From Profit-Sailing to Wage-Sailing: Mediterranean Owner-Captains and their Crews during the Medieval Commercial Revolution *

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Scholars have more than once described that dynamic Mediterranean figure — at the same time sailor, warrior, and merchant — who played such a prominent role in pioneering the medieval commercial revolution.[1] And Frederic Lane in particular has devoted a number of insightful articles to illuminating the various factors that led to the gradual disappearance of this figure at Venice toward the end of the Middle Ages.[2] Yet the story of the medieval seaman still remains largely untold. The present study, which I have tried to focus on issues that economic historians have previously neglected, first examines the relationship that had developed between Mediterranean shipowners and their crews during the early Middle Ages, and then explores how the commercial revolution altered that relationship between the mid-twelfth and mid-thirteenth centuries.

Unlike the Roman shipowner,[3] who had been primarily a businessman,

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[1] See, for instance, the papers collected in *Le genti del mare mediterraneo*, Introduction by Luigi De Rosa 2 vols. (Naples, 1981), several of which quite recently touched on this theme.

[2] Frederic C. Lane: "The Crossbow in the Nautical Revolution of the Middle Ages," in *Economy, Society and Government in Medieval Italy: Essays in Memory of Robert L. Reynolds*, ed. David Herlihy, Robert Lopez, and V. Slessarev, Explorations in Economic History, 7 (Kent, Ohio, 1969), 161-71; "Venetian Seamen in the Nautical Revolution of the Middle Ages," in *Venezia e il Levante fino al secolo XV* (Florence, 1973), I, part 1, 403-29; and "Progrès technologiques et productivité dans les transports maritimes de la fin du Moyen Age au début des Temps modernes," *Revue historique* (1974), 277-302.

[3] On Roman shipowners, see Lionel Casson, *Ships and Seamanship in the Ancient World* (Princeton, 1971), pp. 314-21; Cesare Maria Moschetti, "Il 'Gubernator Navis'," in *Studia et Documenta Historiae et Iuris*, 35 (1969), 50-113; and Jean Rougé, *Recherches sur l'organisation du commerce maritime en Méditerranée sous l'empire romain* (Paris, 1966), pp. 229-68.

the medieval shipowner was generally a seaman and a warrior as well as an entrepreneur. He not only organized the maritime venture, but also sailed as the captain of his ship. And unlike the Roman merchant sailor, who had often been a slave,[4] the medieval sailor was a free man, who, like his captain, combined the roles of warrior, mariner, and entrepreneur. When Mediterranean shipowners became owner-captains (*naukleroi* or *patroni*) toward the end of antiquity,[5] they forged a new relationship with their crews that shaped the contours of the maritime venture for much of the Middle Ages.

Between the seventh and the twelfth centuries, Mediterranean owner-captains engaged their crews for shares in their profits rather than for fixed wages. Since the value of these shares depended on the outcome of the voyage, sailors' earnings varied according to the venture's success. Medieval sources often describe crews that were hired in this fashion as sailing *ad partem.* I have designated this system of engagement "profit-sailing" in order to clearly distinguish it from "wage-sailing."

It seems that profit-sailing had never been widely used on Roman merchant ships.[6] Slave-sailors naturally worked without compensation for their labour, while free sailors were hired through a *locatio-conductio-operarum,* which in Roman law involved the payment of fixed wages.

Early-medieval profit-sailing thus marked a clear departure from previous maritime custom. According to the Byzantine *Sea-law,*[7] which contains the earliest description of the new system of engagement, seventh-century merchant ships were crewed entirely by free men who worked for shares in the venture's profits. There is no mention of slave-sailors (and only an ambiguous allusion to wage-sailors) in the customary's original text.

A system of profit-sailing based on the *Sea-law* seems to have remained

[4] On slave-sailors, see CASSON, *Ships and Seamanship,* p. 328; and ROUGÉ, *Recherches sur l'organisation du commerce maritime,* pp. 298 and 310.

[5] On the status of early-medieval *naukleroi,* see ROBERT LOPEZ, "The Role of Trade in the Economic Readjustment of Byzantium in the Seventh Century," *Dumbarton Oaks Papers,* XIII (1959), 69-85, rpt. in his *Byzantium and the World Around It. Economic and Institutional Relations,* Variorum Reprints (London, 1978).

[6] On Roman wage-sailors, see the *Digest,* esp. XIV.1.1.7. RINIERO ZENO, however, argues (unconvincingly) that the *Digest* actually describes a system of profit-sailing. See Zeno, "L'arruolamento nel diritto marittimo medievale, I," *Rivista di storia del diritto italiano,* XII (1939), 310-48, esp. 319-23.

[7] The edition of the *Sea-law* used in the present study is published in *The Rhodian Sea-Law,* ed. Walter Ashburner (Oxford, 1909). Recent scholarship assigns the *Sea-law* a date no later than the opening of the eighth century. See HÉLENÈ ANTONIADIS-BIBICOU, *Recherches sur les douanes à Byzance,* Cahiers des Annales, 20 (Paris, 1963), p. 251. According to Ashburner, two chapters (Part III, chs. 5 and 46) of the original text may conceivably refer to fixed wages. See ASHBURNER, *Rhodian Sea-Law,* pp. clxvii-xviii. Slave-sailors are only alluded to once in a fourteenth-century addendum, which Ashburner publishes as Appendix D.

the standard form of engagement among Italo-Byzantine seamen throughout the early Middle Ages. In fact, many Adriatic and southern Tyrrhenian ports still preserved this traditional system of engagement as late as the thirteenth of fourteenth century.[8] This was the case at Ragusa, Amalfi, and Messina, where sailors routinely worked for shares in the venture's profits, as well as at Ancona, Zara, and Trani, where they were sometimes hired in this fashion. But profit-sailing only retained its importance in later-medieval shipping in that part of the Mediterranean that had actively participated in early-medieval maritime life. In the northern Tyrrhenian and along the coasts of France and Spain, the *Sea-law* and its system of engagement left comparatively little mark on later custom.

In certain respects, the economic relationship between owner-captains and sailors in profit-sailing was analogous to that between stay-at-home merchants and traveling merchants in the *commenda*, perhaps the most widespread of medieval commercial contracts. In the *commenda*, one merchant, who ordinarily remained ashore, entrusted capital to another merchant, who generally traded with it while overseas. If the venture proved successful, profits were divided between the two parties. But when the venture was a failure, the stay-at-home merchant assumed the risks for loss of his capital. Similarly, in profit-sailing, sailors lost the value of their labour whenever a trading venture ended in commercial failure, but were never personally liable for capital losses that the owner-captain might sustain during the voyage. This was because the crew — perhaps with some exceptions in small-scale trade — had no proprietary interest in the ship. Profit-sailors were not necessarily part-owners. At medieval Amalfi, for instance, the *patroni de caratis*, who owned the vessel, were consistently distinguished from the *nautae*, who worked for shares in their profits.[9] And at Ragusa, owner-captains could sell their ships at any time during the course of a trading voyage without the consent of their sailors, whether engaged for shares in their profits or for fixed wages ("tam euncium ad partes quam ad marinariciam").[10] But the analogy between profit-sailing and the *commenda* is imperfect, for the owner-captain who sup-

[8] See the "Statute of Ragusa," in the *Liber Statutorum Civitatis Ragusii*, ed. V. Bogišić and C. Jireček, in *Monumenta Historico-Juridica Slavorum Meridionalium*, 9 (Zagreb, 1904), Book VII, *passim;* the "Table of Amalfi," in the *Tabula de Amalpha*, ed. by the Comitato napoletano dell'associazione italiana di diritto marittimo (Naples, 1933), pp. 9-26, *passim;* the "Consulate of Messina" in *Il libro dei capitoli della corte del consolato di mare di Messina*, ed. Luigi Genuardi (Palermo, 1924), pp. 65-92) *passim;* the "Statute of Ancona," in *Collection de lois maritimes antérieures au XVIIIe siècle*, ed. J. M. Pardessus (Paris, 1839), V, 116-212, chs. XXVIII and XLIV; the "Statute of Zara," in *Collection de lois maritimes*, (1845), VI, 605-22, Book IV, ch. LXXI; and *Gli ordinamenti marittimi di Trani*, ed. Luigi Carci (Cosenza, 1936), chs. X and XII.

[9] *Table of Amalfi*, I, VII, VIII, X, XII, XVIII, and XXIII.

[10] *Statute of Ragusa*, Book VII, ch. XIV.

plied the ship in profit-sailing joined in the voyage, whereas the merchant who provided capital in the *commenda* remained ashore.

