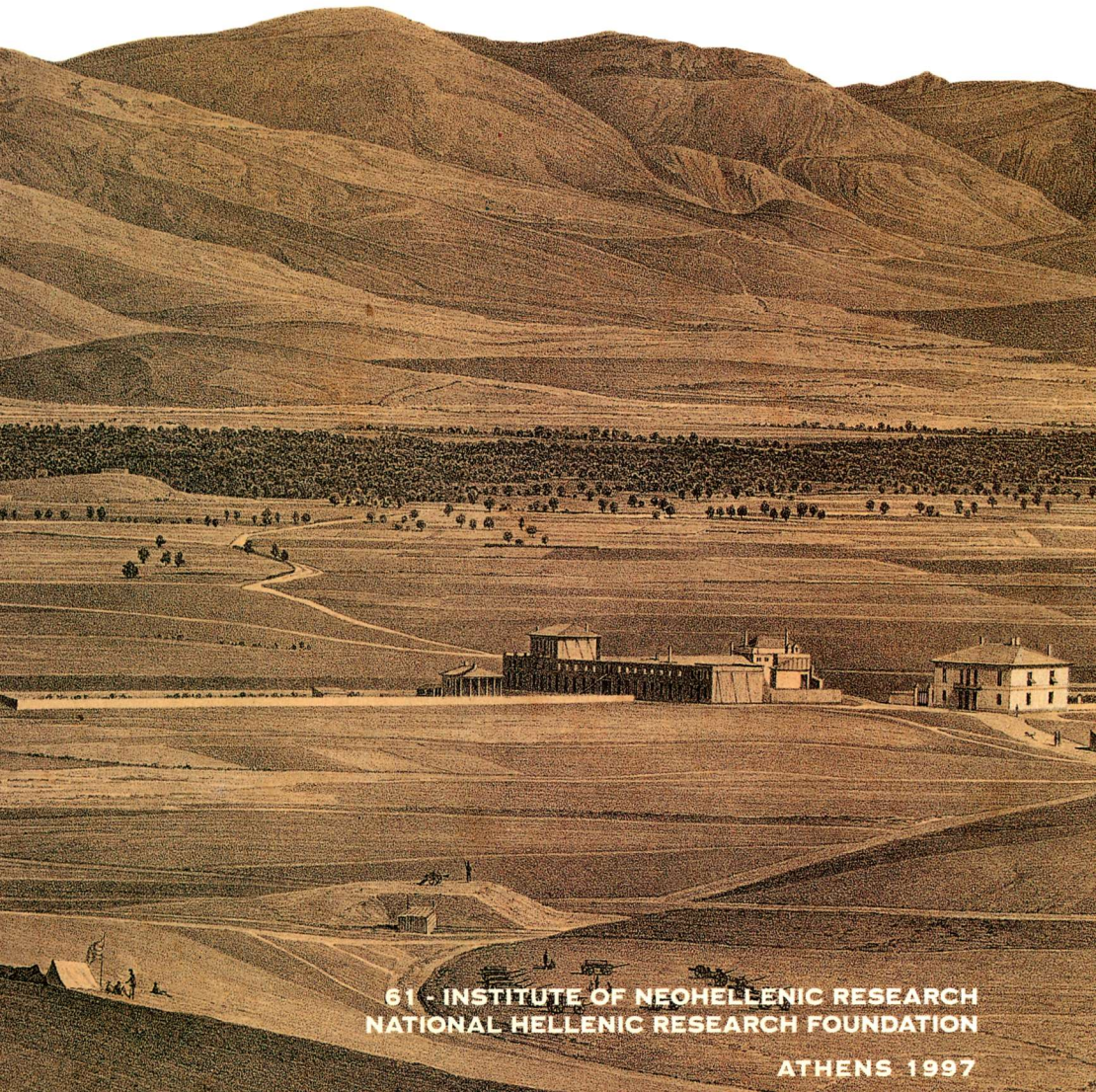
METAXOURGEION
THE ATHENS SILKMILL

CHRISTINA AGRIANTONI, MARIA CHRISTINA CHATZIIOANNOU EDITORS



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'He told me, you can't find workers, each peasant produces a small quantity of cocoons for his house, the women unravel the silk and sell it in this form. Moreover, he added, each to his task; we are not industrialists, we buy cheap and we sell cheap. Nor is the amount produced sufficient for one to pay attention to such an industry [1855].'

Andreas Syngros, Memoirs, *vol. I, Athens 1908, 274.*

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FOREWORD

It is often maintained that the meeting between the cultures of East and West took place easily, effortlessly, on the major routes that came to be known as the Silk Roads. Along these travelled riches, luxury, knowledge and techniques; fantasies, illusions and fairytales; the distant sounds and the lost religions of fantastic men and utopian cities. Along these too passed germs, disease, pillage and conquests that frequently ended in total destruction; but these misfortunes never managed to stem human communication, to curb reciprocal contacts between cultures, to prevent the circulation of material wealth, or to cut off the invisible diffusion of ideas, myths and cultural traits.

In an endeavour to revitalize the meaning of culture in modern societies and to stimulate the same level of interest in it as in economic progress and social welfare –in other words, to emphasize the importance of the cultural dimension of development and to ensure its acceptance by the decision-making centres worldwide–, UNESCO decided to adopt a new action, the World Decade of Cultural Development (1988-1997). Within the framework of this action it has inaugurated an ambitious programme entitled 'Integral Study of the Silk Roads: Roads of Dialogue', in which various research projects, meetings and publications, as well as artistic events, will be complemented by missions to the field. These organized journeys on the trail of the Silk Roads are intended to facilitate study at close hand of the relationship between the natural environment and human societies, to enhance further the remains of the world cultural heritage and to promote awareness of the need for a renewed dialogue between peoples, that will contribute to greater understanding and so help bring peace to the world. The Silk Roads, as part of mankind's collective memory and common cultural heritage, are charged with these ideals, and so the study of silk production and processing acquires in addition to its historical and technological dimension a pronounced symbolism. A firm believer in these same ideals, Greece was eager to take part in the Silk Roads programme, to make its own contribution.

In October 1990 the Institute of Neohellenic Research at the National Hellenic Research Foundation, responding to the government's invitation --in particular of the Ministry of Foreign Affairs and the Ministry of Culture which financed the events–, and in close collaboration with the responsible officials of the corresponding services, helped to organize and co-ordinate the reception of the members of the Maritime Route Expedition from Venice to Osaka, organized by UNESCO. Three Greek scholars took part successively in this long voyage. Noteworthy here is the One-day Colloquium held at the National Hellenic Research Foundation on the theme 'Cultural and

Commercial Exchanges Between the Orient and the Greek World', the Proceedings of which, published in 1991, were well received by the international community.

*Concurrently, since 1990 the INR has been participating in the corresponding programme of the Council of Europe entitled 'Cultural routes - the silk roads', which aims at discovering studying and applying new forms of cultural tourism. In the framework of this programme and in collaboration with the Directorate of Cultural Relations of the Ministry of Culture, the INR organized the Sixth European Meeting (23-26 May 1993), held at Alexandroupolis and at Soufli, a town founded in the mid-eighteenth century exactly on the overland route linking West and East, and which constitutes the final witness of a long tradition of sericulture and silk-working in Greece. The INR's participation in the two afore-mentioned international programmes kindled interest in draughting, within the framework of the programme 'History of Enterprises - Industrial Archaeology', a research project on the subject of 'Silk-working in Greece'. Funded by the Ministry of Culture, the project's objectives are: a)to conduct historical research on silk-working in Greece, from its Byzantine origins to the present day, and to record the national or local network of distributing silk, and b)to conduct fieldwork in the silk-producing regions of Greece, recording remnants of the past as well as possible survivals of this activity. For the first objective subjects have been selected that combine research in the sources with research in the field, such as the silkmill at Athens (Durutti firm) and that at Lechonia Pelion (Kokoslis firm); other examples are planned for the future. The present volume includes primary results of the research project on the silkmill (*metaxourgeion*) at Athens, a pioneering business enterprise whose traces are deeply etched on the history of both Greek industry and the capital of the fledgeling Greek state, its name setting its seal to this day on a neighbourhood known to all as Metaxourgeion. Precisely for this reason it holds a fascination both for social and economic history and for the cultural heritage of the Greek capital. We believe that studying the sources, seeking out the historical milieu and recording the buildings –in the context of an interdisciplinary approach– offer an in-depth investigation and integrated presentation of the subject, constituting a sound and exemplary study useful for historical research as well as for redeveloping the cultural web of Athens.*

Loukia Droulia

INTRODUCTION

Although China succeeded in guarding the monopoly of silk cultivation for centuries, and although the Greeks and the Romans had vague ideas on the (animal) provenance of silk, it is known that already from the time of the Roman Empire silk was a commodity of long-distance overland trade with the Orient; there are indications that raw and semi-raw silk, a Persian trade monopoly, were imported from the Orient and woven in the workshops of the Eastern Roman Empire from the fourth century. The Greek language preserves the memory of the original cradle of silk, since the Chinese word *ser* (= cocoon) is the root of the Byzantine terms '*serikos*' (silk, silken), '*serikarios*' (silk-weaver), '*serikopratis*' (silk-dealer), as well as of the later term '*serotrophia*' (sericulture), while the Latin word *mataxa*, which means textile fibre generally, was used for silk specifically from the second century BC.

As time passed sericulture broke the exclusive Chinese cordon, penetrating first Japan, then India and Persia, to pass into Byzantium in the sixth century, directly from China, thanks to the well-known efforts of the Emperor Justinian, which are interpreted as a move of disengagement from the Persian monopoly. A couple of centuries later, and by another route, sericulture entered Sicily, southern Italy and Spain, following in the wake of the Arab expansion. By the eleventh century the great journey had been completed: silk had become part and parcel of the production process and cultural property of the Mediterranean. Under Byzantine and Arab influence, sericulture and silk-working slowly but surely took their place in the Mediterranean economies, from Syria to Spain and even beyond, as far as Portugal.

The singular textile fibre vied in value with precious stones and noble metals. Symbol of distinction, authority and wealth, silk became the object of regulations, controls and privileges in the hands of the powerful, while its processing, which demands a high degree of technical specialization, was the franchise of select guilds in the major cities, first and foremost Constantinople. In the Byzantine world the distribution of silk was a state monopoly and the imperial workshops in the Queen of Cities, and later in Thessaloniki, Trebizond and Thebes, had pride of place.

The shifts in the centres of silk-working, the movements of skilled workers –voluntary or forced–, followed the geopolitical changes in power relations. In the twelfth century the Normans moved the silk-workers of Thebes to Sicily; after the Fourth Crusade silk-workers emigrated *en masse* from Constantinople to Nicaea; in the fourteenth century the last bastion of Byzantium, the Despotate of the Morea, was to promote Mystras as a centre

of silk-working on Greek soil; with the domination of the Ottomans their capital, Bursa, was transformed into the most important silk-rearing and silk-working centre in the new Empire. During the same period, between the twelfth and the fourteenth century, on the Italian peninsula, silk-working was transmitted from South to North: in the context of the Italian Renaissance, the most important hearth of revival in quality and technique developed there, at Lucca, Genoa, Bologna and Florence.

From the sixteenth century, Mediterranean silk-working entered the orbit of the major changes that presaged the revolutions of the modern age: the activity diffused to the countryside, creating zones of proto-industrial complexes, the growth in population and the pretensions of the emergent 'bourgeoisie' led to an increase in demand and consequently production and prices, regional specializations and divisions began to appear, while the Italian cities lost precedence to Lyons in silk production. It is during this period that sericulture spread in Greece, frequently thanks to western influences and initiatives. Its early flourishing on Chios –a Genoese initiative, in the sphere of influence of Constantinople and Bursa– was followed by its development in many other Aegean islands, its dissemination in the southern Peloponnese and subsequently in Thessaly, Boeotia and Euboea.

By the dawn of the nineteenth century silk-working was one of the most widely distributed productive activities in Greece, incorporated in the rural economy. The cultivation of mulberry trees, the rearing of cocoons and the first, rudimentary domestic industrial processing (raw silk or simple forms of silk thread) constituted supplementary activities of the rural household, exclusively commercial in character. In this form, and with a centuries-long history behind it, silk-working was suddenly confronted by the challenges of industrialization. Its transformations in this phase, its reorganization on new bases, the infiltration of new industrial techniques and the promotion of new kinds of enterprises within this context are all elements of the process of transformation of the Greek economy. It is on these issues that the research project of the Institute of Neohellenic Research 'Silk-working in Greece' focuses.

It is not fortuitous that in the early nineteenth century silk-working was the basis of certain business initiatives that seemed, or had the potential, to foresee the structural transformations of the Greek economy on a much larger scale than that portended by the progressive commercialization of farm products. Of the host of plans and proposals that flooded the newly-founded Greek state, and which spanned a broad spectrum of sectors from major technical infrastructure and communications projects to banks and diverse industries, the silk-working enterprises –an important innovation since they attempted a transition from the cottage industry to the factory system of production– were those that were closest to the resources and the technical traditions of the Greek provinces.

The bounds of this step, that is of the transformation of a diffuse productive activity in rural households into an industrial sector that would set in motion another dynamic in the Greek social and economic formation, have to a degree been defined and analysed. They were determined, as usual, by several factors, of which the great dispersion, long tradition and persistent habits have been shown to be the most important, although invisible, stumbling block. We should not underestimate either the pressures exerted by the differentiating tendencies of the international economy, the comparatively low technical and qualitative level of Greek silk-reeling at the outset, as well as the very nature and limitations of this processing sector which, though in the forefront of the proto-industrial stage, was quickly overtaken by other sectors with infinitely greater technological prospects and possible consequences in a host of industrial spheres.

The history of the specific firms involved in silk-working can shed even further light on the arduous processes of transformation characteristic of nineteenth-century Greece; tracing the cultural origins of the entrepreneurs, weighing up the 'luggage' that determined their action and set the seal on the character of their businesses; showing the ways in which these enterprises were implanted in the fabric of fluid labour relations characteristic of the Modern Greek state in its early stages, and assessing the impact they had on this fabric; touching on the economic mechanisms in which the new ventures were inscribed, perhaps upsetting established equilibria since they demanded new divisions of the product of labour to their advantage; and lastly, investigating the purely technical aspects of these business intitiatives, on which their realization and morphology largely depended.

This last parameter of the problem also determined the choice of enterprises being studied in the framework of the INR Project. That is, from the outset, our aim was to look for the material remains of silk-working activity as well, in the belief that these can contribute to a fuller understanding of the wider phenomenon of the gradual transition from the old to the new economic regime: parameters such as location of the premises and techniques of production are by no means of minor importance to this phenomenon.

The silkmill at Athens (1854), known to history as the 'Société Séricicole de la Grèce "Athanasios Durutti et Cie"', was the most advanced of the comparable businesses that appeared in Greece in the mid-nineteenth century, not just in the sector of silk-reeling but in industry in general. So it was natural, indeed inevitable, that our research would focus on it. The 'spade' of the architects of the Technical Service of the Municipality of Athens, Gregoris Poulimenos, Maria Daniil and Alexandros Pouloudis –initiating what is in effect the first industrial archaeology project in Greece– had already begun revealing from behind the guise of a row of nondescript two-storey buildings, the forgotten factory with the row of 38 windows onto Millerou Street. Aristea Papanicolaou-Christensen had already investigated the building's

early history, so enriching our knowledge of the work of the Danish architect Christian Hansen in Greece. Lastly, the contact of us all with Mr Christos Zioulas, respectful guardian of the few documents, medals and photographs that have survived from the archive of the Société Séricicole, gave access to precious material bearing on this study.

