

Sponge Markets of Kalymnos¹

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RÉSUMÉ

Cet article décrit le processus de mise en marché des éponges sur l'île grecque de Kalymnos. En suivant les différents partenaires des transactions dans leurs négociations, nous voyons les relations entre les facteurs sociaux et économiques qui influencent le marché. Il est particulièrement intéressant de noter le système institutionnalisé de collusions entre acheteurs et vendeurs pour exploiter les producteurs premiers d'éponges. Les producteurs sont vus comme participant à cette collusion par leur acceptation du système. On analyse les profits et les pertes tant sociales qu'économiques.

This paper describes the operation of the sponge market on Kalymnos, an island in the Dodecanese area of Greece. The time is 1964-65, towards the end of an era during which sponge fishing completely dominated the economic, political and social affairs of Kalymnos. Beginning in 1960, synthetic sponge began cutting seriously into Kalymnos' markets. By 1970 the sponge industry on Kalymnos was near collapse and only government subsidy saved it. As far as I could tell, however, the markets of 1965 were conducted in the manner which had become traditional on the island since the early part of this century.

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Kalymnos is mostly rock. About 18% of its 49 square miles is arable and only a small part of that is under cultivation. There are very few wells or irrigation facilities and fresh water is at a premium. In 1968 about eleven percent of the foreign exchange in the Kalymnian economy was from agriculture, and most of this was from the citrus crop in a single fertile valley. Like many of the rather barren Greek islands, the economic focus of Kalymnos is on the sea and beyond. Overseas migration for work (including the merchant marine) and sponge fishing have long traditions on Kalymnos. At least 5300 overseas migrants are known to have left Kalymnos in this generation and their remittances are a very important source of hard currency. Forty percent of the foreign exchange in 1968 came from remittances by men in the merchant marine and from migrants to foreign lands. Another 30 percent came from foreign sales of sponges.

Remittances averaged \$30 for each Greek resident in 1968. On Kalymnos they averaged \$138. The balance of trade in Greece for 1968 was \$75 in the red for each resident. On Kalymnos the trade balance was in the black by \$120 for every person on the island. The healthy economy of Kalymnos has been helped by government subsidy and construction since the Dodecanese were remanded back to Greece in 1948.² Kalymnos has thus not experienced the massive migrations which depopulated so many rural areas of Greece in the 1960's. The 1960 census showed 15,000 inhabitants, and the 1970 census recorded 13,000. The most important single factor for this economic and population stability has been the sponge industry.

Sponge fishing operates on a yearly cycle. In January the captains of the boat recruit their men from the island's labor pool. About 500 men went to sea on three dozen vessels in 1965. The boats are painted and caulked during February and March. The fleet leaves around Easter time, sailing across the Mediterranean to the waters off the North African coast where sponges have harvested for six to seven months. Around the end of October

² A full treatment of these factors has been presented in H. R. Bernard, "Kalymnos: island of the sponge fishermen" in *Technology and Social Change*, ed. by H. R. Bernard and Pertti Peltó, MacMillan Co., 1972.

the sea becomes choppy and the water turns too cold for comfortable diving. The fleet returns in early November; sponge catches are cleared directly through the port of Kalymnos as imported produce for merchandising; then the captains begin their bargaining with the local sponge merchants.

The buyers were traditionally an aristocratic class on Kalymnos. Although sponge captains often became wealthy, the landed merchants and professionals held the captains in contempt as seafarers. ("They're never at home; what kind of life is that for a family?") During the annual card-playing and gambling period (December 6 — January 6) on Kalymnos, the big-money games are played by the landed merchants and sponge buyers. Many captains could afford to play for the stakes in those games, but they are almost never invited.

At the bottom of the social ladder (from the viewpoint of the landed classes) are the divers — a group of perhaps 600 during the heyday of sponge fishing in 1912, and about 150 in 1965. Being a diver is dangerous; one can not walk around Kalymnos even today without seeing men in wheel chairs or on crutches — victims of the bends. Some merchants on Kalymnos still hold the divers in the lowest form of contempt:

They are a cancer on the island. They drink and carry on with women and they are a disgrace. Thank God the divers are gone during the summer when tourists might come. Otherwise, what would they see? Drunken bums, that's what!