According to the Byzantine *Sea-law,* the owner-captain claimed a portion of the venture's profits that was equal in value to the shares of two sailors.[11] Since seventh-century merchant ships — as underwater archaelogists have recently confirmed — were small enough to be crewed by a handful of men,[12] such a division of the venture's earnings would have left the owner-captain a sizable proportion of profits. For instance, if an owner-captain had hired three sailors, his share would have been forty percent. But since this system of apportioning profits would not have yielded the owner-captain a reasonable return on his capital if he had hired a larger crew, it seems that Italo-Byzantine seamen eventually settled on another system in which one-half of total profits went to the owner-captain, while the portion that remained was divided in equal shares among the members of his crew. Indeed, according to such contemporary authorities on maritime custom as the jurists Francesco de Gondola and Carlo Targa, this second system was still widely used in small-scale trade in the Adriatic and Tyrrhenian seas as late as the sixteenth and seventeenth centuries.[13]

Profit-sailing has often been the predominant form of engagement in maritime activities that involve exceptional risks. Pirates and privateers have of course always shared profits with their crews whenever they distributed booty. At thirteenth-century Genoa, for instance, where wage-sailing had already become the standard form of engagement on merchant vessels, sailors who enrolled on privateers continued to work for shares in the venture's profits.[14] Moreover, the sailors of the medieval maritime communes were

[11] *Sea-Law,* II, 1-7. See Ashburner's comments, p. clxvii; and GUIDO BONOLIS, *Il diritto marittimo medievale dell'Adriatico* (Pisa, 1921), p. 243.

[12] GEORGE F. BASS, "A Byzantine Trading Venture," *Scientific American* (Aug., 1971), 23-33, esp. 27; and Frederick Van Doorninck, "Byzantium, Mistress of the Sea: 330-641," in *A History of Seafaring Based on Underwater Archaelogy,* ed. George Bass (New York, 1972), pp. 134-46, esp. p. 139. See also BARBARA KREUTZ, "Ships, Shipping, and the Implications of Change in the Early Medieval Mediterranean," *Viator,* VII (1976), 79-109, *passim.*

[13] As FRANCESCO DE GONDOLA, the sixteenth-century Ragusan jurist, explains: "Marinarii ad partem sunt nautae partiarii, quos his temporibus videmus navigare, nam ipsi medietatem lucri navis capiunt, et alteram dominus ipsius navis." "Appendix C. Opera Fr. De Gondola, III. Apostillae B: Verborum obsoletorum interpretationes," in the *Liber Statutorum Civitatis Ragusii,* p. 420, at the entry for Book VII, ch. XXIII. In Addition, see the more extensive comments of the seventeenth century Genoese jurist, CARLO TARGA, in his *Ponderationi sopra la contrattatione maritima* (Genoa, 1692), pp. 370-71 (incorrectly numbered as 360-61).

[14] See the *Statute of Pera,* Book IV, ch. CLXVII ("De illis qui vadunt ad partem in ligno cursi"), in the "Statuti della colonia genovese di Pera," ed. VINCENZO PROMIS, *Miscellanea di storia italiana,* XI (1870), 515-780. LAURA BALLETTO has recently

often attracted onto war-ships by the same prospect of plunder that lured them onto privateers. In an especially memorable passage, the twelfth-century chronicler Caffaro recalls how the Genoese seamen who joined in the First Crusade reaped their only material reward for participation in the venture when they pitched camp along the shore and divided the rich spoils taken during the sack of Caesarea.[15] Afterwards, throughout the remaining centuries of the Middle Ages, even when the crews of Mediterranean war-ships did receive regular wages from their communes, a share in the eventual spoils of battle still remained an important supplemental incentive for their enlistment.[16]

In addition, profit-sailing has frequently been the common form of engagement in maritime activities that fail to command adequate capital. In many medieval ports, the crews employed on fishing boats worked for shares in the venture's profits rather than for fixed wages. Indeed, it seems that this was even the rule at such thriving shipping centres as Genoa.[17] Moreover, throughout the Middle Ages, those owner-captains who plied the local trade along the Adriatic and Tyrrhenian coasts often engaged their crews for shares in their profits.[18] In fact, as late as the close of the nineteenth century, a parliamentary commission investigating the state of Italian merchant shipping could still comment on the occasional use of profit-sailing in small-scale trade.[19]

But during the early Middle Ages, profit-sailing became the standard form of engagement in all maritime activities. Since merchant seamen faced enormous risks in the hope of an eventual windfall, it is likely that their mentality was similar to that of privateers. Moreover, the organization of overseas shipping between the seventh and the twelfth century resembled that of local

published several examples of profit-sailing on privateers. See Balletto, "Armamenti per la guerra di corsa," in her *Genoa nel Duecento: uomini nel porto e uomini sul mare* (Genoa, 1983), pp. 9-75, docs. 9 and 12.

[15] *Annali genovesi di Caffaro e de' suoi continuatori dal MXCIX al MCCXCIII*, ed. Luigi T. Belgrano, Fonti per la storia d'Italia, 11 (Genoa, 1890) I, 13.

[16] See Balletto, "Armamenti per la guerra di corsa," doc. 11, who publishes an example from 1274 of sailors who had served in Genoa's war-fleet petitioning the commune for their share in their galley's booty as well as their back wages.

[17] See Balletto, "La rete e i pescatori," in her *Genova nel Duecento*, pp. 173-218, esp. docs 1 and 4.

[18] In addition to the evidence already cited above, see two recent articles by Sergio Anselmi that describe an instance of profit-sailing in small-scale trade at Ancona during the early fifteenth century: Sergio Anselmi, "Per la storia del piccolo cabotaggio: l'attività di un burchio adriatico, 1409-10," *Nuova rivista storica*, LXII (1978), 521-48; and "Disciplina e salari dei marittimi in Adriatico: due casi della costa italiana, XIV-XV sec.," in *Le genti del mare Mediterraneo*, I, 609-24.

[19] *Inchiesta parlamentare sulla marina mercantile*, VII (1881-82), 217. (Cited by Ashburner, *Rhodian Sea-Law*, p. clxxiv).

coasting trade in a more developed economy. Paying sailors a fixed wage would have involved a specialization of capital and labour in which owner-captains assumed all the risks of the maritime venture themselves. They do not appear to have been in a position to do this because they enjoyed few sources of credit in the early-medieval economy, and were, perhaps, not much wealthier than their sailors. Profit-sailing enabled them to distribute their risks among the members of their crews. In addition, since overseas shipping was both irregular and insecure, and methods for gathering information were still primitive, sailors were likely to be as well-informed about foreign markets and potential trading opportunities as many owner-captains or traveling merchants. It made sense to encourage their entrepreneurial initiative by engaging them for shares in the venture's profits.

While few contemporary documents other than the *Sea-law* actually describe the organization of the maritime venture during the early Middle Ages, slightly later sources do cast considerable light on the economic relationship between owner-captains and their crews on the eve of the commercial revolution. Between the ninth and eleventh centuries, the seamen of Amalfi traded extensively throughout the Mediterranean.[20] But by the twelfth century, when the commercial revolution first began to transform shipping practice in northern Italian ports, Amalfi's overseas trade was already in decline. Unaffected by developments that had introduced wage-sailing at Pisa, Venice, and Genoa, owner-captains and sailors at Amalfi continued to practise their traditional form of profit-sailing. At some unknown date between the eleventh and thirteenth century, the customs of the southern Tyrrhenian coast ("usum de rivera") were written down in the *Table of Amalfi.*[21] Whatever the precise date of this customary, it is clear that it describes a form of

[20] On Amalfi's commerce, see two articles by GIUSEPPE GALASSO: "Il commercio amalfitano nel periodo normano," in *Studi in onore di Riccardo Filangieri* (Naples, 1959), I, 81-103; and "Le città campane nell'alto medioevo," in his *Mezzogiorno medievale e moderno* (Turin, 1965), pp. 63-135. Also useful are the comments of MARIO DEL TREPPO, in *Amalfi medioevale* (Naples, 1977), pp. 66-70.

On Amalfi's sailors, see Guido Bonolis, "L'associazione fra caricatori, armatori e marinai nel diritto marittimo medioevale," in *Convegno internazionale di studi storici del diritto marittimo medioevale* (Naples, 1934), I, 59-71; and ACHILLE ANNECCHINO, "Il contratto di arruolamento nella Tabula di Amalfi," in *Convegno internazionale del diritto marittimo medioevale,* I, 309-17.