The present volume of articles attempts to approach the history of the Athens silkmill from various angles. It examines the history of the actual building complex, its gradual formation, its different uses and its effects on the physiognomy of the neighbourhood named after it –Metaxourgeion; the history of the 'Société Séricicole de la Grèce', in an effort to show– as far as the available material permits– the role of indigenous and exogenous parameters in determining its development; the history of the Durutti family, which follows a course typical for the Greek economic diaspora in the late Ottoman Empire, that starts from primary economic activities in the mountain regions of Turkish-occupied Greece. It should be remembered here too that the Athenian business constitutes the second phase of the family's involvement with silk, for it had already acquired experience from an earlier venture in rural Greece, the silkmills opened by Constantine Durutti in Sparta and Messene, in 1837.

We wish to express our warmest thanks to Loukia Droulia, for her enthusiastic promotion of the silk-working project, and to Vassilis Panayotopoulos, who encourages us in every scholarly endeavour. The English translation of the Greek text published in 1995 has been prepared by Alexandra Doumas, to whom we are most grateful.

Christina Agriantoni
Maria Christina Chatziioannou

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THE DEVELOPMENT OF A TRADITIONAL FIRM DURING THE FIRST HALF OF THE NINETEENTH CENTURY

The Adriatic exchange system

The history of the Durutti family is one of the most representative examples of the Greek mercantile 'diaspora' during the first half of the nineteenth century.[1] Its course from the mountains of Epirus to the Greek community of Ancona, Adriatic port of the papal state, and thence its settlement in the newly-founded Greek kingdom, underlines significant aspects of Modern Greek history. The case of the Durutti family conforms to a classic economic schema of Greek society before the War of Independence. From a highland village with cottage-industrial activities conducive to commercial migration, the Durutti entered the wider Adriatic system, to which they were no strangers, since a large part of Epirus as well as the Ionian Islands had been participating in it for a long time.

The Durutti family hailed from Kalarrytes in Epirus, a Vlach village within the geographical, adminstrative and economic ambit of Ioannina.

A large part of the Kalarrytians' trading transactions during the eighteenth century took place in Ioannina, the principal product being the coarse woollen cloth known as '*skouti*',[2] which was used for making the capes or capotes worn by shepherds and farmers in Greece and Albania, as well as mariners in the Adriatic Sea. '*Skouti*' was a second-class textile compared to those produced by the western woollen mills (*londrinia* etc.). Kalarrytes belongs to the complex of mountain communities extending from Zagora in Pelion and Samarina in Pindos to Skodra in Albania, involved with the domestic production of woollen cloth. It should be noted that '*skouti*'[3] the cloth is frequently confused with the capes made from it in the larger urban centres, as by the guild of cape-makers at Ioannina,[4] for example, and consequently it is not always possible to distinguish information on the textile from that on the garment. However, when the sources mention Kalarrytian cape-makers they probably imply only the *kapotades*' village of origin. The late eighteenth century brought on the one hand a decline in *skouti* production in the mountain villages and on the other left 'expertise' in trading and a sound commercial capital to the merchants dealing in this commodity. The overall experience proved to be invaluable for their entrepreneurial development.

The traveller W.M. Leake's description of Kalarrytes is particularly pertinent since he visited it at a critical time, the early years of the nineteenth century, during which significant socio-economic changes were taking place

1. A preliminary study of the parallel economic behaviour of the Durutti family and the Gerousis and Skouze merchant families, has been presented in two papers: Maria Christina Chatziioannou, The Greek state as a new area for entrepreneurial activities, *VIth International Conference of Southeast European Studies. Greek papers* (Sophia: 30 Aug.-5 Sept. 1989), Athens 1990, 243-247; Modes of adaptation of Greek firms in the Greek Kingdom: innovation or continuity, *L'enterprise en Grèce et en Europe XIXe - XXe siècles*, Athens 1991, 103-108.

2. Ν. Παπαδόπουλος, *Ερμής ο Κερδώος, ήτοι Εμπορική Εγκυκλοπαίδεια* [N. Papadopoulos, Hermes Kerdoos, that is Commercial Encyclopaedia], vol. I, Venice 1815 (reprint of the Cultural Foundation ETBA Athens 1989), 266.

3. The word *skouti* is also used in Vlach and Albanian, and derives from the Latin *scutum* (= shield).

4. Γ. Παπαγεωργίου, *Οι συντεχνίες στα Γιάννενα τον 19ο και τις αρχές του 20ού αι.* [G. Papageorgiou, The guilds in Ioannina in the 19th and the early 20th century], Ioannina 1982, 37.

there. It was a typical mountain settlement with small-scale cultivation of wheat, vegetables and fruit trees on terraces around it. The Kalarrytians traded for cereals, wine and oil in Arta, wheat flour in Trikala and European goods in Ioannina.[5] The increase in commercial transactions led to the abandonment of agriculture, since it was a more viable proposition to import cereals than to tend such poor soil; so a part of the old arable land had been turned over to pasturage.[6] The 'import' of foodstuffs to Kalarrytes is an indication of an upgrading of the economy, a result of the intensive trading transactions which led to the growth of stock-raising in this highland community, the consequent conversion of fields to grazing land and the concurrent development of a primary 'domestic' or 'cottage industry',[7] perhaps within the context of proto-industrialization in Greece.

The principal product traded by the Kalarrytians during the eighteenth century was woollen cloth. Though the percentage participation of stock-raising, manufacturing and agriculture in the total output of the village is not known, it is, however, certain that the production and distribution of woollen cloth constituted the vehicle for the highland settlements' inclusion in the wider economic system of the Adriatic. So, through the production of woollen cloth that was made into capotes and distributed via Ioannina, the Kalarrytians entered the exchange system of the Adriatic. Leake observes that the 'overcoats' travelled to Italy, Spain, Austria and Russia. The wealthiest merchants did not return to Kalarrytes but emigrated to trading centres, the middle-income merchants frequently returned as shopkeepers and craftsmen, and the poorer strata were porters and shepherds.[8] A similar social stratification was observed in the neighbouring, likewise Vlach, village of Matsouki, the inhabitants of which traded 'overcoats' in the Ionian islands and the coastal towns of the Adriatic. The richer emigrated to Corfu, while the poorer remained at home as 'overcoat'-makers, porters and shepherds.[9] The same coarse woollen cloth as that from Kalarrytes, black or white in colour, was produced at Vlacholivado (Livadi) in Thessaly. Through their commercial connections in the Adriatic, Kalarrytians also traded the Livadian textile through the port of Thessaloniki:[10] Leake notes the production further north, at Skodra, of white woollen cloth, a better version of the black that was woven throughout the mountainous regions of northern Greece.[11] It does indeed seem that the weavers and tailors of the highlands did not create an economic strike force but remained betwixt countryside and town, whereas the merchants trading their product, outside the restrictions of the producers, became the vital economic and social cell of the early communities of Greeks abroad.[12]

Prior to the nineteenth century the Adriatic was a closed circuit controlled by Venice and Ragusa (Dubrovnik). The people of the Adriatic cooperated on several levels: in seafaring, trade and techniques. Italians, Slavs, Albanians, Greeks and Jews, residing on its eastern and western shores, participated in a

5. Leake visited Kalarrytes twice, in 1805 and 1809. W.M Leake, *Travels in Northern Greece*, London 1835, (reprint), Amsterdam 1967, vol. I, 274-285 and vol. IV, 207-209.

6. Ibidem vol. IV, 207-208.

7. Cottage industry or domestic industry is used as the equivalent of the term 'οικιακή βιοτεχνία', used by Vasiliki Rokou in her exemplary study of Greek highland communities: Βασιλική Ρόκου, *Υφαντική Οικιακή Βιοτεχνία. Μέτσοβο 18ος-20ός αι.* [Vasiliki Rokou, Cottage weaving industry. Metsovo 18th - 20th century], Athens 1994.

8. W.M. Leake, *Travels in Northern...*, op. cit., vol. I, 274-277.

9. Ibidem, vol. I, 284-285.

10. Ibidem, vol. III, 335-336.

11. Ibidem, vol. I, 45.

12. Vasiliki Rokou, *Υφαντική Οικιακή Βιοτεχνία...*, op. cit., 55-61.

community that worked and exploited materials, since men and information moved relatively quickly and easily along the sea routes.[13] The ambivalence of certain products created a network of economic activities. We could add that in some cases this Adriatic system extended from Venice to Sicily (Messina) and Corfu; its centre of gravity shifted during its centuries-long history and historical watersheds sometimes promoted the northern and sometimes the southern Adriatic, from Venice, to Ragusa, Ancona, Dyrrachion and lastly to Trieste and Fiume. In Greece the western ports participating in the Adriatic exchange system were the Ionian islands, mainly Corfu, Sayada, Salaora and Patras. The exchange system of the southernmost section of the Adriatic, which concerns us, seems to have been established during Roman times, via the Via Egnatia that ran from Bari and Brindisi on the Italian coast and continued opposite to Dyrrachion.

Characteristic of the entire Adriatic area was the frequent movement and migration of people on both sides. For the Epirotes in particular it is assumed that their emigration to the coast of Italy opposite began in the sixteenth century, to the south, first to Sicily, then to Naples and Calabria,[14] continuing towards the west side of Italy at Leghorn (Livorno).[15] By the eighteenth century Epirotes were living in the major Italian Adriatic ports of Venice, Ancona and Trieste. The group of cape-makers was formed in Venice in 1764, and the presence of Kalarrytian cape-makers at Trieste from at least 1781[16] bears witness to the dynamism of this economic activity.

Special mention should be made here of the manufacture of woollen 'overcoats' in the Ancona region (Matelica), in the hinterland of which woollen cloth is known to have been produced from the sixteenth century. This textile was inferior in quality to and more expensive than the smuggled Greek counterpart, or even that woven at Ancona by the Greek community. Known as *zagara*[17] or *caravano*, it was also produced by locals after 1810 and was in great demand.[18] There were evidently intense conflicts; so when G. Fiaccarini received an award in 1808 as the number one producer in Matelica of the famed nautical *cappotti alla greca* (Greek-style overcoats), 'that were first made in Arta', he met with strong opposition from the old producers. Indeed the accusation was levelled that the 'overcoats' were of Greek provenance or at least made by the Greek community in Ancona.[19] So the production and distribution of coarse woollen cloth became one of the most important points of contact between Epirus and Italy in the Adriatic area (see fig. 1).

Competition from the European textile industry, with its advanced technology and equipment, brought a crisis in woollen-cloth manufacturing in the papal state and a large part of the local workforce turned to silk as a raw material or semi-processed product. Trade in silk remained in the hands of the woollen-cloth merchants. It is a common phenomenon in pre-industrial societies for wool and silk to be mobilized alternatively or concurrently by

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1. Overcoat 'alla greca'. S. Anselmi (ed.), *La Provincia di Ancona. Storia di un territorio*, Bari 1987, 297.

13. According to F. Braudel the Adriatic is the most cohesive region of the Mediterranean. F. Braudel, *Η Μεσόγειος και ο Μεσογειακός κόσμος την εποχή του Φιλίππου Β' της Ισπανίας* [The Mediterranean and the Mediterranean world in the age of Philip II], vol.I *Ο ρόλος του περίγυρου* [The role of the milieu], MIET, Athens 1991, 149. Some ideas on the technical heritage of the Adriatic are examined by J.-C. Hocquet, Patrimonio tecnico e integrazione culturale in Adriatico: alcuni aspetti, *Quaderni Storici*, 40/1 (1979), 31-53.

14. We refer indicatively to the emigration of Kortisios Vranas and Dimitrios Reres, see Ξ.Α. Σιδερίδης, Κορτήσιος Βρανάς ο Ηπειρώτης [X.A. Siderides, Kortesios Vranas the Epirote], *Ηπειρωτικά Χρονικά*, 3/3 (1928) 249-271 and ibidem, Η ηπειρώτις οικογένεια Ρερέ, [The Epirote family Reres] *H.X.* 3/1-2 (1928), 160-168.

15. The first permanent settlement of Greeks in Leghorn is attested in 1567, by 1600 80 Greek families were living there. Μαρία Καζανάκη-Λάππα, Ο ξυλόγλυπτος σταυρός της Ευαγγελίστριας του Λιβόρνου (1643) και οι σταυροί επιστυλίων στα κρητικά τέμπλα [Maria Kazanaki-Lappa, The wood-carved cross in the Evangelistria at Leghorn (1643) and the architrave crosses on Cretan iconostases], *Ευφρόσυνον. Αφιέρωμα στον Μ. Χατζηδάκη*, vol. 1, Athens 1991, 219-220. The presence of Epirotes in Leghorn can be recognized after 1760, see Ν. Τριανταφύλλου, *Οι κώδικες γάμων και βαπτίσεων της ελληνικής κοινότητας Λιβόρνου (1760 κ.εξ.)* [N. Triantaphyllou, The codes of marriage and baptism of the Greek community in Leghorn (1760 et seq.)], Patras 1986.

producers and entrepreneurs. This fact brings us closer to the entrepreneurial model of the Durutti family from Kalarrytes, which passed from wool to silk in the early nineteenth century.

Settlement in Ancona

An old port on the Adriatic, Ancona has ancient Greek roots. It later came under Byzantine influence, and so remained until the seventh century. From the thirteenth century its gradual emergence as a naval power brought it into strong competition with Venice, as a result of which it was blockaded commercially from the northern Adriatic and established close relations with the Slav merchants of Ragusa, Zara, Spalato and Senia.[20] According to Slavonic sources, Slav merchants settled in Ancona from the late fourteenth century, while by the middle of the sixteenth century some 200 Greek trading companies are said to have been set up there.[21] It is only natural that the commercial activity of Ancona was interlinked with that of neighbouring Senigallia and consequently with its fair. In 1732 Ancona became a free port (*porto franco*); works were carried out to improve the harbour and there was a notable increase in the volume of shipping. Consequences of this were direct connection with the Western economic powers, a revitalizing of certain aspects of agriculture and manufacturing, and lastly an increase in population.[22] So Ancona with Senigallia became the focus of trade in the papal state. A multinational community of merchants –Jews, Greeks and Slavs– set the economic tone of the city. The port of Ancona remained a major centre of transit trade in cereals throughout the eighteenth century. During the following century its maritime power waned, following the fortunes of other Mediterranean ports that had developed on the basis of trade in farm products. The high taxes levied on the mercantile marine in the early nineteenth century also resulted in the reduction of transactions, and it seems that the in any case doomed Senigallia fair ceased then too. In contrast, Trieste emerged as leading power in the Adriatic.[23] A. Caracciolo's study of Ancona has shown the inability of capital to stimulate rural transformation and the creation of modern investments there, so that even in the most prosperous phases of the eighteenth century it did not manage to achieve an autonomous development. The burgeoning of transactions at this time, observed also in the Kingdom of the Two Sicilies, is not an indication of true development but, on the contrary, belies submission to stronger economies.[24]

The history of silk in the hinterland of Ancona goes back a long way and is directly linked to that of wool. However, only in the eighteenth century did silk become an important export product, initially as cocoons and then as semi-processed silk. Undoubtedly the productive potential of a semi-processed raw material known as Fossombrone silk and its distribution in the European market left a wider profit margin for investors in this sector and

16. Γ. Πλουμίδης, Έλληνες καπετάδες στη Βενετία (18ος αι.) [G. Ploumidis, Greek cape-makers in Venice (18th century)], *Δ.Ι.Ε.Ε.*, 27 (1984), 20-24. Ολγα Κατσιαρδή-Hering, *Η Ελληνική παροικία της Τεργέστης (1751-1830)* [Olga Katsiardi-Hering, The Greek community in Trieste (1751-1830)], vol. II, Athens 1986, 396-397.