Many non-seafaring Kalymnians talk glibly about the promiscuous sexuality of divers' wives. (There is no evidence that divers' wives are less faithful than upper class women.)

In spite of their contempt for the divers, the middle and upper classes of Kalymnos honor them every year with a fête, wishing them a safe journey and a safe return. Without the divers risking their lives there would be no influx of European currency, no jobs for hundreds of support personnel on land and at sea, and no mercantile class on the island. For their part, the divers are indeed a hard drinking, raucous group, at least during the first decade of their career. By the time a diver reaches 27 or 30 years of age, there is a tendency to become more sedentary, more family oriented,

and less reckless. During their youth, however, divers are grudgingly accorded a licence for anti-social behavior by the landed classes.

Moreover, the financial rewards of diving are high. Most divers earn about \$2000 in six months — two and half times what a similarly educated laborer earns in a year. They receive most of the earnings in advance. This money is called *platika*. At sea, the divers work three times a day for a total of 1.5 or 2 hours at most. During the remainder of the day they read, chat, rest, and sip coffee prepared for them by deck hands. To earn these rewards divers take life-and-death risks. Their casualty rates are high, and obvious for all on Kalymnos to see. In 1965, six men died and nine were crippled from bends and embolisms.

The customary logic for *platika* is that divers do not know if they will return from any given expedition. Therefore they need to have their money in advance so they can enjoy it before sailing. Indeed, the last few weeks before the fleet leaves is marked by the spending of money in *tavernas* at a greater rate than at any other time of year. There are some legendary exploits: in 1936 one man lit a cigarette with a thousand lira note; in 1950 a diver tapped an entire keg of wine and danced as it ran out onto the floor; and so on. The result of this spending behavior was, until the government stepped in, to leave a number of women on Kalymnos without support while their husbands were at sea. The divers were in debt to the captains, and the divers' wives were in debt to local merchants for subsistence goods. Thus, as men of honor, the divers paid off their wives' debts as soon as they got their advance money from the captains. With the remainder, the youngest divers displayed the ostentatious spending behavior described above.

In order to pay their divers' *platika*, the captains used to go into debt to the buyers. When the National Agricultural Bank decided to underwrite sponge fishing around 1950, they decreed that divers would get only part of their money in advance, according to a schedule of competence. Divers rated as "first class," for example, were to get 26,000 drachmas, half of which would be placed in a bank account under the wife's name if the diver was married. The divers, however, continued to demand all their money in advance, usually 54-60,000 drachmas for a first class diver. The difference between the 26,000 drachmas and 60,000 drachmas

platika had to be borrowed from private sources. Private interest rates run 20% per year. Thus, the buyers retained their position as bankrollers of the high-risk sponging expeditions.

By law, divers receive from 35% to 43% of the sale value of their own sponge production. For example, if a diver catches 150 *okas* of sponge (one oka equals 1260 grams) selling at 900 drachmas an oka, he might receive, say, 40% of 135,000 drachmas, or 54,000 drachmas as his share. The captain keeps 60%, out of which he pays his overhead and makes his profits.

The maximum platika received in 1965, 90,000 drachmas, was more than any man could have humanly produced on a 43% contract. The captain who paid out the large sum of platika was willing to accept a theoretical loss in order to get some gain. For example, a novice diver might receive only 20,000 drachmas in platika; but he would have to harvest at least 67 *okas* of sponge (selling at 900 drachmas/oka on a minimum 35% contract) to make up that sum. There is a good chance that a novice will not make this quota. Even if he does, the captain's gross profit is 65% of 60,300 drachmas, or 21,105 drachmas. The diver receiving 90,000 drachmas on a 43% contract would have to harvest 233 *okas* to make up his debt. If he brought up only 160 *okas* (a realistic figure for a truly first class diver) the captain's gross profit (after subtracting the 90,000) would be 34,000 drachmas. Such exaggerated cases of platika are rare, but they demonstrate the riskiness of sponge fishing and the reason for the 20% interest rate. In this case the diver died midway through the season and the captain had to write off the platika as a loss.