[21] On the date of the *Table of Amalfi,* see RINIERO ZENO, *Storia del diritto marittimo italiano nel Mediterraneo* (Milan, 1946), pp. 124-28. The customary's twenty-one Latin chapters — which deal exclusively with profit-sailing — were composed sometime between the eleventh and thirteenth centuries. And although it seems likely that the customary's forty-five Italian chapters were only added to the original text during the fourteenth century, those Italian chapters that deal with profit-sailing were clearly based on much earlier material.

the maritime venture that had once been common in Mediterranean shipping before the commercial revolution.

At Amalfi, whenever a number of owner-captains and traveling merchants (*sotii*) planned a trading venture, they ordinarily formed a shipboard association known as a *colonna*. By agreeing to pool their assets in the *colonna*'s common trading fund for the duration of the voyage, they were able to reduce their individual risks and more efficiently employ their limited resources. At the end of each voyage the *colonna* was dissolved, and owner-captains and merchants divided its profits — or supported its losses — in shares (*partes*) that were proportional to their investment in the venture.

Since owner-captains at Amalfi engaged their crews for shares in the *colonna's* profits, sailors' earnings depended entirely on the venture's success. Yet disaster might strike at any time during the course of a voyage. If cargo had to be jettisoned to save the vessel, or if the ship was lost in a storm or captured by pirates, sailors could expect to receive little or no compensation for their labour.

In the case of jettison, whenever cargo losses were sufficient to cause the *colonna*'s commercial failure, sailors were not only obliged to return any advances that had been made on their shares, but were also expected to reimburse the cost of their upkeep during the voyage.[22] In the event that it had only proved necessary to jettison a small portion of the ship's cargo, however, the members of the *colonna* might still succeed in concluding the venture profitably. In this second instance, the profits that sailors earned on their shares were simply pegged at a proportionally lower level in order to register whatever reductions had occurred in the *colonna*'s overall level of profits. Similarly, crew members at Amalfi would ordinarily be obliged to return any advances that they had received on their shares when their vessel suffered shipwreck.[23] But in the event that salvage operations recovered a large portion of the ship's cargo or tackle, sailors might still conceivably earn profits on their shares, though these would obviously be set at a reduced level in order to reflect the *colonna*'s overall lower level of profits.[24] In light of these various measures, it seems anomalous that the *Table of Amalfi* should exempt crew members from contributing to the ransom of their ship from pirates.[25] After more careful consideration, however, it becomes clear that

[22] "... verum li marinarii in tantum sono tenuti rifare le spese del magnare et bevere et tutte spese per loro vita fatte, et lo impronto..." *Table of Amalfi*, XLVII. But sailors were not required to contribute their own capital to general average for jettison, unless, of course, they had specifically invested that capital in the *colonna*'s trading goods.

[23] *Table of Amalfi*, XXVI.

[24] "... alla quale concia se deve extrahere de tutto lo comone, etiam li marinarii per le parti loro del guadagno tantum fatto in quello viaggio." *Table of Amalfi*, XXVII.

[25] *Table of Amalfi*, XXVIII. In addition, see Ashburner, *Rhodian Sea-Law*, p. ccxlviii.

custom at Amalfi only excused sailors from the obligation to contribute their own capital to the vessel's ransom. Any reduction in the *colonna*'s overall profits — no matter what its cause — necessarily entailed a corresponding, proportional reduction in the value of sailors' shares.

Moreover, even when the *colonna* safely completed a trading voyage, crew members could only expect to receive compensation for their labour if owner-captains and merchants had first earned some return on their investment. Indeed, whenever a venture ended in commercial failure, sailors were always called upon to return their advances ("impronti"), since it was clearly understood that these had been made "salvo in terra."[26] In the language of medieval commercial contracts, loans were said to be "salvo in terra" when lenders declined to assume the risks for the loss of their capital.[27] The advances that owner-captains paid to their profit-sailors at Amalfi were in reality loans issued against the *colonna*'s anticipated profits. Whenever a particular venture failed to generate sufficient profits to cover these loans, owner-captains naturally felt free to insist on their repayment. But since owner-captains did assume the full risks for the loss of whatever capital they had invested in their ship and its cargo, the liability of crew members for the *colonna*'s debts was always limited to the simple restitution of any advances that they may have received on their shares in the venture.

By engaging their sailors for shares in the *colonna*'s profits, owner-captains managed to distribute some of their risks among the members of their crew. But at the same time, they also interested their sailors more directly in the venture's outcome. In fact, the crew's entrepreneurial initiative was an essential ingredient in the *colonna*'s commercial success. At the outset of each voyage, owner-captains informed their sailors of the *colonna*'s available assets and described the ship's expected trading itinerary.[28] Once the vessel was under way, sailors had to approve all new transactions that might affect the *colonna*'s economic fortunes.[29] They sometimes went ashore themselves on the *colonna*'s business ("ad utilitatem societatis").[30] And when their

[26] "Item all'impronto quale si fa alli marini de rivera esce sempre salvo in terra." *Table of Amalfi*, XLIII.

[27] Alessandro Lattes, *Il diritto marittimo privato nelle carte liguri dei secoli XII e XIII* (Vatican City, 1939), p. 131.

[28] "Item patroni, facta vela, debent ostendere et declarare cunctis nautis et sotiis, publice, totam colomnam et mercantiam et etiam denarios qui trahunt de civitate, et etiam eis narrare quo sunt ituri." *Table of Amalfi*, X.

[29] "Item quod nullus patronus debeat implicare et explicare sine expressa conscientia et voluntate omnium nautarum vel sotiorum, saltem maioris partis." *Table of Amalfi*, XVIII.

[30] The text of *Table of Amalfi*, XIII, as published by the "Comitato napoletano" reads: "Item si aliquis nautarum vel sotiorum remanserit in terra ad utilitatem societatis... nihil namque habent partem eos tangentem secundum lucrum navigii." The variant reading of "nichilominusque" for "nihil namque," however, clearly makes

special initiative created further trading opportunities, enterprising sailors were rewarded with additional shares in the *colonna*'s profits.[31]

Throughout the Middle Ages, however, the crew's martial virtue could prove as important to the success of a trading venture as its entrepreneurial initiative.[32] Owner-captains at Amalfi encouraged their crew's readiness to fight by continuing to pay profits on the shares of sailors who were incapacitated by wounds received while defending their ship. In addition, they further assured their sailors' loyalty to the venture by agreeing to pay their ransom if they were captured by pirates.

The *colonna* in use at medieval Amalfi and Messina probably evolved from the Byzantine *koinonia*, a shipboard association of owner-captains and merchants first described in the *Sea-law*.[33] Although similar associations appear to have existed in certain Adriatic ports,[34] they obviously played a less important role in Adriatic shipping than the *colonna* did in southern Tyrrhenian shipping. From the very beginning of the Middle Ages, Byzantine owner-captains had occasionally chosen to arrange freight contracts with traveling merchants instead of becoming their partners in a *koinonia*. It was this alternative organization of the maritime venture that eventually became the more common form in Adriatic ports like Ragusa, Zara, and Trani. Whichever of these two forms their economic relationship to early-medieval merchants happened to assume, however, Italo-Byzantine owner-captains nonetheless seem to have consistently engaged their sailors for shares in their profits.

Indeed, it seems that it was only during the twelfth century that owner-captains at Pisa, Venice, and Genoa first began to hire their sailors for fixed wages. The shift from profit-sailing to wage-sailing in these great maritime centres took place as soon as prevailing economic conditions allowed the transition. In the expanding economy of the twelfth century, owner-captains now found it possible to assume the risks of the maritime venture themselves. By offering their crews a stable wage, they were able to reduce their variable

better sense. (See the critical notes to chapter XIII at p. 49 of the "Comitato» edition). That "nichilominusque" is indeed the correct reading seems to be confirmed by the fourteenth-century translation of this passage in the *Consulate of Messina*, ch. LXVIII: "... nenti di minu divino haviri la parti loru di lu guadagnu secundu guadagna lu naviliu."

[31] "Item durante societate vel navigio, unumquodque lucrum, vel invenctum, vel ex exercitio quaesitum, vel quocumque alio modo, vel per patronum, vel per nautas et sotios, debet accumulari, communicari vel assotiari predittis; verum persona reperiens, vel exercitio utens debet habere aliquid pluspartis ad arbitrium consulis." *Table of Amalfi*, XII.

[32] See *Table of Amalfi*, XIV and XV.

[33] On the *koinonia* in the *Sea-law*, see Ashburner, pp. ccxli-xliii; and BONOLIS, *Diritto marittimo dell'Adriatico*, pp. 125-27.