17. The name probably derives from the place of origin, Zagora or Zagori (?) in Epirus.

18. S. Anselmi, Introduzione e manifattura di cappotti alla greca nelle Marche pontifichie, 1751-1830, *Economia e vita sociale in una regione italiana tra Sette e Ottocento*, Urbino 1971, 181-193.

19. Idem, 187.

20. Apart from the classic study in the Braudelian mode, of A. Caracciolo, *Le port franc d'Ancône. Croissance et impasse d'un milieu marchand au XVIIIe siècle*, Paris 1965, there is a rich bibliography on Ancona and its environs (Marche), to which Sergio Anselmi is the main contributor.

21. The number presumably covers all the Balkan merchants settled in Ancona, T. Stoianovich, Ο καταχτητής ορθόδοξος Βαλκάνιος έμπορος [The conquering Balkan merchant], in Σπ. Ασδραχάς (ed.), *Η οικονομική δομή των βαλκανικών χωρών (15ος-19ος αι.)* [S. Asdrachas, The economic structure of the Balkans (15th-19th century)], Athens 1979, 290-291.

22. A. Caracciolo, L'economia regionale negli anni della costituzione del porto franco di Ancona, in S. Anselmi (ed.), *Economia e società: le Marche tra XV e XX s.*, Bologna 1978, 155.

23. A. Caracciolo, *Le port franc d'Ancône...*, op. cit.; see also Elena Termite, Il porto di Ancona e gli approdi di Senigallia, Numana e Sirolo, in S. Anselmi (ed.), *La provincia di Ancona. Storia di un territorio*, Bari 1987, 243-260. On the Greek community in Trieste see Olga Katsiardi-Hering, *Η ελληνική παροικία...* op. cit., vols 1-2. On the Greek presence in Senigallia, see Ολγα Κατσιαρδή- Hering, *Λησμονημένοι ορίζοντες ελλήνων εμπόρων. Το πανηγύρι στη Senigallia (18ος-αρχές 19ου αιώνα)* [Olga Katsiardi-Hering, Forgotten horizons of Greek merchants. The Senigallia Fair (18th-early 19th century)], Athens 1989, 24. A. Caracciolo, op. cit., 241, 261.

created a local labour market. This seems to have prompted the development of reeling, that was focused on Fossombrone where at least half the production of the Marche region was concentrated. In 1766 Fossombrone had 164 cauldrons shared between 44 reeling mills (filatures). The quality of handmade Fossombrone silk ensured international demand for the product, primarily in the London market. In parallel a small, local silk-textile industry developed. The craftswomen became well-known, creating a labour market in the papal state and a good specialization in processing silk noils.[25] Professional migration had been a *modus vivendi* for female silkworkers since the early eighteenth century. In 1873 an Italian newspaper, extolling their skills, noted that women from Fossombrone had even gone as far as Greece to find work,[26] presumably to the Durutti silkmills in the southern Peloponnese.[27]

Transformations in the silk industry began in the nineteenth century. Although Fossombrone silk maintained its reputation until the early decades of the century, the production processes changed. In the papal census of 1824 silkworking in Fossombrone is recorded as developing, and in 1839 the first foreign steam-powered reeling and spinning mill was opened. Moreover, in 1873 the old experience in processing silk noils was exploited industrially at Jesi.[28] However, towards the end of the century, competition from steam-powered reeling in the heartland of united Italy marginalized Fossombrone silk; at that time there were 37 filatures with 34 steam-powered cauldrons, while in the Bergamo region –and not at Como, the largest Italian silk-producing centre– in Lombardy there were 85 reeling factories with 83 steam-powered cauldrons.[29] The history of the most profitable product in Ancona's foreign trade had ended.

To return to the Greek community at Ancona, which was created by expatriate merchants during the Turkish Occupation of their homeland, two concentric unities can be distinguished in its history: the general commercial networking of the city and its economy, which directly affected the community's activities, and the micro-history of the community itself in relation to the status quo in Greece.

The Durutti, along with other Epirote traders, pioneered the route bringing woollen cloth to the Italian coast of the Adriatic. A host of products were in fact traded, but wool –like silk– is a very versatile commodity. Both are raw materials capable of mobilizing manufacturing tasks, from elementary to highly complex, attaching great weight to human labour and technical skills. A usual trade itinerary was: Kalarrytes, Ioannina, Corfu, Ancona, Senigallia. The Greek presence at Ancona evidently increased after it was declared a *porto franco* in 1732, which date can be taken as the *terminus ante quem* for the creation of the Greek community there. However, the Greek mercantile 'diaspora' in the ports of Venice, Leghorn and Ancona goes back much earlier, being associated with the type of itinerant Balkan

25. Giuliana Careras, L'industria serica a Fossombrone, *Quaderni Storici dell Marche*, 1/1 (1966), 126-131.

26. R. Savelli, *Filande e filandaie a Fossombrone. Segmenti di storia dell'industria serica*, Rome 1981, 66-72.

27. Μαρία Χριστίνα Χατζηιωάννου, Η τύχη των πρώτων ιταλών μεταξουργών στο ελληνικό κράτος [Maria Christina Chatziioannou, The fate of the first Italian silkworkers in the Greek state], *Μνήμων*, 13 (1991), 121-138.

28. F. Armatori, Alle origini dello sviluppo industriale marchigiano: gli anni dall'Unita alla prima guerra mondiale, in L. Avagliano (ed.), *L'Italia industriale nelle sue regioni: bilancio storiografico*, 108-109.

29. The data are taken from : L'Industria della seta in Italia, *Annali di Statistica*, fasc. XXXVII, Rome 1891, 45-48.

merchant so succinctly described by Stoianovich. We are able to surmise from a historical testimony that the brothers Georgios and Christophoros Durutti were not the ony members of the family represented in the Greek mercantile diaspora in the eighteenth century. The evidence concerns one Giovanna Dorutti, presumably Ioanna Durutti, from Ancona, who was living in Venice before 1785 with her husband Dom. Bandiera.[30] These are the forebears of the famous heroes of the Italian *risorgimento*, Attilio and Emilio Bandiera, who, after a two-year exile in Corfu (1842-1844), were executed by firing squad following an unsuccessful insurrection in southern Italy.[31] Their family tree and history evidently constitute a representative example of the history of the inhabitants of the Adriatic coast.

During their residence in Ancona the Durutti developed socio-political and economic spheres of action, which were harmonized and enhanced by the second generation. The first sphere includes Georgios Durutti's activities during the Greek War of Independence (1821), his relations with Capodistria, the subsequent relations of his family with King Otto and his appointment as consul in the papal port. The second sphere includes the economic activities that began from general trading and ended in the secondary sector of silk-reeling. Here the dynamism of the second generation of the Durutti family should be acknowledged.

The Greek community at Ancona, like that at Trieste, participated in the War of Independence, mainly by providing financial aid and supporting the refugees.[32] Ancona has the geographical distinction of being the transit station from Greece to many Italian cities –Rome, Bologna, Pisa, Padua, Pavia– which meant that Greek students, merchants, politicians and intellectuals passed through the port, and naturally many of them met members of the immigrant community. One of those who stopped at Ancona during the early years of the War of Independence was Georgios Mavromichalis, *en route* to the Verona Conference, and it was then that he met G. Durutti; it is likewise historically documented that G. Durutti had made the acquaintance of Ignatios of Hungarowallachia, since it was he who introduced him to Capodistria in 1827.[33] We cite indicatively that another famous Greek raised in Italy, Markos Renieris, enjoyed a long friendship with the Durutti family.[34] Ancona was also the port of entry for many Greek students destined for Italian universities; the relevant description by Irinaios Asopios in his memoirs of Italy remains unique.[35] Asopios had met G. Durutti, from whom he learnt of the difficult relations between the Greek Orthodox Christians and those of other dogmas in the papal city.[36] The Durutti took advantage of Ancona's privileged location, creating a network of social relations in which Constantine Durutti was protagonist. Characteristic of this strategy is his advice to his father, in 1830, to offer warm hospitality to Ioannis Argyropoulos, brother of the Great Dragoman of the Porte, who was *en route* to Pisa with his nephew, particularly since the Argyropouloi were

30. Their son, Francesco Bandiera, was born in 1785 and married Anna Marisch, a Bosnian noblewoman settled in Corfu, P. Donazzolo, *I Viaggiatori Veneti Minori*, in the series: *Memorie della Reale Societa Geografica Italiana*, Rome 1867, vol. XVI, 338-339.

31. On the Bandiera family see the relevant entry in the *Dictionario Biografico degli Italiani*, published by Enciclopedia Italiana Treccani, vol. 5.

32. Γ.Π. Παπαγεωργίου, Συμβολή στην ιστορία της ελληνικής παροικίας της Αγκώνας κατά τον 19ο αι. [G.P. Papageorgiou, Contribution to the history of the Greek community in Ancona during the 19th century], *Δωδώνη*, 4 (1975), 295-340 and on the contribution of the Greek community in Trieste see Olga Katsiardi-Hering, *Η ελληνική παροικία της Τεργέστης...* [Olga Katsiardi-Hering, The Greek community in Trieste...], op. cit., vol. I, 335-342.

33. On relations between the Mavromichalis and Durutti families see Μ.Π. Βρετός, *Εθνικόν Ημερολόγιον 1866* [M.P. Vretos, National Diary 1866], 348. Athanasios Durutti described Capodistrias's sojourn in Ancona and published a letter from Ignatios to his father, see Αθ. Δουρούτης, Ο Κυβερνήτης της Ελλάδος εν Αγκώνι τω 1827 [A. Durutti, The President of Greece in Ancona, in 1827], *Αττικόν Ημερολόγιον*, vol. ΚΑ, 1887, 411-422.

34. In 1841 the justice of the Supreme Court, M. Renieris, was relieved of the post of abitrator between the State and C. Durutti on account of his long-standing friendship with the latter; Ar. Pilikos was appointed in his stead. See GSA, Otto Archive, Ministry of Interior, file 252, 5/17 Dec. 1841.

35. Ειρ. Ασώπιου, Αναμνήσεις Ιταλίας (1845-1852) [E. Asopiou, Memories of Italy (1845-1852)], *Αττικόν Ημερολόγιον*, vol. ΙΣΤ (1882), 117-140. Included here is the story of six Greeks going to study in Pisa and of one on his way to Leghorn (Oct. 1845).

36. Ειρ. Ασώπιου, *Παλαιά και Νέα* [E. Asopiou, Old and New], vol. 1st, Athens 1903, 67-68.

37. E.L.I.A., Durutti Archive (1823-1873), file 3, C. Durutti (Corfu) to G. Durutti (Ancona), 1 April 1830 (two letters with the same date. This nephew can be identified as Pericles Argyropoulos (Constantinople 1809 - Athens 1860), who in 1843 became a professor in the Faculty of Laws at the University of Athens, see Δ.Α. Δημητριάδης, *Απάνθισμα βιογραφικών των απο της συστάσεως του Ελληνικού Πανεπιστημίου εκλιπόντων του βίου καθηγητών αυτού (1837-1916)* [D.A. Dimitriadis, Biographical anthology of the late professors of the Greek University since its founding (1837-1916)], Athens 1916, 93-98.

recommended by his friend St. Stravopodis, a merchant from Zante.[37] When King Otto visited Italy in 1836 he staid at Ancona as guest of the Durutti, while C. Durutti awaited his favour for setting up the silkmills at Sparta.[38] The leading role of G. Durutti in the Greek community was obvious, which is why he was appointed first consul of the Kingdom of Greece in Ancona, on 17 August 1833. Constantine Durutti had applied for this post on his father's behalf,[39] which move bespeaks the dynamism of this young man who was to become a driving force in the family. It should be noted that in this same period another expatriate Epirote, Panayotis Pallis, was appointed consul in Leghorn.[40] The following year G. Durutti proposed to the Greek Foreign Minister, Alexandros Mavrokordatos, the widening of the Greek kingdom's diplomatic relations with the other ports and cities of the papal state.[41] Indeed, in 1835 G. Durutti acquired the right to appoint consular agents elsewhere in this state. Concurrently the first diplomatic consultations began between the newly-founded Greek state and the Pontificate.[42] In 1837 diplomatic discussions commenced in Rome concerning the draughting of a treaty on trade and shipping between Greece and the papal state.[43] During this period when the foundations of Greek diplomatic relations were being laid, no great importance was attached to Greek-Pontifical relations. However, in contrast to the low level of inter-state cooperation, G. Durutti's experience from four years of serving as consul can, I think, be assessed as commercial experience and an opportunity to penetrate the economy of the papal territory. The direct benefits of this early diplomatic post were meagre for the Durutti. After G. Durutti's death an acrimonious letter from C. Durutti informed the Greek Ministry of Foreign Affairs that his brother Ioannis, who had in the meanwhile been appointed as replacement, was obliged to resign, since their father had received no remuneration as consul, not even recompense for his expenses.[44]

As we shall see below, C. Durutti had essentially left Ancona after 1825. G. Durutti died in Ancona on 4 November 1836[45] (see fig. 2), and not long after Athanasios also settled in Greece. So the only member of the family who remained in the port was the eldest son, Ioannis. A final expression of the family's ties with the community there is C. Durutti's letter of June 1849. The fall of the revolutionary Republic of Rome in 1849 brought down with it the democratic guard of Ancona, which after a harsh siege capitulated to the Austrians on 22 June 1849.[46] C. Durutti, at that time in Trieste, tried to save his brother Ioannis and the 40 remaining Greek merchants in the port. This was an opportunity for him to stress the role of the Greek state as protector and rallying point for Greek subjects: 'The Royal steamship scheduled to cross the Adriatic gulf, will need to deviate from its regular route for just a few hours. But these few hours will save Greeks in danger, and will set a most striking example for all that no-one enjoys Greek nationality in vain, and that should the need arise, and even in foreign parts, the paternal Government of

38. Maria Christina Chatziioannou, Η τύχη..., op. cit., 124.

39. Archive of the Ministry of Foreign Affairs (A.F.M.), Consulates and Vice-consulates of Greece, file 37:7, 1833.

40. On the appointment of P. Pallis to the port of the Duchy of Tuscany see A.F.M. file 37:6, 1833.

41. A.F.M. file 36:3, 1834.

42. The first diplomatic settlement concerned the franking privilege on correspondence via Ancona to the Ionian Islands and the Greek State (Corfu - Patras), A.F.M. file 11:21, 1834.

43. A.F.M. file 11:21, 1837.

44. His consular income was negligible (200 drs) and he requested 750 drs remuneration, as well as the corresponding salary of the secretary of the Consulate, Kyriakos Marinis. A.F.M. file 37:7, 1838. C. Durutti (Athens) to [Constantine Zografos] the Ministry of Foreign Affairs (Athens), 22 March 1838.