Each diver demands as much platika as he can get. The size of the platika is a measure of a man's status among his peers. The formula used to compute platika is:

[(the current market price of sponges per oka, plus at least 5% inflation on next year's price) (multiplied by the number of *okas* he expects to produce based on his previous record, plus an increase during each of the first six or eight years before he reaches a maximum production plateau)] [multiplied by the maximum percentage contract he can negotiate with the captain] = some round figure.

The diver adds a few thousand drachmas onto this sum as a bargaining cushion. The captains contend that the divers are extortionists but they pay them in advance nonetheless.

Since divers are all on individually negotiated contracts, each man's catch is stored separately on the mother ship during the course of the expedition. Every three weeks, the catches are dried, thrown together and sorted by grade for baling by the captain. Each diver receives a slip of paper indicating his production record during the previous period. The sorting and baling is done by the captain on the mother ship. The actual sponge harvesting is done from smaller diving vessels. When the divers return to the mother ship at night, the baling is finished and they must take the captain's word for how much they have produced.

When the captain sees that a man is falling behind in production he simply places some sponge on the man's tally from another diver who is running ahead. At the end of the trip the captain has usually evened out all the platika debts. He owes nothing and is owed nothing. When all losses are covered and still more sponge is produced, the divers get bonuses after the sale of the catch according to their original percentage contracts.

Consider a diver who negotiates a 40% contract and 54,000 drachmas in platika, based on the assumption that he will catch 150 okas of sponge selling at 900 drachmas/oka. He catches 165 okas — but 10 okas are taken from his account to make up the platika debt of a man with a similar contract who produces only 140 okas during the trip. Then, ideally, the captain would still owe the first man 40% of 900 drachmas, multiplied by the 5 okas left over. This is called a post-payment. In order to lower the costs of post-payments, the captain may enter into a collusion arrangement with the buyer against the divers. The result of the collusion is to cement the hierarchical relationship of buyers and captains, and reconfirm the low status of the divers. This collusion, however, is the end of a complex marketing machinery.

The process of sponge exchange has four stages: (1) preparations; (2) establishment of negotiation pairs; (3) initial bargaining between pairs; and (4) final bargaining and consummation of the deal.

During the summer months, while the boats are at sea, the merchants line up their customers in Europe and in the United States. Each buyer commands at least one language, other than

Greek, in which he conducts business. Merchants travel through Europe, showing samples, making new contacts, and reaffirming old ones. They conduct voluminous correspondence, assuring their customers of continued service and seeking future orders. They study their markets, their orders, and those of other merchants, and thus conclude the actual and expected demands upon their stocks. They note what kinds and which qualities of sponge they must buy to fill their orders. Then they amass as much information as they can on the various kinds of catches to be brought in by the captains.

The main source of this information comes from letters sent home by divers and crew members. These letters are passed around amongst relatives, and ultimately to buyers as a favor from fictive kin. Postmarks pinpoint the area being fished. The length of time during which letters continue to arrive from one area indicates the lucrativeness of the sponge beds. The divers always indicate the depths they are working in. The location and depth of sponge affects its market value. Buyers gather this information and guard it jealously from one another.

Another important source of information is divers who return to Kalymnos with the bends. They are the center of attention for weeks, as much for their information potential as for their pitiable physical condition.

When the fleet comes in, the buyers gather more information from the crews about the size and quality of the various catches. The buyer must be sure that a particular lot suits his market needs before taking steps to open negotiations.