[34] See BONOLIS, *Diritto marittimo dell'Adriatico*, pp. 129 and 132-33.

costs. This specialization of capital and labour proved advantageous to owner-captains because it made it possible for them to enjoy a higher average return on their investment over the course of several trading voyages. The further development of medieval financial contracts, such as the *commenda,* as well as the more widespread use of traditional contracts, such as the sea-loan, had helped to make credit more readily available. Owner-captains could now routinely obtain loans to outfit and provision their ships or pay their sailors' wages.[35] These loans might be offered by individuals who were not otherwise connected with the trading venture, or credit might be extended to owner-captains by the very merchants who chartered their vessels. Moreover, in certain cases these loans also served the function of implicit insurance. Stay-at-home entrepreneurs assumed the risks for the loss of capital invested in *commenda* contracts, while the repayment of sea-loans was always contingent upon the safe arrival of the ship at its destination.

A particularly informative Genoese notarial document from a somewhat later period illustrates how owner-captains obtained credit to finance their voyages.[36] In the summer of 1253, the part-owners of the sailing ship *Regina* arranged a freight contract with a charter party of traveling merchants for a trading voyage to Syria. In order to raise the capital needed to outfit their ship and pay their crew's wages, they negotiated a sea-loan for the sum of one thousand pounds with a third party not otherwise connected with the venture. Since the repayment of principal and interest was contingent upon the safe arrival of their ship and its cargo in Syria, this sea-loan, in addition to providing them credit, also served the part-owners as implicit insurance. The merchants who made up the *Regina*'s charter party then reached a separate agreement with the part-owners' creditor in which they constituted themselves guarantors of the loan by pledging as collateral the freight charges (*naulum*) that they were obliged to pay for shipment of their cargo. These financial arrangements enabled the *Regina*'s part-owners to finance the first leg of their voyage on credit. In addition, since their charter party was required to back load the *Regina* with whatever cargo was purchased overseas, the part-owners also gained some assurance of a profitable return voyage.

While twelfth-century owner-captains were creating new means of mobilizing credit, their greater familiarity with foreign markets — which they owed to the rapid expansion and gradual regularization of overseas trade during the commercial revolution — at the same time reduced the overall im-

[35] It would be pointless to cite the hundreds of published and unpublished examples that I have culled from the Genoese sources. On the availbility of loans, see Eugene Byrne, *Genoese Shipping in the Twelfth and Thirteenth Centuries* (Cambridge, MA, 1930), pp. 17-18, who gives a good enough idea of how very common they had become by the end of the twelfth century.

[36] The document is published by Byrne, *Genoese Shipping*, doc. XXX, and is discussed on pp. 56-8.

portance of their sailors' entrepreneurial initiative during the voyage. Subsequently, during the course of the thirteenth and fourteenth centuries, this trend was then further reinforced by the development of more sophisticated methods for gathering information about potential trading opportunities. These methods eventually came to include the regular exchange of commercial correspondence and the establishment of resident factors abroad. As early as the mid-twelfth century, however, the gradual elimination of special measures designed to encourage sailors' entrepreneurial initiative had already become the obvious corollary to the assumption of the maritime venture's risks by owner-captains in a system of wage-sailing.

Around the mid-twelfth century, still another important change came about in the way Mediterranean owner-captains organized the maritime venture. Sources as diverse as the seventh-century *Sea-law* and the eleventh-century Geniza documents reveal that individual ownership of small vessels had been the rule in overseas shipping throughout the early Middle Ages.[37] And mid-twelfth-century Genoese notarial documents confirm that individual ownership was still relatively common during the early years of the commercial revolution.[38] Between the mid-twelfth and mid-thirteenth centuries, however, owner-captains at ports like Pisa, Venice, and Genoa gradually developed a new system of part-ownership in larger vessels.[39] In this new system, whenever a group of seamen planned to build a vessel, the group's members first formed a partnership to pool their own assets, and

[37] On the *Sea-law*, see Ashburner, pp. cxxxii-xxxv; and Bonolis, *Diritto marittimo dell'Adriatico*, p. 84. On the Geniza documents, see S. D. Goitein, *A Mediterranean Society: The Jewish Communities of the Arab World as Portrayed in the Documents of the Cairo Geniza, I, Economic Foundations* (Berkeley, 1967), p. 309; and Abraham Udovitch, "Time, the Sea and Society: Duration of Commercial Voyages on the Southern Shores of the Mediterranean," in *La navigazione mediterranea nell'alto medioevo*, 2 vols., Settimane di studio del centro italiano di studi sull'alto medioevo, 25 (Spoleto, 1978), II, esp. 522-23.

[38] During the 1150's and 1160's, when the notarial acts of Giovanni Scriba first cast some direct light on the organization of Genoese shipping, vessels were either owned by individuals or by simple partnerships. See Byrne, *Genoese Shipping*, pp. 12-13; and Hilmar Krueger, "Genoese Shipowners, their Status and their Ships in the Twelfth Century," a paper delivered at the Symposium on the "Shipowner in History," sponsored by the International Commission for Maritime History and the National Maritime Museum, Greenwich, England (Sept. 17-20, 1984).

[39] The primary sources (particularly the notarial documents) that illuminate this system of part-ownership are far too numerous to list. Among the various scholarly studies that have touched on this subject, I limit myself to citing Byrne, *Genoese Shipping*, pp. 12-21; Robert Lopez, *Storia delle colonie genovesi nel Mediterraneo* (Bologna, 1938), pp. 44-46; Frederic Lane, "Venetian Seamen in the Nautical Revolution of the Middle Ages," *passim;* and Charles - Emmanuel Dufourcq, *La vie quotidienne dans les ports mediterranéens au moyen âge. Provence - Languedoc - Catalogne* (Paris, 1975), pp. 44-6.

then raised additional capital by selling shares (*partes* or *loca*) in the ship to interested investors. While some of the investors who helped to finance the vessel's construction might not have been seamen, several of the principal part-owners (*participes* or *patroni*) were almost always owner-captains who intended to operate the ship themselves. Among those part-owners who actually joined in a particular voyage, the individual with the greatest experience at sea was usually chosen to command the vessel. At the end of each trading voyage, the venture's profits were naturally divided among all of the parties who owned shares in the ship.

Admittedly, the introduction of part-ownership did not always coincide with the introduction of wage-sailing in Mediterranean ports. In fact, part-owners at Adriatic and southern Tyrrhenian ports like Ragusa and Amalfi continued to engage sailors for shares in their profits throughout the twelfth and thirteenth centuries. Yet in the major maritime centres of the commercial revolution, the common practice of owning shares simultaneously in several different ships[40] clearly made it much easier for owner-captains to assume the risks of paying fixed wages to their crews. If a part-owner's stake in one venture failed, it was likely that his share in another successful venture would compensate his losses. Moreover, ships' shares at important maritime centres like Genoa were routinely administered like any other commercial asset.[41] They represented a common form of investment in *commenda* contracts, and they could be pledged as security for loans to outfit vessels or pay sailors' wages. These various innovations in the organization of the maritime venture all shared one common purpose: They served to mobilize the capital resources of an expanding economy for investment in overseas shipping.

Sailors did not ordinarily enjoy the same new sources of credit that were now available to owner-captains, and in any event had always been less able to sustain potential losses in profit-sailing. During the course of the twelfth century, sailors at ports like Pisa, Barcelona, Venice, and Genoa traded the risky opportunities of profit-sailing for the security of a stable wage. It is to the early evidence for the introduction of this new system of wage-sailing that I now turn my attention.

When Pisa's *Constitutum Usus* first casts some direct light on that city's maritime custom around the mid-twelfth century, wage-sailing had already become the standard form of engagement in the northern Tyrrhenian area. One of the chief reasons why Pisan owner-captains were able to assume the risks involved in paying fixed wages to their crews was that they themselves were ordinarily entitled to receive the full freight charges for whatever cargo

[40] See, for instance, the discussion of the Genoese *Loca* system of part-ownership in Byrne, *Genoese Shipping*, esp. p. 14.