45. G.S.A., Small collections, K 19α, Durutti collection (1793-1863), see Commercial circular of the Durutti company, Ancona 13 March 1838.

46. G. Candeloro, *Storia dell'Italia moderna (1846-1849)*, vol. 3, Feltrinelli Economica, Milan 1979, 441.

2

Signor 000251

Ancona 13 Marzo 1837.

L' irreparabile perdita che abbiam fatto li 4. Novembre prossimo passato del nostro ottimo Genitore, siccome sino ad ora non ha prodotto cangiamento nessuno nel corso dei nostri affari commerciali, così nè per l'avvenire pure ne produrrà, poichè noi sottoscritti figli ed eredi, ora qui riuniti, in venerazione delle paterne volontà e per onorare la sua cara memoria, abbiam determinato che la nostra casa commerciale continui con l'istesso suo nome

Giorgio Durutti.

Ma dovendo Costantino ritornare in Grecia dov' egli farà dimora, il solo Giovanni avrà la direzione degli affari, e da oggi in poi sarà per firmare come qui sotto si vede.

Mentre vi diamo contezza di questa nostra risoluzione, ci confidiamo che vorrete piacervi di proseguire ad onorarci della Vostra amicizia e fiducia, onde ci studieremo di renderci mai sempre meritevoli.

Con sentimenti di vera stima abbiamo il piacere di riverirvi

Giovanni Durutti che firmerà

Giorgio Durutti

2. Circular of the Durutti trading house announcing the restructuring of the business after the death of George Durutti, 13 March 1837 (GSA, Small collections, K 19α, Durutti collection).

the Royal Highness the King of Greece is guardian of the interests of its subjects.[47] These lines emphasize eloquently C. Durutti's confidence in the fledgeling Greek kingdom, to which he had meanwhile transferred his business activities, since a large section of immigrant Hellenism in Italy was in decline.

The gradual population increase and economic development from the late eighteenth till the early nineteenth century led to the creation in the Greek communities of the Adriatic of a body of merchants and craftsmen that was 'self-sufficient and isolated' in relation to the local population. Acceptance by this body constituted the necessary social and economic passport for entry of young Greek travellers. The socio-political network that the Durutti had begun to form in Ancona, in combination with their experience of domicile and commerce in Italy, was the launching pad for their business activities, of which the culminating venture was the 'rationalization' of silkworking in Greece.

The commercial activities of the Durutti

Archival material attests the commercial activity of the Kalarrytian brothers Georgios and Christophoros Durutti in the Adriatic from the late eighteenth century.[48] Apart from these two, there was an uncle(?), Dimitris Durutti, whose residence in Kalarrytes is verified from 1804-1825.[49] The commercial diaspora of the family led Georgios to Ancona in 1793 and

47. A.F.M., Consulates and Vice-consulates of Greece, file 37:1, Trieste. C. Durutti (Trieste) to the Greek Consulate (Trieste), 24 May/5 June 1849.

48. Γ. Παπαγεωργίου, Μαρτυρίες για τις δραστηριότητες Καλαρρυτινών εμπόρων (τέλη 18ου αι.-1821) με βάση το αρχείο Γ. Δουρούτη [G. Papageorgiou, Evidence on the activities of Kalarrytian merchants (late 18th century - 1821) on the basis of the G. Durutti Archive], *Επιστημονικό Συμπόσιο στη μνήμη Νίκου Σβορώνου (30 και 31 Μαρτίου 1990)*, Athens 1993, 75-106.

49. G.S.A., Small collections, K 19α, Durutti collection (1793-1863), Apost. and Athan. Kaloyorgis (Trieste) to G. Durutti and Co. (Ancona), 26 August 1804, 16, and E.L.I.A., Durutti Archive, file 1, C. Durutti (Corfu) to G. Durutti (Ancona), 28 Dec. 1825.

Christophoros to Trieste; the latter's sojourn there is confirmed from 1797 until his death in 1807.[50] During this period a trade circuit[51] was formed in which relatives and fellow villagers participated, and in which woollen cloth had a predominant place. It is clear that locals familiar with the commodity distributed it from northern Greece to the Greek communities of Italy. The network of the Durutti's collaborators began from Venice with the Kalarrytian merchant Georgios Tourtouris,[52] member of the Greek community there since 1788.[53] In Trieste the partnership Durutti, Bogdanos and Company was involved with general import-export activities as well as commercial orders.[54] The members of the partnership, apart from Christophoros Durutti, were Georgios Bogdanos and Georgios Papaioannou from Elassona, and Ioannis Damianos from Arta.[55] In Ancona Georgios Durutti collaborated with Dimitris Papas, a fellow Kalarrytian merchant,[56] and, lastly, at Leghorn with 'Bachomis and Paraschis'. The Bachomis family had been trading in Leghorn since 1760,[57] and like the Paraschis family was from Kalarrytes too[58] Theodoros Paraschis was based in Ioannina from at least 1799, while his eldest son Konstantinos Th. Paraschis was active in Venice (1799-1800) and Leghorn (1800-1810).[59] In 1798 G. Durutti married Th. Paraschis's daughter, Helen. So the ties of the Kalarrytian trading circuit were also sealed by a marriage alliance.[60]

G. Durutti's commercial correspondence gives an insight into the geography of domestic manufacture of woollen cloth exported to the Adriatic. In 1796 woollen cloth from Zagora was exported to Venice, and in 1804 Kalarrytian woollen cloth to Trieste.[61] From the Ioannina market Theodoros Paraschis kept contacts with the mountainous stock-raising area where woollen cloth was produced. He himself wrote that in 1804 D. Papas, G. Durutti's partner, went to Livadi and bought 20 cargoes of '*skouti*' and 12 of 'Vlach *skouti*',[62] an indication that since both are of Vlach provenance the latter was woven in the Vlach manner. Leake, who passed through Livadi during this period, confirms that the trade in white and black woollen cloth was in the hands of Kalarrytians, who sent it to their agents in the Adriatic via Thessaloniki.[63] The same traveller informs us that their output was 15-20 cargoes; G. Durutti distributed 20 cargoes of cloth from Livadi in the Adriatic in 1804, a quantity repeated in 1808,[64] while his compatriot G. Tourtouris seems to have purchased 60 cargoes of Livadian cloth in 1805.[65] The sea lane from Thessaloniki to the Adriatic ports is the natural route for merchandise coming from Livadi. The villages of Asopropotamos were the other traditional area of woollen cloth production. In those cases where the mission to purchase woollen cloth combined Livadi and Aspropotamos the route was Ioannina - Livadi - Aspropotamos and the exporting port was Sayada.[66] On a mission to purchase 120 cargoes of woollen cloth, G. Tourtouris passed through Ioannina to Livadi and thence to the Vlach village of Vetrenikos at Aspropotamos, where he was set upon by thieves.[67] Clearly the mountain

50. See letter from the Kalarrytian merchant G. Michos (Trieste) to G. Durutti and Co. (Ancona), 26 Aug. 1807, G.S.A., Small collections, K 19α, Durutti collection (1793-1863), 55.

51. Op. cit., documents 3-55.

52. G. Tourtouris is identified as the wealthy uncle of I. Kolettis, who financed his studies in Pisa, see Χρ. Στασινόπουλος, *Λεξικό της Ελληνικής Επαναστάσεως* [Chr. Stasinopoulos, Dictionary of the Greek Revolution], vol. 2, Athens 1971, 421.

53. Άρτεμη Ξανθοπούλου-Κυριακού, *Η ελληνική κοινότητα της Βενετίας (1797-1866)* [Artemis Xanthopoulou-Kyriakou, The Greek community in Venice (1797-1866)], Επιστ. Επετηρίς Φιλοσοφικής Σχολής Θεσσαλονίκης, suppl. no. 19, Thessaloniki 1978, 240.

54. Olga Katsiardi-Hering, *Η ελληνική παροικία...*, op. cit., vol. II, pl. Δ, 583.

55. Ibidem pl. E, 589.

56. Though this is a common surname, a Georgios Papas from Kalarrytes was registered in the community in Venice (1713-1818), see Artemis Xanthopoulou-Kyriakou, *Η ελληνική κοινότητα...*, op. cit., 238.

57. See K.N. Triantaphyllou, Οι κώδικες γάμων και βαπτίσεων..., op. cit., passim. Furthermore, Christodoulos Bachomis from Kalarrytes received monetary assistance as a refugee in Ancona, in 1824, G.P. Papageorgiou, Συμβολή στην ιστορία..., op. cit., 328.

58. Konstantinos Paraschis from Kalarrytes was registered in the Greek community in Venice from 1799, Artemis Xanthopoulou-Kyriakou, Η ελληνική κοινότητα..., op. cit., 244.

59. G. Papageorgiou, Μαρτυρίες..., op. cit., 92.

60. A typewritten draft of George Durutti's biography has been deposited at the E.L.I.A. along with the Durutti Archive, see Χρ. Ζιούλα, *Βιογραφικό σημείωμα Γεωργίου Ι. Δουρούτη* [Chr. Zioulas, Biographical note on Georgios I. Durutti] (typescript), Athens 1976, E.L.I.A., Durutti Archive.

61. G.S.A., Small collections, K 19α, Durutti collection (1793-1863), G. Tourtouris (Venice) to G. Durutti (Ancona), 14 March 1796, 3 and Apost. & Athan. Kaloyorgis (Trieste) to G. Durutti & Co. (Ancona), 26 Aug. 1804, 16.

62. From the same collection, Th. Paraschis (Ioannina) to G. Durutti (Ancona), 23 Novem. 1804, 18.

63. W.M. Leake, *Travels in Northern Greece...*, op. cit., vol. I, 335-336.

64. In 1808 G. Durutti tried to settle comradely accounts with his brother, which included 10 bales of 'Livadi skouti' and 13 of 'Vlach', G.S.A., Durutti collection, G. Durutti (Corfu) to I. Stamatakis (Leghorn), 22 July 1808, 65.

65. In the same collection, Th. Paraschis (Ioannina) to G. Durutti (Ancona), 3 May 1805, 23.

66. On the commercial importance of Sayada, see Γ. Σιορόκας, *Το γαλλικό προξενείο της Άρτας (1702-1789)* [G. Siorokas, The French consulate in Arta (1702-1789)], Ioannina 1981, 382.

67. Tourtouris was finally freed by the Stournara brothers, G.S.A., Durutti collection, Th. Paraschis (Ioannina) to G. Durutti (Ancona), 3 May 1805, 23.

passes were hazardous for the merchant covering land routes.

Through the business letters of the latter years of the eighteenth century the trade circuit of the first expatriate Kalarrytians is described, showing that the common place of origin drew together economic interests, guaranteeing commercial reliability and knowledge of the specific commodity. In the context of general import-export trade, knowledge of woollen cloth at first provided them with a comparative advantage over other merchants in the Italian markets, giving them sufficient time to accumulate commercial capital. This was achieved by the first generation of expatriate merchants. By the end of the eighteenth century, however, this type of business activity, transit trade in woollen cloth in the Adriatic, had reached its limits. So it was knowledge of woollen cloth that launched the Durutti family. Many years later, in 1836, when C. Durutti was already oriented towards silk-reeling, he wrote inter alia from Ancona –almost out of the blue one could say– that the '*skouti*' woven by the Aspropotamians of Thebes was better than that from Euboea, an opinion that should be regarded as expressing deeply rooted trading and technical experience.[68]

The year 1825 was a turning point in the activities of the Durutti trading house. The Greek War of Independence was still in full swing and C. Durutti settled on Corfu for business reasons,[69] initially residing and working with his commercial collaborator Ioannis Damaskinos and from 1829 operating on his own. Obviously these were the years of twenty-year-old C. Durutti's apprenticeship. For almost a decade he managed his family's business affairs from Corfu, where his activity seems to have aroused the jealousy of local merchants.[70] The Durutti trading house evolved and progressed as the old type of itinerant merchant who travelled, financed, bought and sold commodities gave way to the new type of sedentary merchant who directs commercial enterprises and mobilizes business collaborations.[71]

After Corfu C. Durutti discovered promising economic prospects in the newly-founded Greek kingdom, where he settled permanently, taking his younger brother Athanasios with him. The eldest brother Ioannis stayed in Ancona, and in 1829 married Sosani Prinari from Kalarrytes,[72] the last symbolic act of the ties of the Durutti family with both its place of origin and the closed society of expatriate merchants. This is the same closed social and economic system as that reproduced in different dimensions and by other ethnic groups, such as the Jews of the diaspora.

In the early years of the British Protectorate, Corfu emerged as a large entrepôt port for the Greek mainland, then in the throes of the War of Independence. There was, furthermore, a growing demand for staple commodities in the island's interior. The large urban concentration of Corfiotes and foreigners (87% of the total population), in conjunction with the island's small agricultural production,[73] made supplying the city of Corfu a highly profitable enterprise. C. Durutti handled grain and flour entering the

68. These were probably refugees from Aspropotamos who had settled in Thebes and were networked around their old technique of woollen cloth production, Benaki Museum, Durutti Archive, file 2, C. Durutti (Athens) to [G. Durutti, Ancona], 28 April/10 May 1836.

69. This period is covered by the Durutti collection in the E.L.I.A., files 1-7 (1823-1835).

70. The same collection, file 2, C. Durutti (Corfu) to G. Durutti (Ancona), 27 Novem. 1829.

71. Of the rich historiography concerning different types of merchants, I cite here Ch.P. Kindleberger, Commercial Expansion and Industrial Revolution, *The Journal of European Economic History*, 4/3 (1975), 615.

72. E.L.I.A., Durutti Archive, file 2, C. Durutti (Corfu) to G. Durutti (Ancona), 27 Novem. 1829.

73. Γ. Προγουλάκης, Στην Κέρκυρα τον 19ο αιώνα: πλεονασματικά χωριά και ελλειματικές εκμεταλλεύσεις [G. Progoulakis, In 19th-century Corfu: surplus-producing villages and loss-making exploitations], *Τα Ιστορικά*, 7 (1987) 64-66.

port from Dalmatia, which had long-standing and close commercial ties with Ancona, Sebenico, Spalato, Senia, the Murlacia, as well as regions of Italy: Abruzzo, Apulia and Naples. Grain also reached Corfu from Alexandria, as well as from more distant parts such as Odessa and Taganrog, destined not only for the Ionian Islands, but also for the western harbours of Epirus, Central Greece and the Peloponnese.