Captains have the best access to information on production, while buyers have access to information on markets. Captains organize informally in an effort to fix prices. Sponge is sorted by captains into species and each species is graded according to its location of growth, quality (from 1-6), and the kind of diving operation which harvested it. Thus *kapadika* sponges from Benghazi cost more if produced by a *skafandro* (hard-hat) than if they are produced by a *fernez* (wet-suit) boat. Fernel production is less expensive but many captains (and divers) favor the more traditional (and presumed safer) *scafandro*. During the period in which buyers

decide how they will proceed, the captains agree on the lower price limits they will accept for each kind of sponge.

A time dilemma arises: the longer a buyer concerns himself with market information, the better his chances of avoiding costly mistakes. At the same time, the longer he waits, the better chance his competitors will have to get the best lots of sponge.

The captain's dilemma is similar. In 1964 the captains resolved not to sell kapadika sponge below 900 drachmas per oka.

One young captain had almost two metric tons of sponge sitting in his warehouse (including unsold sponge from the year before) and he was anxious to sell. A buyer offered him 870 drachmas. The captain was deeply in debt to the bank; his men wanted their bonuses on what was obviously a good catch; he needed capital for new equipment. As time went on he began to feel the pressures grow. Assessing the interest he was paying on the money he owed, and the loss of capital tied up in sponge, he offered the buyer a simple split in their differences, or 885 drachmas. The buyer accepted. Part of the agreement was that the deal would not be announced publicly until the captain decided to do so.

A day or two later another contract was signed between two other parties. This one was immediately made public. It announced the breaking of the market ice, and was for 900 drachmas, or 15 drachmas more per kilogram than the younger captain had agreed to. With almost 1,300 kilograms involved, the first captain lost \$650.00.

When the buyer decides which captain to approach, the formal machinery of exchange is set into motion through the offices of a *mesitis*, or professional broker. The broker is used even where the buyer and the captain are involved in a debt relationship. By lending money, a merchant may try to obligate a captain to sell exclusively to him. Loan money is circulated during March and April from the bank and the buyers to the captains, and from the captains to the divers, crew members, and chandlers. There is talk of good catches, high prices, and informal exchange agreements between lenders and borrowers.

In November when the boats return to the island the ideal rule is that the buyer seeks out the seller. If informal commitments

have been made, then the captain is morally obliged to allow the buyer with whom he spoke in April to take the initiative in opening price negotiations in November. But that buyer must approach the captain with an offer to negotiate within "a reasonable amount of time" or the captain's obligation ceases. A captain is only bound not to negotiate with more than one buyer at a time, and he must not play buyers against each other.

Once negotiations have been formally opened between two parties, they must proceed to either of two conclusions: (1) a sale, or (2) a formal announcement by both parties that no agreement can be reached and that negotiations are off. In this event, the captain again becomes a free agent.

To insure that this convention is honored, the captain gives the key to his warehouse to the buyer with whom he is negotiating. Then, no other buyer can enter the warehouse, view the sponge, and approach the captain with offers.

If a sale is reached and only a part of the catch is sold, then the captain may open negotiations with other buyers for the remaining portions of the lot. For this reason, most captains insist on negotiating a sale for the entire catch. Afterwards, if the buyer has no use for some species of grades within the lot, he can sell them to another buyer who does.

Buyers usually respect the conventions of the system and do not interfere with one another unless they are desperate. Cases arise however, in which a captain begins bargaining with one buyer and is approached by another who offers a better price, sight unseen. The only alternative a captain has to ignoring the second buyer's approach is to become completely unreasonable in his demands upon the first buyer. In this way the captain can force termination of the negotiations, receive back the key to his warehouse, and begin negotiations with the second buyer. There is considerable danger in this, however. A reputation for lack of good faith can go a long way in destroying bargaining strength in future negotiations.

The business broker is well known in Greece, especially for his work in marriage contracts. His purpose is to prevent the flaring up of hostilities between negotiating parties, and to absorb any loss of face which may accrue to either or both parties as the result

of a poor deal. He carries out this function for his own economic benefits as well as for that of the parties he represents.