[41] Byrne, *Genoese Shipping*, pp. 14-19; and Robert Lopez and Irving Raymond, *Medieval Trade in the Mediterranean World* (New York, 1961), pp. 175-76.

they had shipped, whether or not the trading voyage had ended profitably for the merchants who chartered their vessels.[42] The only exceptions that Pisan custom allowed to this general rule involved cases in which the unforeseen actions of pirates or sovereign powers had either caused the loss of the merchant's cargo or prevented the completion of the voyage. Under these special circumstances, owner-captains agreed to reduce freight charges in proportion to cargo losses. Since cargo losses in such cases were not the result of their own negligence, but of *force majeure*, the owner-captains who assumed these risks actually functioned as the implicit insurers of their charter parties for the amount of the freight charges. Whenever twelfth-century Pisan custom required owner-captains to perform this economic service for merchants, however, the *Constitutum Usus* at the same time allowed them to employ the following formula in reducing their sailor's wages.[43] If more than one-third of the ship's cargo were to arrive safely in port, their sailors had to be paid in full; but if less than one-third of the cargo arrived safely, owner-captains could partially indemnify themselves for their lost freight charges by withholding half of their crew's wages.

This last practice has been described as a form of profit-sailing.[44] The essential feature of profit-sailing, however, was the proportional division of the venture's profits between owner-captains and their crews. At Pisa, sailors' earnings never varied in proportion to profits: They were merely withheld in the event that certain well-defined instances of *force majeure* brought about the venture's failure. In reality, Pisan owner-captains did not practise profit-sailing. They simply redistributed contingent risks among their employees in order to reinsure themselves against specific losses caused by pirates or sovereign powers. It is important to note that in this fashion they also managed to interest their sailors more directly in the voyage's successful outcome, since the prospective loss of wages provided a strong incentive to fight rather than surrender to pirates.

[42] The key passage begins: "Navem si quis ad naulum acceperit, et navis cum carico salva redierit, naulum quod convenerit dare teneatur. Si vero caricum non habuerit, propterea naulum dare non minus teneatur: nisi, unum ex tribus impedimentis inferius scriptis habuerit; videlicet, quod vel dominus terre caricum prohibeat, et propter hoc caricum habere non possit, vel pro iusto timore inimicorum, vel pro preda sibi facta, propter quod tassedium compleri non possit; pro quorum aliquo si nichil habuerit, vel si habuerit caricum, et illud amiserit, nichil de naulo dare teneatur." See the *Constitutum Usus*, ch. XXVIII, p. 911 ("De naulo navium"), in *Statuti inediti della città di Pisa dal XII al XIV secolo*, ed. Francesco Bonaini (Florence, 1870), II, 911-921.

[43] "De marinariis autem statuimus, ut si aliquo impedimento de suprascriptis de carico nichil vel minus habitum vel reductum fuerit, nichilominus mercedis medietatem habeant. Sin autem medietas, vel saltem pars tertia carici reducta fuerit, aut plus, totam mercedem consequantur. *Constitutum Usus*, ch. XXVIII, p. 911.

[44] Melchiorre Roberti, "Per l'abolizione dell'art. 535 del Cod. di Comm.," *Rivista del diritto commerciale*, XI, part 1 (1913), 22-3.

The reductions in the wages of twelfth-century sailors permitted in the Pisan *Constitutum Usus* formed part of an early system of wage-sailing in which owner-captains were not yet prepared to assume the full risks of the maritime venture themselves. During the thirteenth century, however, when the owner-captains who controlled Pisa's *Curia Maris* decided to compose a new guild statute that superceded the *Constitutum Usus* in matters of maritime custom, they chose to exclude wage reductions in cases of *force majeure* from the measures that governed their relationship to their crews.[45] In fact, by the end of the thirteenth century, there only remained one influential body of Mediterranean custom that still continued to allow owner-captains to employ measures of implicit insurance similar to those contained in the twelfth-century *Constitutum Usus*.

According to the thirteenth-century customary known as the *Consulate of the Sea*,[46] whenever Catalan merchants chartered a vessel, they were ordinarily expected to pay the freight charges for the trading voyage, whether or not the sale of their cargo brought them any profits. And similarly, Catalan owner-captains were in turn obliged to pay sailors their full wages, whether or not their own earnings proved sufficient to cover operating costs.[47] Like the Pisan *Constitutum Usus*, however, the *Consulate of the Sea* did permit an important exception to this general rule whenever it had been *force majeure* that caused the venture's failure.[48] If the ship's cargo was plundered by pirates or confiscated by a sovereign power, the charter party was excused from paying freight charges, and the owner-captain was allowed to reduce his crew's wages. Even in those cases in which it had clearly been *force majeure* that caused the loss of their cargo, however, Catalan merchants were only excused from paying freight charges if the dangers that brought about the venture's failure had been unforeseen. For instance, when the members of a charter party had reason to suspect that an embargo might prevent them from

[45] See the *Breve Curiae Maris Pisanae Civitatis*, in *Statuti inediti della città di Pisa*, ed. Bonaini, III, 351-445, *passim*.

[46] The edition of the *Consulate of the Sea* used in the present study is published in *Monumenta Juridica. The Black Book of the Admiralty*, ed. Travers Twiss, Rerum Britannicarum Medii Aevi Scriptores, 55 (London, 1874, rpt. Wiesbaden, 1965), III, 50-657.
On Catalan seamen, see Dufourcq, *La vie quotidienne dans les ports mediterranéens au moyen âge, passim*.

[47] "... que mester es que l'mariner sia pagat de son loguer, haia lo senyor de la nau son nolit o no, pusque l'mariner haura fet son servey en lo viatge." *Consulate of the Sea*, CCXXX.

[48] Bonolis, *Diritto marittimo dell'Adriatico*, pp. 224-26, correctly points out that Catalan owner-captains could only withhold their sailors' wages in cases of *force majeure*. Roberti, "Per l'abolizione dell'art. 535," pp. 25-29, however, once again confuses measures of implicit insurance and profit-sailing.

loading cargo in a foreign port, they still remained liable for the payment of freight charges, whatever the losses they might incur during the voyage.[49] Needless to say, since in this last case the owner-captain declined to function as his charter party's implicit insurer, the members of his crew also retained their right to receive their full wages.

Profit-sailing was probably the rule at early-medieval Venice, where the Byzantine *Sea-law* seems to have regulated maritime custom.[50] But some scholars have incorrectly thought that it continued to be the standard form of engagement among Venetian seamen during the twelfth and thirteenth centuries.[51] In their view, the *compagnia navis*, which is alluded to in a number of twelfth-century notarial contracts, was actually a formal shipboard association that included owner-captains, their sailors, and traveling merchants. A thorough examination of the surviving sources, however, fails to reveal any convincing evidence for the continued use of profit-sailing at Venice during the course of the commercial revolution.

In reality, the *compagnia navis* is only mentioned incidentally in the stylized notarial formula of some half-dozen *collegantia* contracts,[52] though scholars have mistakenly exaggerated its importance by confusing it with common

Consulate of the Sea, XCIII, XCV, CXLVII, CLXXXIII, CLXXXVII, and CXC all constitute clear examples of implicit insurance in cases of *force majeure*. (The only instance of implicit insurance in the *Consulate of the Sea* in which this element seems to be lacking appears in ch. LIX). Chs. XCIX and CXLVI — which scholars have also cited as instances of profit-sailing — actually deal with cases in which the voyage is prolonged due to *force majeure*, and simply establish that if an owner-captain should receive supplemental freight charges from his charter party, he would in turn be obliged to increase his sailors' wages to compensate them for the additional time hat they were required to serve. It seems probable that this is also the intention of the otherwise confusing ch. CXXXIV.

[49] *Consulate of the Sea*, CXLVII.

[50] BONOLIS, *Diritto marittimo dell'Adriatico*, pp. 68-9, 604-05, and 636, argues that the Byzantine *Sea-law* formed the basis of maritime custom at early-medieval Venice. Giovanni Cassandro, however, expresses some doubts about whether the *Sea-law* ever played such a fundamental role. See GIOVANNI CASSANDRO, "La formazione del diritto marittimo veneziano," in *Venezia e il Levante*, I, part 1, esp. 199-208.

On Venetian sailors in addition to the articles by Lane cited above in note 2, see his *Venice: A Maritime Republic* (Baltimore, 1973), pp. 48-54 and 166-70. Also useful are CASSANDRO, "La formazione del diritto marittimo veneziano"; and JEAN CLAUDE HOCQUET, "Gens de mer à Venice: diversité des statuts, conditions de vie et de travail sur les navires," in *Le genti del mare mediterraneo*, I, 103-68.

[51] ROBERTI, "per l'abolizione dell'art. 535," 12-18; and RINIERO ZENO, "L'arruolamento nel diritto marittimo medievale, III," *Rivista di storia del diritto italiano*, XIII (1940), 483, and 486-89.