During this period C. Durutti faced an extremely complicated political situation; the unrest in the regions under Ottoman administration on the one hand and the irregular circumstances prevailing during the Greek War of Independence on the other created a climate of instability. He noted that the 'mainland is hungry', 'the mainland is closed'[74] and the harbours through which products were supplied and distributed were often blockaded because of local conflicts.[75] So the surest commercial activity was the import to Corfu from Italy of staples, 'eatables' from Italy. These included various Italian cheeses, salt cod, rice, pasta, beans, broad beans, garlic and onions, which became the main import products.[76]

The main export product that C. Durutti pursued was now wool rather than woollen cloth, indicating that although the cottage-industry of the mountainous areas had declined, manufacturing activities in the papal state continued to absorb raw material from Greece. The wool that C. Durutti exported to Ancona was sold in Rome as '*lana di lavoro*', that is for processing. The correspondence of the Durutti trading house shows that the geographical breadth of wool production was considerably greater than that of woollen cloth production. The 'Aspropotamians', from the old network of the woollen cloth trade, while continuing to produce cloth, now loaded wool as well, at Sayada or Corfu.[77] Concurrently, C. Durutti accumulated in Corfu, for export to Ancona, wool from Santa Mavra (Lefkada) and Cephalonia,[78] from Preveza,[79] and Albania. One Molivadas seems to have played an important role as a middleman in the Corfu market.[80] The wool from Roumeli was mainly loaded at Mesolongi and Dragamesto (Astakos), for Ancona.[81] But Mesolongi is a place with which Durutti had no commercial connections. He himself notes: 'Mesolongi is near but it needs astute buyers for the wool and I know nobody..'. It is clear that for the purchase of export goods C. Durutti relied on middlemen who were in contact with the producers, in contrast to the previous generation of Kalarrytian merchants who were personally in touch with the woollen cloth weavers. Only the Aspropotamians still kept a closed organization in the production and distribution of their product.[83] On the other hand, C. Durutti had already created a powerful ambit, since he was able to confront the intense commercial competition in Corfu –a small and difficult market in any case– with cheaper cargoes of wool bought from Ismailia and Galatsi.[84]

The wool trade, associated as it is with the seasonal migration of flocks, has a geographical mobility that is sometimes affected by non-economic

74. It is characteristic that in times of famine maize, cheaper and more readily available, was preferred, see E.L.I.A., Durutti Archive, file 2, C. Durutti (Corfu) to G. Durutti (Ancona), 2 March 1829 and 17 Dec. 1829.

75. Disputes between the Albanians, who in 1830 closed the ports of Aghia Saranta and Nivitsa, were particularly damaging to the smooth conduct of trade, ibidem, file 3, C. Durutti (Corfu) to G. Durutti (Ancona), 19 March 1830 and 7 March 1830.

76. The profit on three crates of dried cuttlefish, for instance, was 11%. Ibidem, file 3, C. Durutti (Corfu) to G. Durutti (Ancona), 10 Sept. 1830.

77. Ibidem, file 3, C. Durutti (Corfu) to G. Durutti (Ancona), 7 June 1830 and file 4, 3 Sept. 1830.

78. Ibidem, file 4, C. Durutti (Corfu) to D. Durutti (Ancona), 10 July 1930.

79. Ibidem, file 4, C. Durutti (Corfu) to G. Durutti (Ancona), 20 July 1830.

80. Ibidem, file 3, C. Durutti (Corfu) to G. Durutti (Ancona), 7 June 1830 and file 4, 10 July 1830.

81. Ibidem, file 7, C. Durutti (Corfu) to G. Durutti (Ancona), 3 July 1835 and Mich. Iatros (Nauplion) to G. Durutti (Ancona), 3 July 1835.

82. Ibidem, file 6, C. Durutti (Corfu) to G. Durutti (Ancona), 7 April 1832.

83. Ibidem, file 5, C. Durutti (Corfu) to G. Durutti (Ancona), 16 Jan. 1831. There is just one mention of the arrival in Corfu of a Metsovian with a cargo of 2000 okas of wool, ibidem, file 5, C. Durutti (Corfu) to G. Durutti (Ancona), 29 June 1831.

84. He had a recommended agent there and credit in Constantinople or Odessa, ibidem, file 6, C. Durutti (Corfu) to G. Durutti (Ancona), 7 April 1832.

factors; in 1830, for instance, Durutti notes that civil strife among the Albanians forced the transhumant stock-raisers to descend to Thessaly, as a consequence of which the wool was collected at Volos.[85] It is characteristic that Durutti planned, from Volos again, the export of a cargo of Bulgarian wool, [86] perhaps to avoid the circuit of the Jewish merchants who controlled the wool trade in Thessaloniki.[87] Of course, for Thessalian wool export by sea from Volos to Ancona was more profitable than the mixed route Trikala - Sayada - Ancona. [88] In this case too the sea route constituted the most profitable part. Alongside wool C. Durutti also exported bargain commodities to Ancona, such as linseed from Ithaca and bronze scrap from the remnants of the armoury of the Greek Struggle for Independence.[89]

A different export commodity brought C. Durutti to the southern Peloponnese, namely the acorn. Acorns were exported from Gytheion (Marathonisi) [90] and Areopolis (Tzimova) to Ancona, their final destinations being Rome and Leghorn. Demand for acorns intensified after 1835 and the place from which the were exported was definitive for Durutti, since it led him to another rural product of the southern Peloponnese, silk. The buying price of wool had begun to rise beyond the control of the Durutti firm and purchases were made with down payment of half the value of the cargo.[91] So buying acorns in the southern Peloponnese and Arcadia became C. Durutti's main target, since the Kea acorns were bought by merchants from Syros. The acorn market had the relative advantage over the 'organized' wool market in that it was very open ended: 'those having acorns are poor people and have no other produce.. and they cannot keep their products unsold for very long'.[92] So great were delays in payment for goods imported to the Greek kingdom that all the importer's profit was lost and only the export of cheap but profitable products, such as acorns, could offset the extended circulation of merchant capital.

A second turning point in C. Durutti's economic orientations came in 1834. Here the distinctive difference was not the shift in the locus of trading enterprises from Corfu to the Peloponnese, but in the focus, the actual product. The product that was gradually to stand out on account of its vigour was silk. The main bulk of export cargoes of wool to Ancona was replaced by acorns: from the cottage-industrial product (woollen cloth) and the raw material for manufacturing (wool), the Durutti trading firm moved to a secondary raw material, acorns, and from there to silk – of decisive importance for its future direction. On the other hand the imports of food had been replaced by construction materials, [93] which were destined for the rebuilding of urban centres in Greece, such as Nauplion. Between 1834 and 1836 C. Durutti was moving between the Peloponnese, Ancona and Athens, and around 1837 he made his home temporarily in Sparta.

During his sojourns in Corfu and the Peloponnese, western Greece and the Italian side of the Adriatic had been the cardinal axis of transactions. After

85. Ibidem, file 3, C. Durutti (Corfu) to G. Durutti (Ancona), 7 June 1830.

86. Ibidem, file 5, C. Durutti (Corfu) to G. Durutti (Ancona), 17 March 1831.

87. N. Svoronos, *Le commerce de Salonique au XVIIIe siècle*, Paris 1956, 187-193. K. Kostis, Structures sociales et retard économique. Salonique et l'économie de la laine XVI-XVIII s., *Etudes Balkaniques*, 26/1 (1990), 100-114.

88. E.L.I.A., Durutti Archive, file 5, C. Durutti (Corfu) to G. Durutti (Ancona), [...] 1831.

89. During the same period the Gerousis trading house was involved in the profitable export of old copper to Trieste, Μαρία Χριστίνα Χατζηιωάννου, *Ο εμπορικός οίκος Γερούση: από την Οθωμανική αυτοκρατορία στο ελληνικό κράτος (1823-1870)* [Maria Christina Chatziioannou, The Gerousis trading house: from the Ottoman empire to the Greek state (1823-1870)] (unpublished doctoral thesis), Athens 1989, 74-76.

90. Durutti's main agents in Gytheion were I. Tzatzopoulos and I. Nikopoulos, E.L.I.A., Durutti Archive, file 8, 1837. Moreover, the Durutti family were also old acquaintances of the Mavromichalis family in Mani, op. cit. note 33.

91. In 1838 the buying price of wool rose from 73-75 lepta to 154 lepta, to fall again later. Ibidem, file 9, C. Durutti (Nauplion) to I. Durutti (Ancona), 28 Feb. 1838 and C. Durutti (Nauplion) to I. Durutti (Ancona), 29 Sept. 1838.

92. Ibidem, file 9, C. Durutti (Nauplion) to I. Durutti (Ancona), 1 Jan. 1838.

93. A typical order for building materials, see G.S.A., Durutti collection, C. Durutti (Marathonisi) to G. Durutti (Ancona), 7 Jan. 1834, 234.

settling in Athens he continued to export acorns, cocoons and oil from the southern Peloponnese [94] to Ancona and Trieste, augmenting his commercial contacts.[95] Early in 1840 C. Durutti, based in Athens, opened the Smyrna - Ancona or Trieste axis for the Durutti firm.[96] Characteristic of each phase of his trading activities is his steady involvement with a basic product, first wool and later one cheap and one expensive commodity, acorns and silk respectively. The volume of exports was of course liable to fluctuations, largely due to fluctuations in production. So I consider that the Durutti had a fairly stable absorption network for 'Greek' products in Italy, in contrast to other expatriate merchants whose export cargoes showed an *ad hoc* variety. Between 1830 and 1850, the Durutti trading house supplied the manufacturing activities of the papal state with raw materials, primarily wool, acorns and silk. Wool was the hallmark of the Durutti firm in the first half of the nineteenth century, and even in 1844 C. Durutti, unable to buy it in Acarnania on account of political unrest, advised his brother to obtain it from Trieste,[97] obviously to supply their customers' demands. It seems that during this period English merchants entered the wool markets in Greece, intensifying competition.[98] On the other hand silk, production of which was small-scale and scattered, became the object of a new pursuit. From Athens, C. Durutti investigated the production of 'silk' –I believe he meant cocoons– in the province of Phthiotis.[99] Moreover, on entering the Kea acorn market, he learnt that the island produced 150-200 okas of silk of the same quality as that from Andros, suitable for commercial exploitation.[100] It was through the commercial dimension of silk, and with this as his guide, that C. Durutti embarked on the business of silkmills in the southern Peloponnese.

The silkmills in the southern Peloponnese

The C. Durutti silkmill at Sparta has been rightly designated as a 'protected workshop' characteristic of the early years of the Greek kingdom.[101] It was in effect a business endeavour that tried to amalgamate the technical experience of silk production from Italy (Fossombrone - Ancona) with the productive potential of the southern Peloponnese,[102] an enterprise supplementary to trading transactions and thus belonging in the wider Adriatic exchange system. The Durutti were and remained merchants for almost a century and a half, until the founding of the silkmill at Athens. The new factor that appeared here was that though the local reelers (*manganaraioi*) could produce virtually as much silk as the Durutti mills at Sparta and Messene, they were still dependent on the merchant since the fixed commercial channel to European consumers was Durutti. So the chain, local producers - silk-reelers - merchant - European market remained unbroken.

Durutti decided to invest in a factory in the part of Greece which was the paramount producer of 'non-industrialized' silk, the southern Peloponnese.

94. Durutti's commercial agents were: Il. Alexandrakis (Kalamata), Al. Poulakis, P. Albanakis, S. Makris (Gytheion), D.K. Kousoulakos (Areopolis), An. Iliadis (Krokees), E.L.I.A., Durutti Archive, files 10-11, 1840-1842.

95. His archival material includes a printed commercial circular of Vakkas and Monastiriotis, Nauplion 1.8.1845 and a handwritten commercial circular of the Papadakis firm, Athens 1.8.1845, ibidem, file 17.

96. Ibidem, file 11, C. Durutti (Athens) to I. Durutti (Ancona), 9/21 Dec. 1843, file 12 N. Moraitinis (Smyrna) to G. Durutti (Ancona), 7/25 July 1842.

97. Ibidem, file 13, C. Durutti (Athens) to I. Durutti (Ancona), 9/21 June 1844.

98. The buying price increased from 72 lepta in 1843 to 85 lepta in 1844, on account of the high British duty, ibidem, file 13, C. Durutti (Athens) to I. Durutti (Ancona), 14/26 May 1844.

99. Ibidem, file 18. I. Monastiriotis (Lamia) to C. Durutti (Athens), 12 July 1846.

100. Ibidem, file 18, V. Iosiph (Kea) to C. Durutti (Athens), 24 April 1846.

101. Χριστίνα Αγριαντώνη, *Οι απαρχές της εκβιομηχάνισης στην Ελλάδα τον 19ο αι.*[Christina Agriantoni, The beginnings of industrialization in 19th-century Greece], Athens 1986, 33ff.

102. Maria Christina Chatziioannou, Η τύχη..., op. cit., 121-123.

Peloponnesian silk belonged to that class of hand-reeled silk of Mediterranean provenance which, even when traded to French and English silkmills, was very little utilized. The hand-reeled silk of Fossombrone was the last defender, until the early decades of the nineteenth century, of an old tradition in which the silk-reeler was held in high esteem. But there is a law governing the world of silk: the simplicity of the process from rearing the cocoon to reeling the silk filament, is matched by the difficulty of transition to a superior technique because it demands a sophisticated technological milieu. It is a very refined and delicate process with serious technical and social complications.[103]

All the time C. Durutti was preparing the silkmills at Sparta and Messene, and even when they were operating, his involvement in the import-export trade with Ancona never ceased. His inroad into the Peloponnese was facilitated by the collaboration of an old-established and experienced local merchant, Michael Iatros, representative of the Nauplion 'gentry'.[104] His collaboration with M. Iatros, and to a lesser degree with the Tsakonian E. Tsouchlos [105], aimed at penetrating the Greek kingdom and widening the family's interests there. By the same token, the two Peloponnesian merchants acquired an able and experienced business colleague in the proximate sphere of expatriate Hellenism. In 1835 C. Durutti and E. Tsouchlos signed an eight-year contract with the government, according to which they leased the right to collect the tithe on cocoon production in the Peloponnese and on the national mulberry groves in Laconia, they were ceded free land for building the silkmills and, lastly, they were granted the exclusive privilege of producing silk of Italian type.[106] It seems that problems soon clouded the collaboration with E. Tsouchlos, on account of his high personal debts to the state, according to M. Iatros.[107] C. Durutti and M. Iatros also became lessees of the tithe on the olive oil in Mystras and Kalamata.[108]

The trials and tribulations of building the silkmills at Sparta and Messene (Nisi), as well as the import and the installation of the equipment, have been described elsewhere, as has Durutti's friction with the Italian silkworkers brought from Ancona to throw and reel the Peloponnesian silk. Italian silkworkers manned the mills from their inauguration until at least 1845.[109] Conflicts with these Italians on the one hand and local rivalries on the other forced Durutti to look for specialist silkworkers with dependent labour relationship, in Livadia. It seems that in 1844 the chief Italian silkworker, Teresa Loviselli, was replaced by a Greek woman from that town, which had a long tradition in weaving woollen and cotton cloth. She migrated seasonally from her base (Livadia, Athens, Piraeus - by sea [Kalamata], Messene, Sparta) for 40-43 days, for a daily wage of 4 drachmas.[110] It becomes clear that, at the local level, social resistance to the rationally organized production of the silkmills constituted a structural impediment to transplanting the urban silk-reeling of Fossombrone to the rural area of the southern Peloponnese.

Principal positive factor in this enterprise was the Durutti family's social

103. L. Cafagna, *Dualismo e sviluppo nella storia d'Italia*, Venice 1989, xxv.

104. K. Σπηλιωτάκης, Το αρχείον του Μιχαήλ Ιατρού (1802-1893) [K. Spiliotakis, The Michael Iatros Archive (1802-1893)], *Τετράδια Εργασίας Κ.Ν.Ε./Ε.Ι.Ε.*, 6 (1983).

