.*
- 27 *Adze used for giving the
appropriate shape to the
traves and for trimming them.*
- 28 *Small plane used for
smoothing the surface of traves.*
- 29 *Wooden hoop driver used for
putting the hoops into position.*
- 30 *Cooper's auger used to make
the tap hope and the bung
hole in the barrels.*
- 32 *Saw with broad blade for cut-
ting the traves in equal sizes.*
- 33 *Plane.*
- 34 *Oak block with steel cutter.*

Basketmakers and baskets on Santorini

1. In the period 1790-99, in accordance with the Sultan's *firman* to the Kapudan Pasha, Hussein Pasha, it was decided to levy a tax on wine, *rakí*, etc. on 30 islands. Santorini alone had to pay 43% of this particular tax. See V. Sfyroeras, 'The economics of Santorini during the last century of Turkish rule' in *SANTORINI* 1971, pp. 103-105 (in Greek).

2. An experienced, fast and young craftsman needs at least four hours to weave a *kofíni*.

3. Around 1934, famous craftsmen of Santorini were: at Vothonas: Yorgos Aghioritis or Kyr(e)lezos, aged 65-70, Vangelis Aghioritis, son of Yorgos, Yorgos Kafouros or Troulakis, Nikolaos Kafouros, Maris Kafouros, Manolis Kafouros or Troulis - of the same family as those preceding - Markos Prekas, aged around 70, Spyros Prekas, son of Markos, Yannis Galeos or tis Elias, and Yannis Argyros, 'farm servant' from Mesa Gonia; at Mesaria: Loukas Lygnos, aged around 23, and Markos Maíntanos, aged around 70; at Kontochori: Charalambis..., aged around 70, and at Exo Gonia: Artemis Poulakis, aged around 80.

4. Manolis Nomikos or Manolitsos at Vothonas, Antonis Kafouros at Perissa, Rousetos at Merovigli, Charalambis Varvis at Emporeio, Michalis Drosos at Kountouklas and Vangelis Tsakiris or Threpsinas at Akrotiri are increasingly less occupied with the craft.

5. In the hammering of the *kofínia* an iron tool may also be used; this also serves as a wedge for enlarging the spaces between the woven rods.

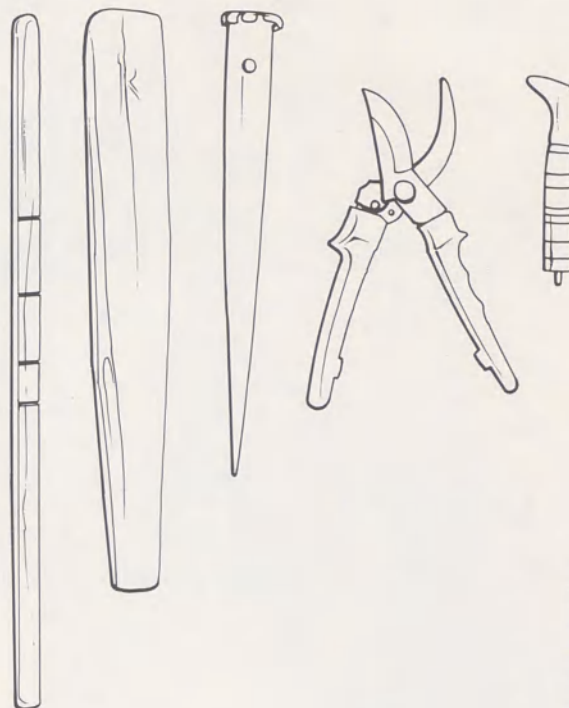
6. Of interest is the evidence provided by Spyros Marinatos as to the finding of a part of a *spyrís* (fish basket), made out of osier rods, in the north-western section of the excavation at Akrotiri in 1969. See Spyros Marinatos, 'The excavations at Akrotiri, Thera', in *SANTORINI* 1971, pp. 51-58 (in Greek).

7. *Kofínia* are also used by fishermen, and for the carrying and measurement of 'earth of

Thera'.

8. The way in which the *kofíni* is made was recorded in the workshop of Yorgos Kafouros at Megalochori, Santorini, in July 1993.

9. See: a) M.G. Spyrou, 'How baskets are made in my village of Filousa (Kalokerádes, Paphos)', *Μαθητική Έστία*, Vol. 18 (1969), n° 47, pp. 48/344 - 49/345 (in Greek); b) A. Florakis, 'Basket-weaving in the village of Volax on Tinos', *Άνθρωπος*, Vol. 3 (1976), n° 1, pp. 115-129 (in Greek); c) M. Euthymiou-Hatzilakou, 'The basket-weaving of Argos', *Εθνογραφικά*, Vol. 2 (1979-80), pp. 57-81 (in Greek).



Illus. 35 a-e Tools used by the Santorini basketmaker: metrári (measure), kópano (wooden mallet), metal kópano, psalída (secateurs), ferendíni (picking knife).

Glossary

áspa = local name used for the volcanic ash, the 'earth of Thera', which is, together with pumice and pieces of solidified lava, the native rock of the soil of Santorini.

balís = overseer of a *cánava*.

brousko = dry, rough wine.

caldéra = Spanish word meaning 'cauldron' and used to describe the crater of Santorini's prehistoric volcano.

cánava, pl. *cánaves* = premises for the making and storage of wines, dug out of the volcanic soil.

lenós, pl. *lenoí* = treading container (ancient Greek).

linós = vat placed under the treading container.
meltemía = north-easterly winds blowing chiefly in summer.

oká = 1,280 grams.

rakí = marc brandy obtained by distilling the skins, the *ráki* (literally 'rags') of the grapes.
rakidió, pl. *rakidiá* = village *rakí* distillery.

stérna, *yistérna* = cistern.

strémma, pl. *strémmata* = 0.1 of a hectare.

vendéma = vine harvest, from the Italian *vendémia*.

zevgariá, pl. *zevgariés* = area which can be ploughed in one day, roughly equivalent to 0.3 of a hectare.