[52] *Documenti del commercio veneziano*, docs. XCXII, CCCXXXIV, CCCC, CDV, CDXXXVII, CDLXVIII, CDLXXV, CDLXXXIII, and DXX.

forms of commercial partnership, such as the *fraterna compagnia*.[53] The stay-at-home party in the *collegantia* — the Venetian form of the *commenda* — ordinarily specified the ports at which the traveling party should call. But if during the course of the voyage the ship on which he had embarked later altered its trading itinerary, the traveling party could then exercise his own discretion and decide to follow wherever the *compagnia navis* agreed to sail ("ubicumque compagnia eiusdem navis concordaverit").[54] Unfortunately, the stylized notarial formula employed in the *collegantia* contract fails to specify the members or define the functions of the *compagnia navis*. While the term may conceivably refer to a ship's council that met to determine the course of the voyage,[55] there are no grounds for the inference that it describes a shipboard association similar to the *colonna*. In fact, the phrase *compagnia navis* that Venetian notaries chose to adopt in these documents may not have a technical meaning at all.[56] Both medieval Latin and medieval Italian sometimes used the words *compagna* or *compagnia* as general expressions to indicate the entire complement of a ship. The most famous instance of this usage is surely to be found in Canto XXVI of the *Inferno*, where Ulysses sets out on his last voyage with a single ship and its small, loyal company ("compagna picciola"), whose members he addresses interchangeably as "frati" or "compagni."[57]

While twelfth-century *collegantia* contracts fail to illuminate the economic relationship between Venetian owner-captains and their crews, an attentive examination of the city's thirteenth-century maritime statutes leaves no doubt that wage-sailing had replaced profit-sailing during the course of the

[53] ZENO, "L'arruolamento, III," 483, n. 5, cites the following documents as examples of the *compagnia navis: Documenti del commercio veneziano nei secoli XI-XIII*, ed. R. Morozzo della Rocca and A. Lombardo, Documenti e studi per la storia del commercio e del diritto commerciale italiano, 19-20, 2 vols. (Turin, 1940), docs. XXXII, XXXIII, XXXV, LIV, LXX, LXXII, LXXIV, LXXIX, XCV, XCVI, CXXXV, CCL, CCLXX, CCCLXVI, CCCXCIX, and CDLIV. Without exception, however, these documents are all examples of the *fraterna compagnia*, the typical form of partnership among Venetian merchants.

[54] *Documenti del commercio veneziano*, CCCXXXIV.

[55] A formal ship's council, which included the owner-captain, mate, and three merchants, was required by law on thirteenth-century Venetian vessels. See the *Statute of Zeno*, LXXIII, in *Gli statuti marittimi veneziani fino al 1255*, ed. Riccardo Predelli and Adolfo Sacerdoti (Venice, 1903). On this "council of five" (and the later "council of twelve"), see UGO TUCCI, "Le conseil des douze sur les navires vénitiens," in *Le navire e l'économie maritime du moyen-âge au XVIIIe siècle*, Colloque international d'histoire maritime, 2, 1957 (Paris, 1958), pp. 119-25.

[56] See CASSANDRO, "La formazione del diritto marittimo veneziano," 211, who expresses the same opinion.

[57] DANTE ALIGHIERI, *Inferno*, XXVI, 100-02, 106, 112, and 121. On the use of "compagna" and "compagni" in Dante, see RINALDO ORENGO, *Le arti del mare in Dante*, 2nd. ed. (Rome, 1969), pp. 288-9.

commercial revolution. Nonetheless, their misinterpretation of several passages in the *Statute of Tiepolo* and the *Statute of Zeno*[58] has led some scholars to the erroneous conclusion that merchant seamen practised profit-sailing at thirteenth-century Venice. In reality, however, there seem to have existed only two special cases in which owner-captains agreed to increase their sailors' wages in proportion to their own earnings.

When the merchants who chartered a Venetian vessel planned to winter overseas, they generally agreed to pay higher freight charges to compensate owner-captains for the greater duration of the voyage, while owner-captains in turn agreed to pay higher wages to compensate sailors for the additional months that they were required to serve. But the charter agreements that owner-captains and merchants drew up occasionally neglected to anticipate this contingency. Venice's thirteenth-century maritime statutes simply established that whenever wintering overseas happened to prove necessary, merchants would have to pay owner-captains additional freight charges, and owner-captains would have to pay sailors higher wages.[59] In effect, this made the charter party the owner-captain's implicit insurer for the lost time and labour of his sailors in the event of unforeseen wintering.

The second case in which Venetian owner-captains agreed to increase their sailors' wages actually appears to have involved a limited form of profit-sailing.[60] Owner-captains and their charter parties ordinarily arranged for the transport of goods and the payment of freight charges before they set sail from Venice. But during the course of the voyage, occasions sometimes arose unexpectedly to load additional cargo that did not belong to members of the original charter party. In such cases, owner-captains divided whatever new freight charges they earned with their sailors according to a tradition ("secun-

[58] See Roberti, "Per l'abolizione dell'art. 535," 13-14, who mistakenly identifies the custom that allowed owner-captains to include themselves as sailors on the crew roster ("patrono marinario contato") as a form of profit-sailing (see *Statute of Zeno,* XXVI). Roberti also wrongly asserts that the thirteenth-century Venetian statutes made sailors' earnings proportional to freight charges. In reality, however, these statutes simply established that sailors' wages should be paid at the same time that owner-captains received their freight charges (see *Statute of Zeno,* XCIX). In addition to Roberti, see the somewhat confused discussion in Zeno, "L'arruolamento, III," pp. 486-89.

[59] *Statute of Tiepolo,* XLI and XLII, also in *Statuti marittimi veneziani,* ed. Predelli and Sacerdoti; and *Statute of Zeno,* LXXXII.

[60] *Statute of Zeno,* LXVIII: "Ordinamus quod navis que exierit de aliquo portu de aliqua parte, et applicuerit in aliquo loco in quo poterit habere naulum, non debeat recipere aliquod naulum nisi cum maiori parte de naulizatis et cum maiori parte de marinariis; de quo naulo navis habeat quartam partem. Alterum quod remanet dividi debeat per homines secundum usum." An identical provision (with slightly different wording) is included in *Statute of Tiepolo,* XXVI.

dum usum") that may well have derived from the *Sea-law*. While they were still docked at Venice, owner-captains would have enjoyed sources of information that were not available to sailors. Once the voyage had begun, however, it is likely that sailors could often obtain new information about potential trading opportunities as readily as owner-captains. By promising their sailors a share in whatever additional profits they earned after their ship left Venice, owner-captains hoped to encourage their crew's entrepreneurial initiative. But this was a special measure that did not affect the payment of the regular wages that they had promised their sailors at the outset of the voyage.

The evidence for the introduction of wage-sailing at twelfth-century Genoa[61] presents fewer difficulties than that for the other maritime centres I have thus far examined. Genoa's extensive archives contain a scattering of notarial contracts that stipulate the actual terms of engagement for sailors employed in overseas shipping during the commercial revolution. Even in the earliest of the surviving twelfth-century contracts — which are preserved in the cartularies of Oberto Scriba de Mercato and Guglielmo Cassinese — Genoese owner-captains consistently hired their sailors for fixed wages.[62] Nonetheless, several scholars have maintained that profit-sailing was still widely used at Genoa between the twelfth and fourteenth centuries.[63] A closer examination of the handful of notarial documents that they sometimes cite as examples of profit-sailing, however, soon reveals that most contracts actually describe other financial arrangements between owner-captains, such

[61] On Genoese sailors, see ROBERT LOPEZ, *Storia delle colonie genovesi*, ch. 2, *passim;* GIOVANNI FORCHERI, *Navi e navigazione a Genova nel Trecento: Il Liber Gazarie*, Collana storica dell'Oltremare ligure, 4 (Bordighera, 1974), ch. 10; and Geo Pistarino, "Gente del mare nel Commonwealth genovese," in *Le genti del mare mediterraneo*, I, 202-90.

[62] *Notai liguri del sec. XII* (I). *Oberto Scriba de Mercato (1190)*, ed. Mario Chiaudano and R. Morozzo della Rocca, Documenti e studi per la storia del commercio e del diritto commerciale italiano, 11 (Turin, 1938), doxs. 17, 49, and 640; and *Notai liguri del sec. XII* (II). *Guglielmo Cassinese (1190-92)*, ed. Margaret Hall, Hilmar Krueger, and Roberto Reynolds, Documenti e studi per la storia del commercio e del diritto commerciale italiano, 12-13, 2 vols. (Turin, 1938), docs. 37, 178, 205, 210, 215, 216, and 1472.