105. Christina Agriantoni, *Οι απαρχές...*, op. cit., 20.

106. Idem, 35.

107. E.L.I.A., Durutti collection, file 8, M. Iatros (Nauplion) to G. Durutti (Ancona), 26 May 1837.

108. Ibidem, file 7, M. Iatros (Nauplion) to G. Durutti (Ancona), 17 Novem. 1836.

109. Maria Christina Chatziioannou, Η τύχη..., op. cit., 121-131.

110. E.L.I.A., Durutti Archive, file 13, P. Dimitriou (Nisi) to C. Durutti (Athens), 23 Aug. 1844 and a letter from Eleni Sousanitza (Sparta) to C. Durutti (Athens), 14 Oct. 1844, in which she asks for an advance on her payment.

network, that stemmed from the Greeks who passed through Ancona and reached to the leading citizens of the Peloponnese, and even to King Otto himself. A social frame of reference and support, it had been created in the time of the commercial diaspora of the Kalarrytian merchants in the Greek communities of the Italian peninsula. From the moment C. Durutti settled in Greece, his fortune was his social and commercial capital; there may have been some patrimonial land in the Turkish-occupied region of Ioannina. With his commercial capital C. Durutti financed the silkmills, while continuing his mercantile activities with M. Iatros between the Peloponnese and the Italian peninsula, following the old eighteenth-century system of transactions. However, it is clear from their mutual correspondence that the capital for financing the silkmills also came from Ancona. Perhaps the value of the external trade with Greece was balanced in this way.

All the equipment and building materials, as well as the silkworkers, were imported from Ancona. The cost of the silkmills can be estimated at least partially: 36 of the 44 cauldrons at Sparta and 24 of the 42 at Messene, together with the reeling machines (filatories), cost 1,516.75,[111] the nails and timber 590.38 scuda, and freightage from Ancona 300 scuda. The total, excluding the architect's fee and the masons' wages, adds up to 2,407.13 scuda [2,672 drs]. As a measure of comparison it is noted that in 1835 5,000 okas of wool fetched 745 scuda [827 drs] at Ancona.[112] The overall value, even if it reached as much as 4,000-4,500 drs, was not excessive for the fixed outlay of such a 'protected' processing activity. The problem was, however, that this outlay was burdened with operating costs in the first years, without satisfactory output in a country where money was particularly expensive.

The Durutti-Iatros-Tsouchlos silkmills began operating in 1837. The name Tsouchlos does not appear after the first contracts, whereas close economic interests linked C. Durutti with M. Iatros, who also kept Ioannis Durutti in Ancona informed in detail.[113] Iatros and Durutti continued to procure cargoes of acorns, as well as of local silk, for the markets of Ancona, Rome and Leghorn. In the silkmills at Sparta and Messene, from 10 pounds of cocoons they obtained 1 oka of good silk and from 12 pounds 1 oka of Italian-type silk, which cost twice as much to produce as the first.[114] At Fossombrone 14 pounds of cocoons were required to produce 1 pound of good silk, in order to be competitive in the market.[115] In the summer of 1837 the first sample of Italian-type silk produced by the Durutti silkmills was distributed as follows: 4 crates for the 'Rallis Brothers' in London, via the merchant L. Lazaros in Patras who was loading currants at Aigion, 2 crates for 'Clark and Company' on Zakynthos, who were presumably also loading currants for England, 2 crates for Ancona and another 4 crates for the same port, via Nauplion.[116] Silk followed the route of currants for England, indicating that it was still a supplementary commodity. The selling price of Italian-type silk in London was 26 shillings to 26 shillings and 6 pence,[117] but because the Durutti silk

111. Ibidem, file 8, M. Iatros (Nauplion) to G. Durutti (Ancona), 24 March 1837 and 26 June 1837. For the final number of cauldrons see K. Spiliotakis, Το αρχείον..., op. cit., 28.

112. Ibidem, file 7, M. Iatros (Nauplion) to G. Durutti (Ancona), 29 Oct. 1835.

113. There are random letters from M. Iatros (Nauplion and Athens) to I. Durutti (Ancona) in the files of the Durutti Archive in the E.L.I.A., as well as copies of these in his own archive, see Index, entry Durutti, K. Spiliotakis, Το αρχείον Ιατρού..., op. cit.

114. E.L.I.A., Durutti Archive, file 8, M. Iatros (Nauplion) to G. Durutti (Ancona), 26 June 1837.

115. Giuliana Careras, L'industria serica a Fossombrone..., op. cit., 131.

116. During the same period not only seasonal Italian skilled workers travelled from Gytheion to Ancona, but also cargoes of acorns, E.L.I.A., Durutti Archive, file 8, M. Iatros (Athens) to G. Durutti (Ancona), 30 Novem. 1837.

117. Ibidem, file 8, I. Durutti (Ancona) to C. Durutti, 20 Sept./2 Oct. 1837.

required further processing it was sold at the lower price of 19 shillings.[118]

The early years of the silkmills were fraught with internal and external difficulties, not least the intrinsic problems of the business and the drop in European demand for silk of Fossombrone type. In 1838 there was a 20% decrease in the harvest of cocoons, as a result of a 'hot wind', and prospects were inauspicious for the next three years. In Sparta that summer the mill was buying cocoons daily from wherever it could, in order to cover the needs of the 40 cauldrons, which produced at least 342 okas of pure silk, while in the silkmill at Messene another 125 okas were produced.[119] During the 1840s the quality of the thrown and reeled silk produced in these mills was not standardized and by the time their small output became competitive the demand for Fossombrone-type silk in the London market had plummeted.

In 1840 the selling price in Patras for silk reeled 'in the Italian manner' was so disadvantageous that, according to M. Iatros, it would have been more profitable to sell cocoons than to unravel the filament; even worse, another 7 crates of silk remained unsold. The selling price for their silk in Marseilles was 17% lower than the current selling price, on account of its quality.[120] According to the specialist controller from Fossombrone, L. Buffoni, the quality of the silk from Sparta mill had still not been standardized in the following year.[121] Although this mill was the larger and better appointed of the two, its product was evidently defective. So in 1841 Ioannis Durutti opted to sell the silk from both Sparta and Messene at a good price in Ancona, since it was not sufficiently competitive for the London market.[122] Eventually, after the mills had been operating for six years, 15 crates of silk from the Messene mill were sold in London at the desired price, while 8 crates from Sparta remained unsold.[123] By 1844-1845 operation and production seem to have been normalized in both silkmills. Labour relations were also on an even keel, after the episodes with the Loviselli couple and the 'master reelers'. So the Messene mill, chief silkworker in which was a woman from Livadia, reached a production level of 5 litres a day with 180 drams per cauldron.[124] In September 1844 C. Durutti shipped 20 crates of silk from Piraeus to Tambakos and Geralopoulos in London, while in the same month Athanasios Durutti departed for Marseilles.[125]

By the time some kind of equilibrium was achieved in production and sales it was 1846, when the conceded privileges ceased to have effect; not that local producers had not abused the two mills' exclusive privilege of producing thrown and reeled Italian-type silk. Though Durutti and Iatros soon lost the monopoly on production, it seems that they managed to control commercially the 'independent' local production. The Italian-type silk produced in the Sparta and Messene mills was destined for the London, Marseilles or at least Ancona market because there was no possibility of absorption in the Greek kingdom. Consequently the silk produced by local independent 'reelers' from Mystras also aimed at the European market, to

118. Ibidem, file 8, I. Durutti (Ancona) to C. Durutti, 20 Sept./2 Oct. 1837, C. Durutti (Gytheion) to I. Durutti (Ancona), 31 Dec. 1837 and file 9, M. Iatros (Nauplion) to I. Durutti (Ancona), 31 May 1838.

119. Ibidem, file 9, M. Iatros (Nauplion) to I. Durutti (Ancona), 31 May 1838, C. Durutti (Sparta) to I. Durutti (Ancona), 13 July 1838, M. Iatros (Nauplion) to G. Durutti (Ancona), 13 Aug. 1838, 30 Aug. 1838, 29 Sept. 1838.

120. Ibidem, file 10, M. Iatros (Nauplion) to G. Durutti (Ancona), 15 March 1840 and 31 July 1840.

121. Ibidem, file 10, I. Durutti (Ancona) to C. Durutti (Athens), 2 Aug. 1841 accompanied by a letter from L. Buffoni (Fossombrone) to G. Spadoni (Ancona), 18 July 1841.

122. Ibidem, file 11, I. Durutti (Ancona) to C. Durutti (Athens), 5/17 October 1841.

123. Ibidem, file 11, C. Durutti (Athens) to I. Durutti (Ancona), 9/21 Dec. 1843.

124. Ibidem, file 13, Petros Dimitriou (Nisi) to C. Durutti (Athens), 23 Aug. 1844. In 1845 C. Durutti went to Sparta, where he drew up a contract with the Italian P. Barbuti. Advantageous to the firm, it encompassed everything from growing mulberry trees to superintending the two silkmills, ibidem, file 15, contract 28 April 1845.

125. Ibidem, file 13, C. Durutti (Athens) to I. Durutti (Ancona), 9/21 Sept. 1844 and 9/21 Oct. 1844.

which Durutti-Iatros had the only entrée. In 1846 the messages for Italian-type silk were indeed disappointing, both from London –from 'Tambakos, Mikroulakis and Mavrogordato'– and Marseilles, where the selling price of silk produced by a local reeler had fallen by 15%.[126] So the conservative merchant M. Iatros observed that, since there was no demand for silk of Italian type and Peloponnesian cocoons were expensive to buy, because production was small, it was perhaps not sound to stock cocoons for the silkmills. On the contrary, the local independent '*manganaraioi*', who had been throwing and reeling Italian-type silk with considerable profit for two years in succession, pre-purchased cocoons indiscriminately, without knowing the selling prices for silk in London and Marseilles.[127] The comparative advantage of the diaspora merchant who had access to commercial information is thrown sharply into relief in this instance. Indeed while the Mystras silkworkers were buying cocoons at high prices, ignorant of the selling prices in Europe, some others entered the cocoon market fully aware of its behaviour in this critical period: Chiote merchants.[128] M. Iatros likewise foresaw the slump in demand for hand-reeled Italian-style silk in the markets of London and Marseilles in 1847. The general economic situation worsened in 1848, when the European market was disturbed by the political uprisings.[129]

Here, more or less, ends the story of the first silkmills in the southern Peloponnese. In the eyes of F. Strong, harsh critic of the Greek kingdom in its early stages, the granting of the protective privilege to an 'Italian' whose business did badly, was a dismal failure, since his silk was useless in the markets of London and Manchester, and was only consumed in Lyons as weft for making ribbon.[130] Forty years later, the Frenchman H. Belle was more lenient in his criticism of the same enterprise. He was the first to acknowledge as the main reason for its failure the competition of the itinerant '*manganaraioi*', who by his day had been completely ousted by industrial competition.[131] Both opinions are broadly speaking correct, the only thing they ignore are Durutti's commercial outlets. In 1855 N. Damaskinos, possibly a relative of Durutti's old business partner in Corfu,[132] extolled C. Durutti's business enterprise that gave Greek silk a new dimension as an export commodity, announcing the beginning of the Société Séricicole and requesting from the government new protective measures for silk;[133] a large sector of Greek entrepreneurs still sought a powerful state.

However, the most important result of the silkmills at Sparta and Messene was not their output *per se*, but the fact that they signalled the passage to a new era in the economy of the Hellenic world, during the 1830s and 1840s. At the level of the history of the Durutti firm, the passage from trading woollen cloth to agricultural raw materials, to wool and eventually to silk, enhanced the infrangible dynamic of commercial activity, as well as the direct relationship with European industrial production. Silk ensured the economic continuity of the business, since silk –even with problems– was the first

126. Ibidem, file 18, M. Iatros (NauplionP to G. Durutti (Ancona), 19 May 1846, 26 Oct. 1846 and 8 Dec. 1846.

127. Ibidem, file 19, M. Iatros (Nauplion) to G. Durutti (Ancona), 28 April 1846.

128. Ibidem, file 19, M. Iatros (Nauplion) to G. Durutti (Ancona), 3 Aug. 1846.

129. Ibidem, file 19, M. Iatros (Athens) to G. Durutti (Ancona), 13 April 1847 and 25 July 1848.

130. F. Strong, *Greece as a Kingdom*, London 1842, 182-183. The centre of silk ribbon production was Saint Etienne, near Lyons.

131. H. Belle, *Trois années en Grèce*, Paris 1881, 348. The destructive competition between local filatory operators as a contributive factor to the failure of the same silkmills is also pointed out by Christina Agriantoni, *Οι απαρχές...*, op. cit., 38.

132. Op. cit., 26.

133. N. Damaschinos, *De la sériculture en Grèce*, n.d., 363-366. The author should be identified as N. Damaschinos (Corfu 1834 - Athens 1910), who was a lawyer in Paris from 1856 to 1865, in which year he became Professor of French Law at the University of Athens, subsequently moving to the chair of Commercial Law in 1884, see D.A. Dimitriadis, *Απάνθισμα βιογραφικόν...*, op. cit., 167-170.

processed product that put Greek enterprise in the European market. The entrepreneurial model of the Durutti was initially defined by the mountain economy of Kalarrytes and the limits of the Greek community in Ancona. After the Adriatic, the passage to the Greek state marked the smooth end of a long journey.

Fragmentation in the family

Historiography has been much concerned with the problem of the family as an economic and social cell of the firm. However, only after studying each particular firm can the historiographic type of the family business be enriched. I believe that the biographical analysis of the firm, by overcoming traditional historiography's fixation on the individual and the unit, as well as modern historiography's tendency to create models based exclusively on general and quantitative data, offers one of the most fruitful methodological processes that surpasses unsubstantiated statistical levellings.

The Durutti family started out from a specific traditional economic network in Turkish-occupied Greece and an expatriate Greek community, in which the difficulty of access to European credit institutions, the insecurity of the foreign land and other parameters imposed the domination of the family, limited or enlarged with marital alliances, as well as coalitions with compatriots. Moreover, the small-scale trade in capotes-overcoats and woollen cloth in the eighteenth century set the boundaries of family inheritance and social mobility around the sphere of social reproduction. The structures of the family business came into conflict with the new strategies. So in the nineteenth century an extreme contradiction was reached: on the one hand the domination of a specific merchant group that bequeathed its financial wealth from one generation to the next and had a controlled policy of marital alliances with compatriots, and on the other hand trade itself, a free zone with open social horizons. Economic continuity now belonged not to families that were rooted locally and socially, but to families that 'moved with the times'.[134]

The archival material used for the history of the Durutti family is dispersed in the General State Archives (GSA), the Benaki Museum and the Hellenic Literary and Historical Archive (E.L.I.A.). There are also documents in the Archive of the Ministry of Foreign Affairs, concerning the diplomatic activities of the Durutti in Ancona, as well as in the personal archive of M. Iatros, concerning Constantine and Athanasios Durutti.[135] The material covers mainly Georgios Ioannis Durutti (Kalarrytes 1770 - Ancona 1836), paterfamilias of the Epirote family, his two sons, Constantine (Kalarrytes 1809 - Athens 1878) (see fig. 3) and Athanasios (Kalarrytes 1816 - Athens 1901) (see fig. 4), and to a lesser extent his eldest son Ioannis (Kalarrytes 1798 - Ancona 1852), the only one who remained with his father in Ancona,

134. From the relatively large bibliography, I cite a not so recent publication, the special edition *"L'atelier et la boutique", Le mouvement social,* 108 (1979) and particularly the article by A. Faure, L'épicerie parisienne au XIXe s. ou la corporation éclatée, 113-130.