Maps

Maps 1, 2 and 3 (see pp. 81, 96 and 97) are taken from the study by N. Misopolinos, N. Silleos and K. Prodromou, *Φυσιογραφική και έδαφολογική χαρτογράφηση της νήσου Σαντορίνης* (Physiographic and Soil Map of the Island of Santorini), Thessaloniki 1994 (mimeo), which had as its purpose the study of the physiography and soils of the island as well as the production of eight thematic maps by a combination of analysis of aerial photographs, field work and the Geographical Information System (GIS).

This study was produced by the laboratories of Applied Soil Science (Director: Professor N. Misopolinos) and of Applications of Remote Sensing in Agriculture (Director: Professor

N. Silleos) of the Aristotelian University of Thessaloniki, within the framework of a research programme of vinivicultural interest which was submitted by J. Boutaris and Son, included in the 'Operational Programme for Research and Technology I' and financed by the European Union.

Apart from the important pedological findings which have resulted from this research, a comparative study of the thematic maps, a comparative study of the vineyard coverage of the island in the years 1972 (Map 1) and 1994 (Map 3) reveals a significant reduction in viticulture, due chiefly to the tourist development of the island (see p. 98 of the present volume).

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Fig. 93 Attic kylix (wine cup) decorated on the inside with ships engaged in the wine trade with all the then-known world. 510-500 BC. British Museum, London.



Publisher's note: A kylix similar to this and of the same period was found intact on Santorini in 1961 (height: 26 cm., diameter: 46.5 cm.). On its inside, on the 'médaillon', Poseidon is shown crushing the giant Polybotes. The perimeter of the rim is decorated with six ships. Such vessels, brimming with wine, would have given the impression that the ships were sailing on the surface of the wine - the "wine-dark sea" of Homer.

The Santorini kylix is much admired by visitors to the island's Archaeological Museum, where it is displayed with other items from the pottery workshops of Attica found in the same excavations. Some of these have 'Bacchic' decoration of striking beauty. The fact that the study of these finds has not yet been completed and, thus, they cannot be photographed has deprived us of the pleasure of introducing readers to the wine-related treasures of the Archaeological Museum of Thera-Santorini. We must confine ourselves to wishing them the good fortune of enjoying them on the spot.

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Photographs - Illustrations

Photographs

Andreas Smaragdis: Figs. 1, 2, 3, 6, 10, 13, 14, 15, 16, 18, 20a-d, 21a-d, 22, 26, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48a-d, 49, 50, 51, 52, 53, 54, 55a-d, 56a-d, 57, 58, 59a-d, 60, 64, 65, 67, 70, 71, 72, 73, 78, 79, 80, 81, 82, 85, 86, 89, 91, 92, cover and end papers.

Ioanis Valtis - Heinz Troll: Figs. 4, 7, 11, 12, 38, 61, 62, 63, 66, 68, 74, 83, 87, and the subjects on pp. 11, 87, 139, 189.

Source of other photographs

Fig. 5: Hellenic Literary and Historical Archives Society archives.

Figs 8, 9, 23: Archives of the Thera Foundation-Petros M. Nomikos.

Fig. 17: Archaeological Resources Fund.

Fig. 19: Archives of the National Archaeological Museum, find no 623.
Fig. 24: Porcacchi 1576 (see General Bibliography), reprinted in Padua 1620, p. 119. Gennadeios Library. Photograph: P. Magoulas.
Fig. 25: Dapper 1703 (see General Bibliography), p. 187. Gennadeios Library. Photograph: P. Magoulas.
Fig. 27: Olivier 1800/1-1807 (see General Bibliography), Atlas, Map 2, no 7. Gennadeios Library. Photograph: P. Magoulas.
Fig. 76: Martin von Wagner Museum, Würzburg, L. 208. Photograph: K. Öhrlein.
Fig. 77: Martin von Wagner Museum, Würzburg, L. 265. Photograph: K. Öhrlein.
Fig. 84: Photograph provided by the project's architect, Mr A. Koutrouvelis.
Fig. 88: Delendas J.C., *The Catholics of Santorini...* (in Greek), Athens 1949.
Fig. 90: Barskij Vasilij, *Travels of Vasilij Grigorovic Barskij to the Holy Places of the East between 1723 and 1747* (in Russian), N.P. Barskukov (ed.), St Petersburg 1885-1887, vol. IV, pp. 152-153.
Fig. 93: British Museum, London.

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Illus. 1, 4: Irini Nomikou, taken from photographs by Mr A. Smaragdis.
Illus. 2 a-b: N. Kontinis, civil engineer.
Illus. 3, 15, 16, 17: D. Filippidis, architect.
Illus. 5 a-b: Irini Nomikou.
Illus. 6-12, 35 a-e: Drawn by Ms Irini Nomikou from photographs taken by Ms Eleni Tsenoglou in the workshop of Mr G. Kafouros, Santorini.
Illus. 13 and 14: Drawn by Ms Irini Nomikou from diagrams produced by Ms Christine Agriantoni and Mr Georgios Venetsanos (Megalochori) respectively.
Illus. 18-34: The coopering tools were drawn by Ms Irini Nomikou from photographs taken by Mr D. Kourkoumelis in the coopering workshop of Antonis N. Papadopoulos & Co., 15 Souidias & Komotinis Str, Kaminia, Piraeus.

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