[63] ZENO, "L'arruolamento, I," *Rivista di storia del diritto italiano*, XII (1939), 341-45, confuses part-ownership with profit-sailing at Genoa; and in his *Storia del diritto marittimo nel Mediterraneo*, pp. 254-55, asserts that at ports like Genoa and Venice "la forma associativa maggiormente diffusa fu quella tra proprietari, mercanti e marinai..." GIOVANNI FORCHERI, *Navi e navigazione a Genova*, pp. 125-33, notes in passing that the *Liber Gazarie* "sembra ignorare il contratto alla parte e considerare solo quello nella forma della *locatio operarum*," buth then proceeds to discuss the various depositions of this statute as though they referred to both forms of engagement.

as the transfer of ship's shares invested in *commenda* contracts.[64] Moreover, those few notarial documents that appear to provide some evidence for this form of engagement seem to refer to sailors employed in local trade.[65] Finally, a brief glance at Genoa's maritime statutes simply serves to corroborate the evidence already gleaned from her notarial archives: Neither the *Statute of Pera* nor the *Liber Gazarie*, the codes that regulated Genoa's overseas shipping, so much as mention the use of profit-sailing on merchant vessels.[66]

Indeed, by the late-thirteenth century the complete specialization of capital and labour had become the rule in Mediterranean wage-sailing. In most major ports, owner-captains were now prepared to assume the full risks of the maritime venture themselves. They agreed to increase their crews' wages whenever a change in their trading itinerary unexpectedly prolonged a voyage.[67] With some exceptions, they recognized that their sailors' earnings could not be required to contribute to general average for jettison.[68] And

[64] Zeno, "L'arruolamento, I," 343-44, n. 2, cites *Oberto Scriba de Mercato,* doc. 602, and Raffaele di Tucci, *Studi sull'economia genovese del secolo decimosecondo. La nave e i contratti marittimi* (Turin, 1933), p. 45, doc. XXXI, as examples of association among shipowners, merchants and sailors. In reality, however, the first of these documents describes the receipt of a ship's share in *commenda*, while the second simply records the formation of a *societas* among a vessel's part-owners. In addition, in "L'arruolamento, I," 344, n. 1, Zeno wrongly cites *Actes des notaires génois de Péra et de Caffa de la fin du treizième siècle (1281-90)*, ed. G.I. Bratianu (Bucharest, 1927), doc. CXII, as an instance of association between shipowners and sailors. The document, however, actually deals with the receipt of a galley in *commenda*.

[65] Pistarino, "Gente del mare nel Commonwealth genovese," pp. 237-38, cites two early-thirteenth century notarial contracts that may refer to profit-sailing in local trade between Genoa, Corsica, and Sardinia. For the documents themselves (which I have been unable to consult), see *Documenti inediti sui traffici commerciali tra la Liguria e la Sardegna nel secolo XIII,* ed. N. Calvini, E. Puzulu, and V. Zucchi (Padua, 1957), docs. 20 and 111.

[66] See Books IV-VI of the *Statute of Pera, passim;* and the "Tractatus Marinariorum," cols. 410-17, in the *Imposicio Officii Gazarie*, ed. L. Sauli, in *Leges Municipales* (I), Historiae Patriae Monumenta, 6 (Turin, 1838).

[67] See, for instance, the detailed provisions in the *Statute of Zara,* Book IV, chs. XXXIV, XLIII, LIII, LIV, and LXXVI. Such special measures were only necessary, however, in ports where owner-captains persisted in setting their sailors wages by the voyage. By the end of the thirteenth century, the sailors in most major maritime centres could expect to earn regular monthly wages as a matter of course. See, for example, under the rubric "De non accipiendo marinarios nisi ad mensem de diebus triginta," in Genoa's *Liber Gazarie*, col. 412.

[68] The issue of whether or not sailors' wages should contribute to general average for jettison seems to have ordinarily been determined by custom, and therefore remains somewhat obscure in the surviving sources. Both the Venetian maritime statutes and the *Ordinamenti marittimi di Trani* neglect the subject of jettison altogether,

they promised to pay their crews for each and every day of actual service, even when a trading voyage ended in the loss of their vessel.[69] In short, during the course of the thirteenth century, the maritime codes in most major Mediterranean ports explicitly recognized that sailors were entitled to receive their full wages in cases of *force majeure*. And during the fourteenth century, even Catalan custom, which alone continued to allow certain measures of implicit insurance, finally limited the number of cases in which owner-captains could indemnify themselves for losses by withholding their crews' wages.[70]

But even in the great maritime centres of the commercial revolution, overseas shipping still remained a dangerous adventure at the end of the Middle Ages. During the course of a series of trading voyages that he organized around 1320, Oddoardo Embrono, a Genoese merchant of noble Guelf family, lost the considerable fortune of eight hundred pounds that had been entrusted to him in *commenda* contracts. When he returned to Genoa his creditors took him to court, where he had occasion to narrate his story before a judge.[71] Even recast in the terse Latin of the court's notary, the fast-paced tale of Oddoardo's travels strikes a note of romantic misadventure reminiscent of a Boccaccio *novella*.

His first voyage took Oddoardo to Tunis, where he planned to trade with the local merchants. But soon after his arrival the King of Bougie invaded Tunis, and the local merchants fled the country. Oddoardo nonetheless man-

while the *Statute of Ancona* (LXXXVI) and Genoa's *Statute of Pera* (CCXXXI) do regulate jettison, but fail to indicate the specific role of sailors in contribution.

The *Table of Amalfi* provides the clearest picture of what must have been the usual position of sailors in profit-sailing (XLVII), where they contribute to general average, and in wage-sailing (XLVIII), where they do not. The *Consulate of the Sea* categorically exempts sailors from contribution to general average for jettison. In contrast, sailors at Pisa seem to have contributed at least the unpaid portion of their wages. See the *Constitutum Usus*, XXVIII ("De iactu navium"); the *Breve Curiae Maris*, CXV; and the *Breve dell'Ordine del Mare*, LXXXI, in Bonaini, *Statuti inediti della città di Pisa*, III, 455-643. This appears to have been the case at Zara as well. See the *Statute of Zara*, LV.

On the topic of contribution to general average, see Lefebvre D'Ovidio, "La contribuzione alle avarie communi dal diritto romano all'ordinanza del 1681," *Rivista del diritto della navigazione*, I, part 1 (1935), 36-140.

69 See, for instance, Genoa's *Statute of Pera*, CCXLII: Venice's *Statute of Zeno*, XCII: and the *Statute of Zara*, LVI.

70 The Aragonese "Maritime Ordinance of 1340," in *Collection de lois maritimes*, V, 351-67, establishes that sailors should receive their full wages in the case of shipwreck, provided that they stand by to assist with salvage operations (ch. XVII), but still allows owner-captains to withhold a portion of their wages to contribute to the vessel's ransom from pirates or privateers (ch. XXXIV).

71 *Archivio di Stato, Genova: Archivio Notarile*, Giovanni Gallo, 263/I, 51v-53r.

aged to ship some cargo to his factor at Genoa. But during his absence civil war had broken out at Genoa, and it proved impossible for his factor to sell his cargo profitably. He had meanwhile loaded another ship with salt for shipment to a nearby Tunisian port. But both the ship and its cargo were lost at sea.

Oddoardo then sailed from Tunis to Palermo, where he arranged for another factor to undertake a trading voyage to Naples. But the ship on which his factor returned from Naples was captured by privateers. Its cargo of wine was plundered, and his factor was imprisoned. His ransom alone cost Oddoardo one hundred pounds. After concluding that it would be dangerous to remain any longer in war-torn Sicily, Oddoardo bought a ship of his own and fitted it out for a trading voyage to Venice. But the sea passage proved to be unusually difficult, and upon arrival at Venice he discovered that his ship's timbers were rotten. When his sailors demanded their back wages, Oddoardo was forced to sell his ship at a loss to raise funds to pay them.

From Venice he eventually made his way to Naples, where he arranged a contract of exchange (*cambium*) with a Tuscan merchant, and then boarded a Pisan ship bound for Sardinia. But the ship on which he embarked was blown off course in a storm. And when he put ashore at Trapani, the city's Ghibelline officials confiscated his cargo and robbed him of his personal effects. From Trapani Oddoardo first returned to Naples, where he negotiated loans with two Genoese merchants. And from Naples he then proceeded to Pisa, where he invested his remaining assets in a cargo of foodstuffs for shipment to Genoa. But word of his plans reached Pisa's Ghibelline authorities, who ordered that his shipment be seized as contraband. At this point, Oddoardo at last decided to set out for home to settle accounts with his creditors.