135. See G.S.A., Small collections, K. 19β. Correspondence of the Durutti trading house (1793-1863). Benaki Museum, Durutti Archive, files 1-2 (1804-1840). E.L.I.A., Durutti Archive, files 1-22 (1823-1873). A.F.M. consulates and viceconsulates of Greece/Trieste. K. Spiliotakis, Το αρχείον Μιχαήλ Ιατρού (1802-1893), *Τετράδια Εργασίας Κ.Ν.Ε./Ε.Ι.Ε.*, 6 (1983), there is a series of microfilms of the archive in the C.N.R./N.H.R.F. There are also letters of G. Durutti in a section of the D. Postolakas Archive, in the Benaki Museum, see Φ. Μπουμπουλίδης, Ειδήσεις και κρίσεις περί του αγώνος 1821-1824 εκ του αρχείου Δ. Ποστολάκα [Ph. Bouboulidis, News and judgements on the struggle 1821-1824 from the D. Postolakas archive], *Δ.Ι.Ε.Ε.* 12 (1957-58), 15.

3. Photograph of Constantine Durutti (1809-1878), taken by Thiebault, 10 x 16 cm. (Chr. Zioulas Collection).

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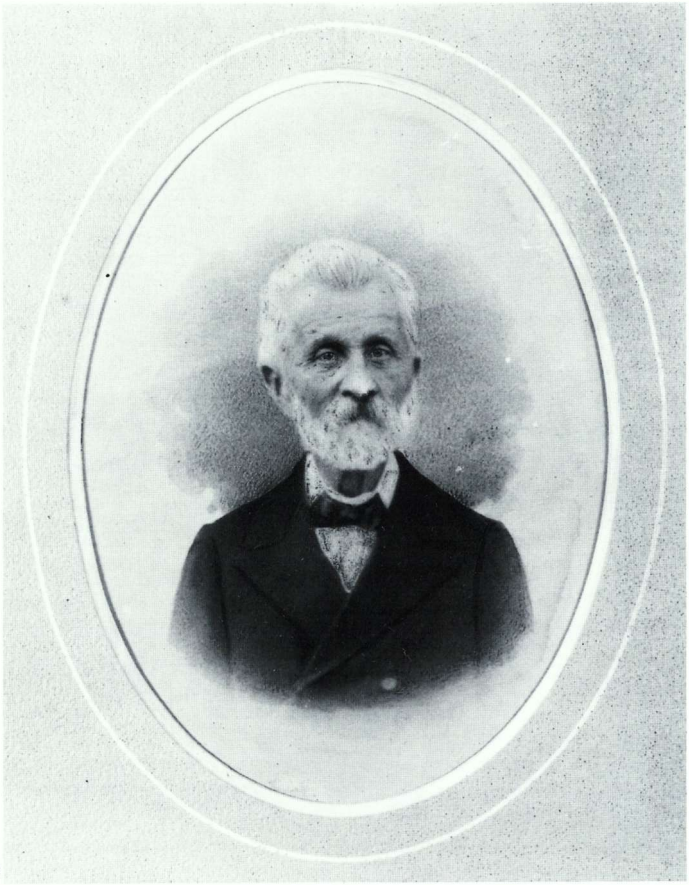
while the other two settled in Athens after the founding of the Greek State.

This material does not permit us to follow equally the course and relations of Georgios Durutti's family. Throughout C. Durutti's sojourn in Corfu his correspondence with his family in Ancona was prolific. His father addressed him in Greek as Κωσταντή Γ. Δουρούτη (Kostanti G. Dourouti), while he himself signed in Italian as Costantino di Giorgio Durutti, the first

4. Photograph of Athanasios Durutti (1816-1901), 23 x 16 cm. (Chr. Zioulas Collection).



4

differentiation between the old vocabulary of the trader and a turn towards western habits. It was Constantine Durutti who opened up a new dimension in Georgios Durutti's family merchant firm, and Athanasios Durutti followed in his footsteps. In contrast, the first-born Ioannis Durutti not only stayed in Ancona, where he died, but also adhered to the old commercial system. It is not fortuitous either that he married a Kalarrytian girl, Sosana Prinari.[136] The Prinari family must have belonged to the first wave of Kalarrytian emigrants and was installed at San Severo, a fertile agricultural region of Apulia where it had land property.[137] The second half of the 1830s was particularly important for the rearticulation of the structure of the Durutti trading house. We learn from the business circular of 13 March 1837, that after the death of the head of the family, in Ancona, the G. Durutti trading house –presumably it was an

136. Op. cit., 26-27.

137. Sosana's father, Christodoulos Prinaris, died in 1834 and in the 1840s problems arose with his heirs, E.L.I.A., Durutti Collection, file 10, (copialettere) of I. Durutti.

unlimited company– kept the same name and Ioannis Durutti had right of signature.[138] At the end of 1837 the twenty-year-old Athanasios Durutti went first to Sparta and then to Nauplion, where he suffered from a fever, in order to study in the newly-founded university at Athens.[139] Athanasios Durutti had been taught Greek at Ancona by D. Vranas and in Greece by G. Gennadios and N. Vamvas. In the end he studied Law in Paris, in 1842, and became the intellectual businessman of the family, joint founder of the silkmill in Athens as well as author of pamphlets in support of the silk industry.[140] His relations with A. Koumoundouros and the Zappas brothers, as well as with the French politician Emile Olivier,[141] in conjunction with his economic activity, are sufficient, I believe, to class him among the modernizers of the Greek State.[142]

The Kalarrytian circuit of the generation of the mercantile diaspora was breached in the newly established state. The betrothal of Marigo, daughter of Michael Iatros, to C. Durutti was the natural consequence of a close economic and personal relationship that illustrates the values and lifestyle of the age. During the first year the silkmills were operating, C. Durutti anxiously ordered from his brother in Ancona the entire household furnishings for his forthcoming marriage: 'I assure you that I cannot endure and would rather be dead than not fully prepared. Think on it that I am in a foreign land, that this prospective alliance arouses the curiosity of many, and I have no desire to be affronted at this crucial event for the dignity of our house and it to be suggested that I achieved this unmerited.[143] It is also obvious that the two Durutti brothers, who were guests in M. Iatros's home, were impressed by their host's real estate property, an economic parameter unknown to them from the Ancona community. So Athanasios noted that Constantine was to receive a large dowry with an income of 600 distela per annum [= 3,600 drachmas], and that each day M. Iatros was taking him on the rounds of his estates at Kiveri, Avdibei, Melissa (small communities around Nauplion),[144] Mystras, Kalamata, Corinth; in 1838 he collected 40,000 [litres] of raisins from his estates and he had 10 houses in Nauplion that gave him an income of 4,000 distela a year.[145] This splendid match had been announced for Easter 1838 with K. Schinas as best-man,[146] founder-member of the newly established university (1837) and of the same political persuasion as I. Kolettis,[147] whom it seems the Durutti knew. However, it was postponed because of sickness and absences of relatives, and cancelled with Marigo's death. Throughout 1838 the Iatros and Durutti families were worried by the successive complications of the bride-to-be's illness, as well as by Athanasios's recurrent fevers, outcome of his stay in the marshes of Mystras.[148] Though this wedding never took place, the marital alliance with the Iatros family was successfully completed slightly later, in 1847, with the marriage of Florence M. Iatros (1832-1930) to Athanasios Durutti.[149]

The relationship between Michael Iatros and Constantine Durutti proved to be long and close: two different types of businessmen joined forces in the

138. See above n. 45 and fig. 2.

139. E.L.I.A., Durutti Collection, file 9. C. Durutti (Nauplion) to I. Durutti (Ancona), 1 Jan. 1838.

140. See Αθ. Δουρούτης, *Καθ'ην στιγμήν πρόκειται να συζητηθεί το τελωνιακό δασμολόγιο [Έκθεσις περί αναπτύξεως μεταξουργείας]* [A. Durutti, Any moment the tariff of customs duties will be discussed {Report on the development of silk-reeling}], Athens, 14.2.1855, 15.11.1855, 27.9.1856, in which he asks the government to increase the export duty on cocoons, to permit the free import of cocoons and the tax-free export of silk.

141. E. Olivier (Marseilles 1825 - Saint Gervais les Bains 1913) was a politician and author of the book *L'Empire liberal, études, recits et souvenirs, 1895-1901*, see the relevant entry in *Larousse XX s.*, vol. 5.

142. The information on his studies and relations is taken from his obituary, see *Ποικίλη Στοά* (1912), 596-597.

143. E.L.I.A., Durutti collection, file 9, C. Durutti (Nauplion) to I. Durutti (Ancona), 15/27 Jan. 1838.

144. *ΚΕΔΚΕ, Στοιχεία συστάσεως και εξελίκεως δήμων και κοινοτήτων* [Data on the establishment and development of municipalities and communities], vol. 2, Prefecture of the Argolid, Athens 1961, 120 and 114 respectively.

145. E.L.I.A., Durutti Collection, file 9, C. Durutti (Nauplion) to I. Durutti (Ancona), 15/27 Jan. 1838.

146. The Durutti brothers had themselves announced the wedding to the mother of the politician and neighbouring villager I. Kolettis. Ibidem, file 9, Ath. Durutti (Nauplion) to I. Durutti (Ancona) 15/27 Jan 1838 and C. Durutti (Nauplion) to I. Durutti (Ancona).

147. Κ.Θ. Δημαράς, *Εν Αθήναις τη 3η Μαΐου 1837* [K.Th. Dimaras, In Athens on 3 May 1837], Ε.Κ.Π.Α. series History of the University no. 1, 29-40.

148. E.L.I.A., Durutti Collection, file 9, C. Durutti (Nauplion) to I. Durutti (Ancona), 16 April 1838 and Ath. Durutti (Nauplion) to I. Durutti (Ancona), 30 April/12May 1838.

149. K. Spiliotakis, To αρχείον Μιχαήλ Ιατρού..., op. cit., 34, 47.

propitious economic prospect of the Modern Greek kingdom. In Michael Iatros's will, drawn up in 1868,[150] it seems that the two partners had bills outstanding from the silkmills and from the current account between them. It is also clear that their relations had cooled in recent years, since they communicated via a third party. As the last gesture of good will, Iatros wrote off the last accounting difference between them, of the order of 15,000 drachmas, and as much money again for the expenses Constantine had incurred in his engagement to his daughter.

The trust C. Durutti showed in the young Greek state merited some favourable conditions for business and personal life that were not always met. King Otto's transfer of the capital to Athens offered C. Durutti the most important parameter a businessman desires, new opportunities. Commercial opportunities, with proposals for new import-export ventures in collaboration with L. Korck & Sons, from Trondheim in Norway.[151] Processing opportunities through the possibility of setting up workshops. The liquorice workshops that had mushroomed in the Patras area from the 1830s[152] evidently flourished in Athens too, so that Constantine Durutti wrote to Ancona: 'I see that there are many liquorice factories in Greece and more appear every day, if you find a good technician send him to me so that we can set up a joint factory of this kind, I have a good place with enough material'.[153] Again the problem lay in the import of technical know-how; on the contrary the factor favourable for any kind of business was the easy acquisition of land. All the new residents of the kingdom, foreign and Greek, were seizing the opportunity of becoming land owners, and C. Durutti was no exception. A very attractive offer in all respects, was made to him in 1841: the village of Xerochori (Istiaia) in Euboea, with 40 *zevgaria* of arable land, 350 hectares of vineyards, fruit trees, woodlands and 70 families, was up for sale, so that the community could pay off its debts, for the sum of 115,000 drachmas.[154]

The Durutti moved to Athens in 1839 and rented a small house in Ermou Street.[155] In 1844 C. Durutti mentions the repairs he made to his residence, which comprised three dark rooms and two 'crooked' ones; he bought another 300 square cubits adjacent to it for 2,260 drs, in order to build a sunny house, 200-240 square cubits in area, worth 8,000 drachmas.[156] The leap in the price of land in Athens in the 1840s and the difficulties in finding urban housing in the early years of the Greek kingdom have been noted elsewhere.[157] Also striking is the high cost of building. Consequently the letting of properties became a profitable enterprise, in which C. Durutti engaged in Piraeus. On a plot of land he owned by the sea, close to the Customs House –at that time under construction–, he put up jerry-built warehouses which he calculated would bring in a net profit of 12% per annum.[158] These are indications that C. Durutti was active in the Athens property market, until the major company purchase of the G. Cantacuzenos building complex on the site of 'Chesmeno Lithari', now the neighbourhood of Metaxourgeion.

150. The will was found by Christina Agriantoni in the Parliament Library, Renieri Archive, file 7877, no. 427.

151. See copies of C. Durutti's letters (1846), E.L.I.A., Durutti Collection, file 18.

152. Christina Agriantoni, *Οι απαρχές της εκβιομηχάνισης...*, op. cit., 79.

153. E.L.I.A., Durutti Collection, file 13, C. Durutti (Athens) to I. Durutti (Ancona), 9/21 Oct. 1844.

154. Ibidem, file 10, A. Stamatakis (Chalkida) to C. Durutti (Athens), 21 Novem. 1841. On the earlier history of the settlement of Iksirohor in the Istaia region, see Evangelia Balta, *Rural and Urban Population in the Sancak of Euripos in the early 16th c.*, reprint from the *Αρχείον Ευβοϊκών Μελετών*, 29/1 (1990), Athens 1992, index.

155. The house was three-roomed and cost 50 drachmas a month; they paid 30 drachmas a month for a servant and ate in the hotel. Benaki Museum, Durutti Archive 144/125, [Ath. Durutti] (Athens) to G. Durutti (Ancona), 1 Dec. 1839.

156. E.L.I.A., Durutti Collection, file 13, C. Durutti (Athens) to I. Durutti (Ancona), 9/21 July 1844.

157. Cf. Ευτυχία Λιάτα, *Τιμές και αγαθά στην Αθήνα (1839-1846)* [Eftychia Liata, Prices and goods in Athens (1839-1846)], Athens 1984, 49-50.

158. The building was let to a foreigner for four years, at 120 drachmas a month, and used as a workshop for processing liquorice. E.L.I.A., Durutti Collection, file 13, C. Durutti (Athens) to I. Durutti (Ancona), 9/21 Oct. 1844.

However, C. Durutti's installation in Athens during the early years of the Greek state created financial and social difficulties that are reflected in his relations with his family. It should be noted that like Athanasios, Constantine suffered from fevers, possibly contracted while living in the marshy southern Peloponnese. Poor health in a new country confronting many difficulties,[159] political unrest, a host of opportunists and self-styled entrepreneurs, led the twenty-seven year old C. Durutti to break down in 1836: 'I didn't want to stay in Greece enduring all the miseries.. endangering my life.. the brothers have neither cause nor right to despise me, I have suffered for 15 years already and I am fed up..'.[160] After G. Durutti's death the rift between Ioannis and Constantine widened. The youngest brother, Athanasios, was studying and charting a different course: he was the 'pure' industrialist, since he had never been involved in trade. The two elder brothers, who were essentially running the family merchant house, clashed, as Constantine wrote to his elder brother in 1844: '.. because you want to be superior to the others and you think that because you are the first-born brother the others are your slaves, and you assume that the respect they show you is shown out of need rather than affection..'.[161] The demise of the patriarchal type of commercial firm was drawing nigh, and the path towards individual activities was wide open from here onwards; henceforth collaborations were imposed by the enterprise itself and not by the family.