In the Kalymnian exchange system, the mesitis is first approached by the buyer. The buyer tells the mesitis that he is interested in a certain captain's sponge. The mesitis is instructed to let the captain know of the buyer's interest and to give the captain an opening offer. Initially, the mesitis is hired by the buyer but during negotiations he acts for both sides. For example, there may be a simultaneous ultimatum. Both parties claim they have made their final and best offer. Neither can sway the other from the position. At this time negotiations must be broken off (any solution worked out by the antagonists would represent a loss of face for one side) or submitted to arbitration by the mesitis. The mesitis is paid by both captain and buyer at the rate of one half of one percent each on the total value of the sale.

When the middleman gets the agreement of the captain to open negotiations, he asks the latter's price. The captain names the price set informally among his confreres. The mesitis responds that the price is too high and he names an alternative price acceptable to the buyer. Then the bargaining begins. The captain makes great claims for his catch. He explains why he is asking more than the buyer suggests he might pay. He explains how the sponge was fished from dangerously deep waters; how it is strong and resilient, of good color and shape. He claims to have the best mother ship crew in the fleet. He even names the men for the buyer's consideration of their qualifications in rough-trimming sponge at sea. He extolls the condition of the sponge as being practically ready for market. All the buyer will have to do, the captain suggests, is to pack the sponges into bales and ship them out at a handsome profit. The captain explains how during the trip he sorted the sponge carefully, even cruelly; he took borderline pieces and in every case downgraded them. He goes on and on about the way the sponge has been naturally and slowly dried in the sun, picked clean of debris and washed thoroughly. And he complains bitterly about the rising costs of production, the increasing laxness of divers, and the money he is losing.

The buyer counters each argument with "we will see about that." He argues that competition from synthetics has cost him

half his customers; that low-cost Turkish sponge is cutting down on his profit margin; that freight costs and import duties have skyrocketed.

They argue, they explain, they cajole, they flatter, they act indignant and obsequious. Often these negotiations are carried out with a *mesitis* carrying messages back and forth across the island. Finally, the buyer agree to a price on the condition that the sponges are as good as the captain claimed they are. They never are.

A date is set for the captain, the buyer and the *mesitis* to enter the captain's warehouse. The Bank, the Divers' Union, the Harbor Master's Office, and the city tax council are informed. Each of these parties may place a lock on the door when the captain puts his sponge in the warehouse. The Divers' Union reserves its right to representation at every sponge sale ostensibly to prevent the buyers and captains from cheating the divers out of their post-payment. The Bank requires its representative to attend all sales in order to ensure that it gets paid. The Harbor Master is required by law to be represented because the sponge sale is part of an official "nautical transaction." The city tax officials are there for obvious reasons.

The captain also allows interested members of his crew to enter the warehouse at this time. They help with the manual labor of hauling down the sponge bales and opening them for inspection by the buyer.

The buyer brings a *technitis* who makes his living by knowing every variety of sponge in the Mediterranean. He can tell the depth and area of growth from the appearance of the sponge. He advises the buyer on their value. The buyer also brings some laborers to transport the sponge from the captain's warehouse to his own. Finally, curious outsiders and passers-by congregate outside the warehouse where the proceedings are taking place, but they disperse as the hours of bargaining wear on.

Viewing of sponge normally takes a full day, but may take much longer if the lot is especially large or if there are complications. In 1965 one sale amounted to almost \$70,000.00. Price negotiations ran on for two months and viewing of the sponge took four days. A number of divers received bonuses of over 10,000

drachmas each (\$333.00) and the captain netted around 250,000 drachmas (\$8,333.00).

The buyer looks for a number of factors when making a purchase. First, he is concerned with moisture content since he must buy the product and sell it by dry weight. Natural sponge attract moisture in the air and by the time a bale is sold it may have absorbed 5 or 6 percent of its own weight in water. When bales are opened during negotiations the sponge becomes especially vulnerable in this regard. Many captains store their sponge in warehouses along the waterfront. During severe winters waves jump the retaining wall and spill over into these warehouses, soaking the sponge.