Oddoardo Embrono employed the most sophisticated business practices — including the use of resident factors and contracts of exchange — in order to invest his considerable assets in diversified goods for trade along well-established routes. Yet anarchic forces repeatedly thwarted his careful plans. His experiences should serve as a reminder that the potential dangers of overseas shipping in the Mediterranean had not diminished significantly during the course of the commercial revolution. Although new means of mobilizing credit and distributing risks did enable late-medieval merchants and owner-captains like Oddoardo to confront these dangers more effectively than their early-medieval predecessors, the simple promise of a stable wage was alone insufficient to ensure that they would always be in a position to pay their sailors at the end of a trading voyage.

The need for concrete measures designed to guarantee sailors' wages was met in many Mediterranean ports during the late-thirteenth and early-fourteenth centuries. Owner-captains agreed to mortgage their ships to cover back wages in the event of their insolvency, and gave sailors the status of preferred creditors in the liquidation of their debts.[72] In fact, the priority of sailors' wages over other debts became a fundamental principle of Mediterranean wage-sailing that ultimately found its most eloquent expression in the *Consulate of the Sea.*

> "The owner-captain is bound to pay the sailors from the freight charges he has received; and if the freight charges prove insufficient, he ought to borrow money; and if he cannot find money to borrow, the ship should be sold, and the sailors should be paid before any creditor or other person; for the sailor ought to be paid if there is only one nail left in the ship with which to pay him..."[73]

But of course at times there would not have been a single nail left in the ship. An obvious solution was for the commune to require owner-captains to deposit securities before sailing that might be used to pay their crews in the event of their insolvency. This step was actually taken at Genoa during the early-fourteenth century.[74] Moreover, besides depositing securities before they set sail, Genoese owner-captains were further obliged to consign a copy of their ship's book (*cartularium* to the *Officium Gazarie*, the commune's maritime office. Since this ship's book contained a detailed record of the terms of engagement of each crew member, it could later be used to adjudi-

[72] The provisions in the Pisan *Breve Curiae Maris* were typical measures: "Naves vero et ligna omnia, et eorum et cuiusque eorum correda, apparatus, introitus et proventus et naulum, expressim intelligantur et sint obligata pro conductu et marinaratico marinarioum et famulorum solvendo..." *Breve Curiae Maris*, XIII; and "Et quod marinarii cuiusque navis et ligni, et quisque eorum, pro eorum conductu et marinaratico tantum, preferantur et preferatur priores tempore omnibus aliis creditoribus suprascripte navis et ligni in qua vel quo locati vel locatus constiterint vel constiterit." *Breve Curiae Maris*, ch. LXXVI.

[73] "Encara, es tengut senyor de nau a mariners, que del nolit que li sera pagat, ell deu pagar als dits mariners; e si lo nolit no y basta, ell deu manlevar; e si no troba a manlevar, que la nau sia venuda e que s'paguen los mariners ans que hom, qui hi sia prestador ne altre hom; car lo mariner, si no y havia sino un clau de que s'pogues pagar, se deu pagar..." *Consulate of the Sea*, XCIII. (The translation that appears in the text is my own, not that of the editor, Travers Twiss).

For further measures that confirm the priority of sailors' wages in the *Consulate of the Sea*, see chs. XIII, XVIII, LXII, LXXXII, XCIV, CXLVIII, and CLXXXII. Nonetheless, Catalan custom of course allowed a number of exceptions to this rule in instances of *force majeure.* (In fact, even chapter XCIII of the *Consulate of the Sea*, a portion of whose text I quoted above, permits an exception in the case of shipwreck).

[74] "De cartulario deponendo penes officium" and "De deposito marinariorum fiendo per patronum," in *Liber Gazarie*, cols. 411-12. At nearby Savona, owner-captains were also required to deposit securities that might be used to pay their sailors' back wages. *Statuta Antiquissima Saone (1345)*, ed. Laura Balletto, 2 vols. (Genoa, 1971), Book I, ch. 196.

cate possible disputes over wages. The freebooting days of profit-sailing were indeed far in the past.

* * *

While a thorough examination of the various factors that contributed to the decline in status of Mediterranean sailors between the mid-thirteenth and mid-fourteenth centuries clearly lies beyond the limits of the present study, I nonetheless believe it will prove worth-while to note in conclusion that owner-captains' efforts to guarantee sailors' wages in the hundred years between about 1250 and 1350 closely coincided with the final breakdown of traditional, personal bonds between capital and labour in medieval shipping. As late as the middle of the thirteenth century, part-owners at ports from Venice to Barcelona had routinely worked alongside the members of their crews in order to save the cost of hiring additional hands.[75] In certain ports, traditional bonds between owner-captains and their sailors appear to have been particularly strong. At Genoa, for instance, it seems that each of a vessel's part-owners was frequently responsible for contributing his own sailors to the ship's company.[76] During the course of the voyage, crew members dined at the table ("ad suam tabulam") of the particular part-owner who paid their wages.[77] If the part-owner later chose to sell his share in the ship to purchase part-interest in another, his sailors remained in his personal service and accompanied him onto the new vessel. By the end of the thirteenth century, however, this system of part-ownership — which had alone been largely responsible for maintaining strong personal bonds between capital and labour during the early years of wage-sailing — had already begun to lose much of its importance in overseas shipping. Many owner-captains were now wealthy enough to operate their own vessels, and some had even amassed sufficient fortunes to own several ships and hire salaried captains to command them.[78]

Desertion from merchant ships, though it had not been unknown before the mid-thirteenth century, first became a significant problem at ports like Venice, Genoa, and Pisa during the hundred years between 1250 and 1350.[79]

[75] See, for instance, Venice's *Statute of Zeno,* XXIII and XXVI; and Barcelona's "Maritime Ordinance of 1258," ch. XI, in *Collection de lois maritimes,* V, 339-346.

[76] *Statute of Pera,* CCVIII.

[77] *Liber Magistri Salmonis, Sacri Palatii Notarii, 1222-1226,* ed. A. Ferretto, in *Atti della società ligure di storia patria,* XXXVI (Genoa, 1906), docs. DCCXXXVI-DCCXXXIX, p. 314.

[78] Byrne, *Genoese Shipping,* pp. 64-67, was perhaps the first to focus attention on this development.

[79] For Venice, see Lane, "Venetian Seamen in the Nautical Revolution of the Middle Ages," *passim;* for Genoa, see Pistarino, "Gente del mare nel Commonwealth genovese," *passim,* and Sandra Origone, "Marinai disertori da galere genovesi

Paleologo Zaccaria, son of the well-known admiral and entrepreneur Benedetto, operated a small fleet of trading-galleys between Genoa and Byzantium during the early years of the fourteenth century. One of the routine activities that figured prominently among his wide-ranging business affairs was the sale of the legal rights to collect indemnities from the sailors who had deserted from his ships.[80] Paleologo Zaccaria rarely if ever involved himself personally in the actual process of locating and apprehending fugitive sailors, but instead chose to transfer his legal rights against them to individuals who resembled professional collection agents. For Paleologo, who employed hundreds of sailors on many different ships, this business practice simply constituted the most efficient means of minimizing his losses. For his sailors, the act of desertion proved to be a calculated gamble in which they accepted advances on their wages and then tried to lose themselves in the increasingly anonymous ports of the later Middle Ages. Offering to guarantee their sailors' wages was clearly one of the important ways in which thirteenth and fourteenth-century owner-captains could hope to reduce the incidence of desertion from their ships.

Paleologo Zaccaria, Oddoardo Embrono, and Dante Alighieri were all contemporaries. At one point in the *Inferno*, Dante describes the Venetian arsenal, that most striking product of the commercial revolution. Yet other maritime images that he employs consciously reflect a distant past. Certainly neither Paleologo nor Oddoardo could have echoed Ulysses' speech:

> "But I put forth on the deep open sea with one vessel only, and with that small company which had not deserted me".[81]

(secolo XIV)," in *Miscellanea di storia italiana e mediterranea per Nino Lamboglia* (Genoa, 1978), pp. 293-343; for Pisa, see the *Breve dell'Ordine del Mare,* ch. XI and "aggiunti" III and IV.

[80] *Archivio di Stato, Genova: Archivio Notarile*, Enrico di Recco, 205/I, 239v-240v and 244r-245r; and Damiano di Camogli, 149/II, 21, 33r, and 110r-110v.

[81] DANTE ALIGHIERI, *Inferno,* XXVI, 100-102 (trans. Singleton, 1970).