In most cases the buyer asks that about 5 percent of the weight of the sale be subtracted as a concession to moisture content before payment is made. Other concessions may follow. The rough processing of the catch at sea includes the removal of rock and coral pieces. If this has not been done sufficiently the buyer may ask for a concession on debris. He asks for a percentage of the weight and asks for a percentage above that to compensate for the man-hours he will pay to remove the debris.

Color is watched carefully. If the sponge are of an appealing, natural color, no bleaching will have to be done. If they are uniformly "red-root" (a red base from oxidized iron in the host rock), however, this will have to be bleached out. The buyer will ask for more concessions to compensate for the fibre weight lost in bleaching.

The buyer is interested in the kind of sorting which the captain performed at sea. If a large number of second grade pieces are found in number one grade bales, the buyer will ask for a concession on weight. He may ask for as much as 10 percent of the weight on one quality to be dropped in grade. This concession, known as *tumba*, allows the buyer to pay top price for number-one grade sponges only. The *tumba* concessions are made for all qualities, some weight of the number ones going to the number twos, some of the number twos going to the number threes, and so on.

When all the concessions have been made, they are entered in writing on the contract. The hemp sacks are weighed full, then

again empty, and the difference subtracted. A glass of ouzo is taken by both parties and the sale is ended.

In an actual case, five hours were spent in inspecting and bargaining on 1,002 kilograms of sponge. It broke down as follows:

TABLE 1

	<i>No. Kilos</i>	<i>Quality</i>	<i>% Of Total</i>	<i>Price per Kilo</i>	<i>Total Price</i>
	70	1	.0697		
	78	2	.0779		
	178	3	.1773	691.835	420,275 dx
	<u>286</u>	4	<u>.2944</u>		
Subtotal	612		.6093		
minus 7 kilograms for weight of sacks: 605 kilograms of sponge in the first four qualities or .6093 percent of the total catch.					
	277	5	.2764	209.881	58,195 dx
	<u>140.5</u>	6	<u>.1402</u>	85.000	<u>11,942 dx</u>
Subtotal					490,412
Undetermined number of small sponge					<u>22,734</u>
TOTAL					513,146 dx

Only about 7 percent of the total number of sponges were of first quality and only about 60 percent were in the first four qualities combined. Excluding the *formetta* category (small, good quality sponge sold separately), the value of the first four qualities was 85 percent of the total sale. The average sponge catch has about 10 percent first quality pieces and about 70 percent in the first four categories. In this case, the lot was below average in quality.

In spite of all these concessions, there are often residual differences in price asked and bid. There are, in general, three ways in which such ultimate differences are resolved: arbitration, auctioning, and co-operative bargaining. One kind of co-operative bargaining is collusion; this is the traditional method used in the Kalymnian sponge market.

A captain agrees provisionally to accept the final offer of the buyer, say 900 drachmas per oka. The captain insists, however,

that he really wanted 910 drachmas and that he is capitulating. In return for this, the buyer lets the record state that only 870 drachmas were paid per oka. The captain need not account to his crew for the 30 drachmas when the final tallies are drawn up. Consider the following example, summarized in Table 2:

Say there are 1,500 okas of sponge selling officially at 870 drachmas each. This makes a total of 1,305,000 drachmas. The captain gets another 45,000 drachmas as a "side payment," (1,500 okas \times 30 drachmas). If the captain's debt is 1,000,000 drachmas, he has an apparent profit of 305,000 drachmas. Of this, about 35 percent goes back to the divers in bonuses, leaving a net profit of 198,250 drachmas. He has also received 45,000 drachmas which he does not split with his divers. His real net profit is 243,000 drachmas.

Had the captain held out for 910 drachmas per oka, things would have been very different. The official gross would have been 1,365,000 drachmas. After subtracting one million drachmas to pay debts, 365,000 drachmas would have been split 35-65 with the divers, leaving a net profit of 237,250 drachmas.

TABLE 2

<i>Okas</i>	<i>Price of record</i>	<i>Total</i>	<i>Captain's debt</i>	<i>Gross Profit</i>	<i>Divers' bonus</i>	<i>Side Payment</i>	<i>Captain's net</i>
1,500	870	1,305,000	1,000,000	305,000	106,750	45,000	243,000
<i>Okas</i>	<i>Real Price</i>	<i>Total</i>	<i>Captain's debt</i>	<i>Gross Profit</i>	<i>Divers' bonus</i>		<i>Captain's net</i>
1,500	900	1,365,000	1,000,000	365,000	127,750		237,250

When I interviewed them, buyers were far less reticent to admit these circumstances than were the captains. This is understandable. By agreeing to collusion they were able to extract greater concessions from the captains during future face-to-face negotiations. Captains felt they should cooperate with a buyer's demands for concessions once the latter had agreed to collude with them against the divers. "If anyone wants to change the system," one buyer noted, "let the divers do it. Those are the poor cursed ones who are hurt the most." But the divers do nothing. Their acceptance of the system is crucial to its continuance.

From a structural standpoint, it is obvious that everyone must accept the system if it is to continue. The divers must accept their low social status and the right of higher classes to cheat them of their earnings. On the other hand, the elite of Kalymnos, including sponge merchants and other commercial and landed gentry, must accept the fact that the "rowdy element" of sponge fishermen is crucial to their own economic prosperity. If the divers demand a certain license for anti-social behavior, then they must be "tolerated."

Such systems are neat and balanced only so long as everyone accepts his own role as well as that of others. When the roles are no longer accepted, the system breaks down. This would happen if, for example, the divers demanded complete open pricing and fair handling of all post-payments. They would no longer be able to demand contracts exceeding 43% of their own production. They would not be able to borrow freely from several captains against their platika before signing on with one. After signing on, they would no longer be entitled to economic support from the captains on a personalistic level. (At Easter, for example, when it is traditional to purchase new clothing, a captain may send a diver to a tailor with a signed chit worth "one new suit.")

During the decade after 1960, synthetic sponge cut sharply into Kalymnian markets. Seeing little future in sponging, young men left Kalymnos for the merchant marine, and for Australia and Germany. The exodus, however, was faster than the decrease in demand for natural sponges, and the need for scarce labor sent platika rates soaring. Finally, in 1970, the market collapsed.

In order to preserve the favorable foreign currency flow to Kalymnos, the Greek government subsidized the sponge industry by making direct grants to the captains for the difference between their price demands and the buyers' offers. This direct intervention prevented the sponge industry from disappearing altogether, but it was only a temporary measure. Changes in the Kalymnian economic system had to be made in order to make the natural sponge competitive. Those changes were, indeed, occurring.

In 1957 nearly 92% of all Kalymnian sponge was harvested by men wearing underwater life-support gear of one kind or another. Only 8% was harvested by the ancient, primitive nude diving

method. Sponge harvested by the technologically sophisticated means averaged \$20 per dry kilogram. Sponge harvested nude averaged \$12 per dry kilogram.

In 1969 the price of sponge harvested by technologically sophisticated means was \$23 per dry kilogram. Sponge harvested by the nude diving technique averaged \$17 per dry kilogram. However, by 1969 nude diving accounted for nearly 30% of all Kalymnian sponge. The nude diving operations have very low investment in technology; they are safe (since bends are impossible in nude diving); and they are family businesses. Everyone gets a share of the profits, and the extortionary *platika* is abandoned in favor of a simple system based on family ties and mutual trust.

I believe this is an important case. In general, when an economic system is failing, the application of more sophisticated technology will revive it. In this example the reverse is true. Several Kalymnians invested in scuba gear, recompression tanks, and other complex tools in an effort to increase production. The cost of this investment placed their sponge in an even less competitive position to synthetics, and they were quickly driven out of business. Those Kalymnians who primitivized their technology (i.e. returned to nude diving), are able to maintain a viable local industry.