Athanasios's and Constantine's departure from Ancona was catalytic for the reorientation of the family business within the new economic prospects of the Greek state. Both belonged to the stratum of Greeks from abroad, as an informal group, in which the local circuits are also obvious. So the Durutti had close relations with Sotiris Gerousis from Smyrna, who also settled in Patras at this time,[162] as well as with their fellow Epirotes I. Kolettis[163] and G. Stavros.[164] With the last in particular, relations were so close that Sotiris Gerousis asked C. Durutti to intermediate on his behalf for the post of manager of the Patras branch of the National Bank of Greece.[165] However, when the Director of the National Bank of Greece had proposed C. Durutti as an assessor in bank affairs, in 1842, he himself had declined: '.. from my brief stay in this place I know neither the persons nor the relationships of the borrowers...'.[166] By the mid-nineteenth century, after the founding of the silkmill at Athens, Constantine Durutti's incorporation in the Modern Greek state was complete. A fact in no way fortuitous for a merchant who had from very early on paid attention to his social relations, in order to find a new place of domicile with a good social network.

The Durutti firm, with all its familial and local ties discussed above, characteristic of a pre-capitalist society, represents the structural multivalency of a business that over the span of a century covered the whole spectrum of economic activities: from trading transactions to the purchase of real estate, to industry, with the exception of bank credit. The purchase of

159. Even the Greek washerwomen were no good; Athanasios complained to his sister-in-law Sossana that 'they ruined the clothes' and that his underpants were patched, Benaki Museum, Durutti Archive, 155/125, [Ath. Durutti] (Athens) to I. Durutti (Ancona), 31 Dec. 1839.

160. Benaki Museum, Durutti Archive, 144/63-64, C. Durutti (Athens) to [G. Durutti (Ancona)], 10 May 1836.

161. E.L.I.A., Durutti Collection, file 13, C. Durutti (Athens) to I. Durutti (Ancona), 24 June/6 July 1844.

162. See above n. 1.

163. Maria Christina Chatziioannou, The Greek state..., op. cit., 20. In 1844 Kolettis ordered 10-12 bottles of *soumada* (almond cordial) from the Durutti's trading network, E.L.I.A., Durutti Collection, file 13, C. Durutti (Athens) to I. Durutti (Ancona), 9/21 July 1844.

164. Constantine and Athanasios Durutti supported the efforts of the National Bank of Greece from the outset, see indicatively I. Βαλαωρίτης, *Ιστορία της Εθνικής Τράπεζης της Ελλάδος* [I. Valaoritis, History of the National Bank of Greece], vol. I, Athens 1902 (reprint M.I.E.T. 1980), C. Durutti (1843) p. 13, Ath. Durutti (1853) p. 28 n. γ΄, (1868) p. 49 n. α΄. Μ. Ευλαμπίας-Δ. Καλογεράπουλος, *Η εν τη Εθνική Τραπέζη της Ελλάδος και τω κοινοβουλίω δράσις Ευθυμίου Κεχαγιά* [M. Evlambias- D. Kaloyeropoulos, The activity of Euthymios Kehayas in the National Bank of Greece and in the Parliament], vol. I, Athens 1930, C.D. (1864) 155, A.D. (1853) 138 and vol. II, Athens 1931, A.D. (1867) 125.

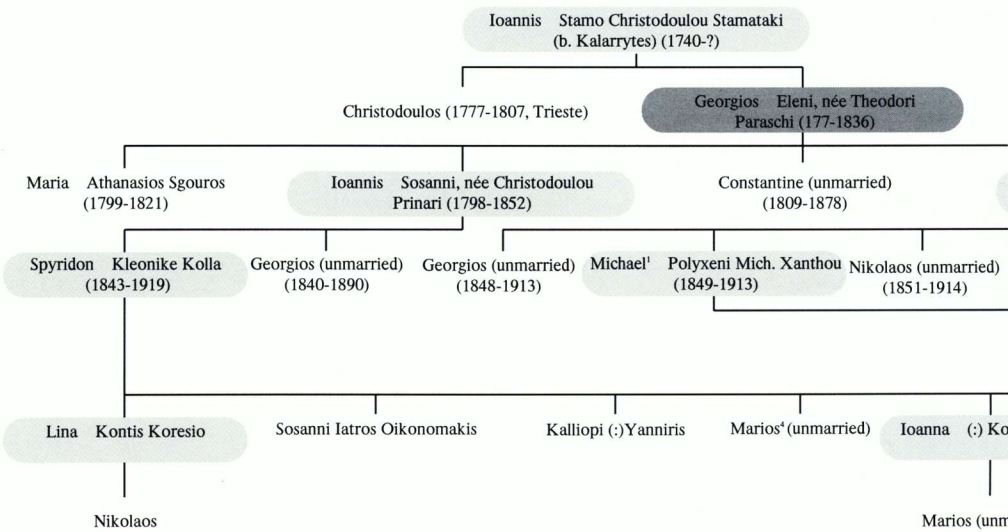
165. E.L.I.A., Durutti Collection, file 17, S. Gerousis (Patras) to C. Durutti (Athens), 3 May 1845.

166. Historical Archive of the National Bank of Greece (I.A.E.T.E.), II, Archives of Governors and Managers, Stavrou Archive, file 7(1552) subfile 20/1, C. Durutti (Athens) to G. Stavrou (Athens), 21 June 1842.

land as reserve and social capital, has been shown to be an economic move that fits all types of Greek entrepreneur. The singularity of the study of each firm lies in the recognition of its entrepreneurial model, as well as in the examination of the timely mobilization of social and economic capital to face the demands of both the home and the foreign market.

5

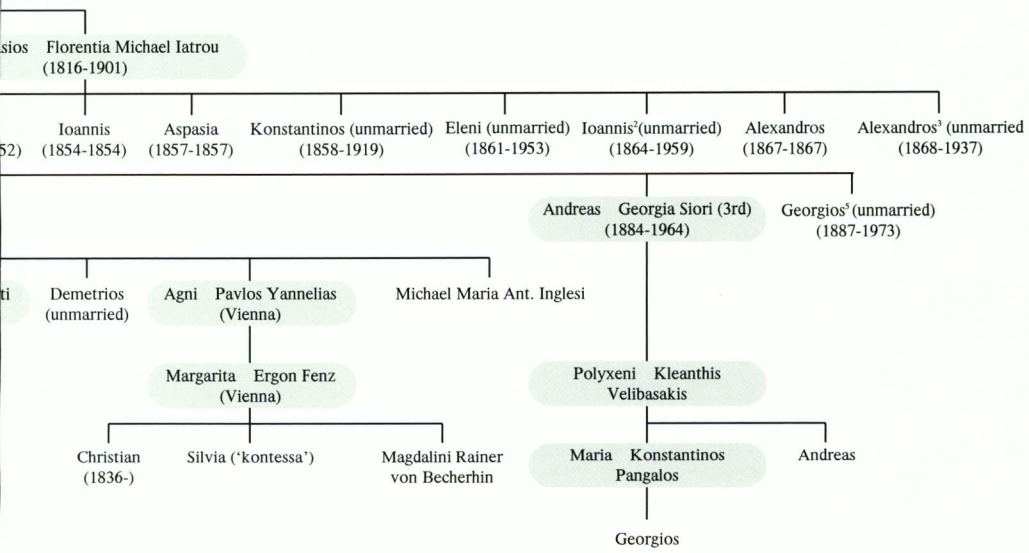
5. Kalarrytes, photograph by Sp. Meletzis 1938. (A. Voyaros Collection)



1. Michael served as ambassador.
2. Ioannis was a lawyer.
3. Alexandros was an admiral.
4. Marios was a chemist.
5. Georgios Durutti adopted the couple Ioannis and Maria Dourou.

Christos Zioulas

THE GENEALOGY OF THE DURUTTI FAMILY



Maquette of the city of Athens as it was in 1842. Plan I. Travlos, execution N. Gerasimoff, 1977-1979. Bottom right, the silkmill complex with the orchard opposite. Vouros- Eftaxias Foundation, Museum of the City of Athens.

Aristea Papanicolaou-Christensen

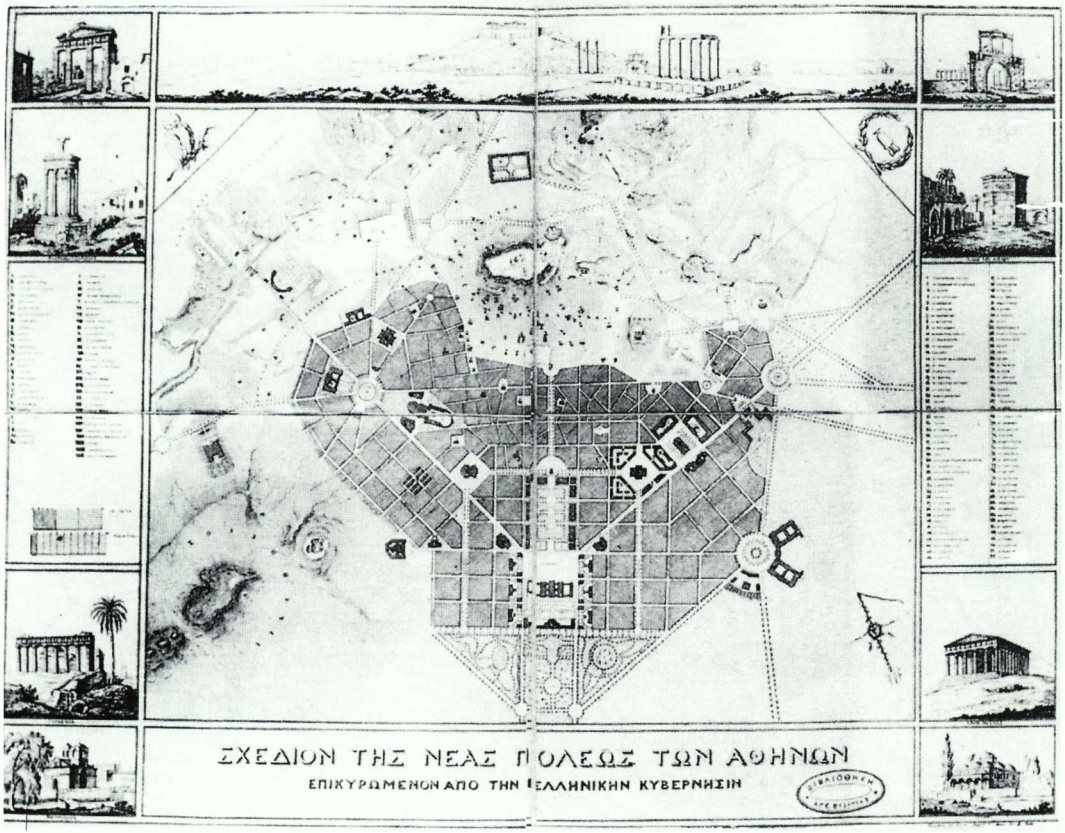
THE ATHENS SILKMILL: FROM SHOPPING CENTRE TO FACTORY

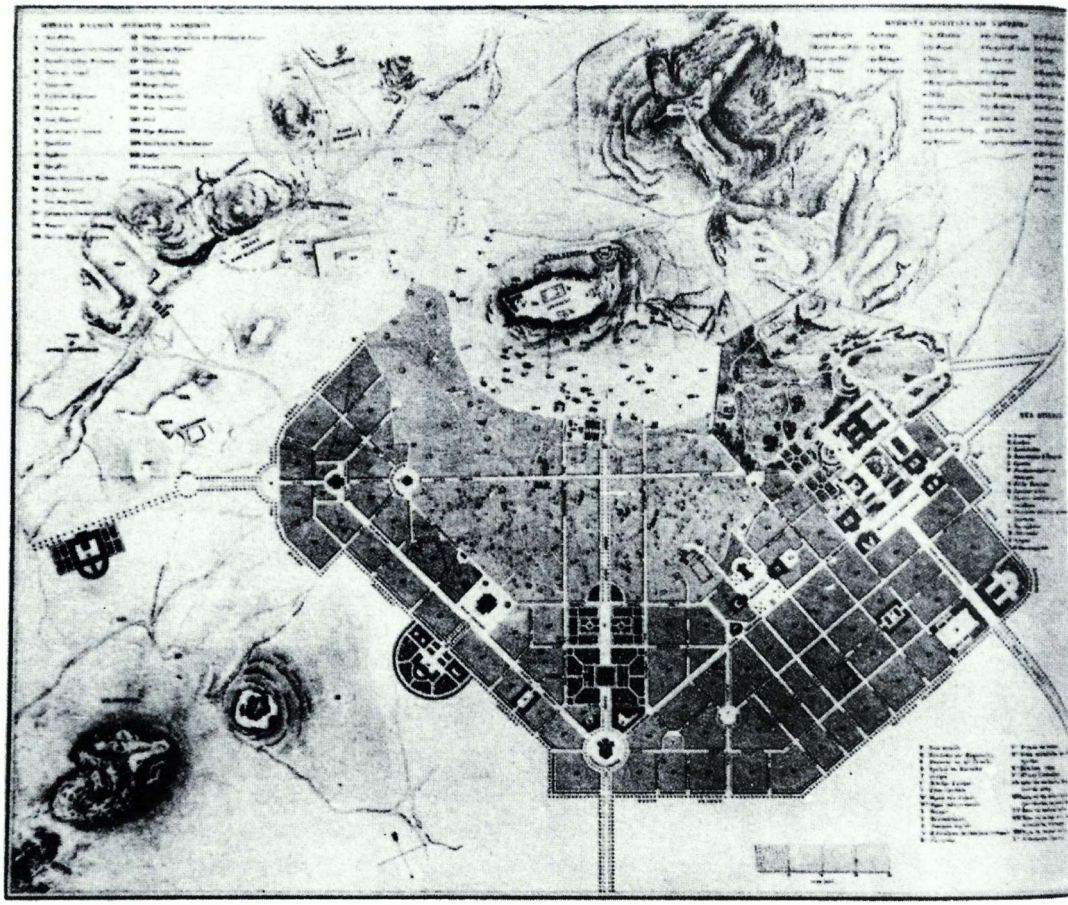
The first town plan of Athens was prepared by the architects Stamatis Kleanthis and Eduard Schaubert, and approved by King Otto in the Royal Decree of 29 January 1833.

In this plan the area around the Acropolis was left free of buildings and those existing, mostly in ruins, were to be expropriated so that excavations could be conducted. The palace and the administrative centre were to be built outside the boundaries of the old town, on the site now occupied by Omonoia (Concord) Square (fig. 1). Implementation of this first plan proved

1. The first plan of the city of Athens, drawn by the architects S. Kleanthis and E. Schaubert, 1833. Now in the Library of the Archaeological Society at Athens. (Catalogue of the exhibition *'Αθήνα ευρωπαϊκή υπόθεση'*, Athens 12.10- 2.12.1985, 22-23).

Σ. Κλεάνθης - E. Schaubert, *Σχέδιον της νέας πόλεως των Αθηνών επικυρωμένον από την Ελληνικήν Κυβέρνησιν*, 1834.



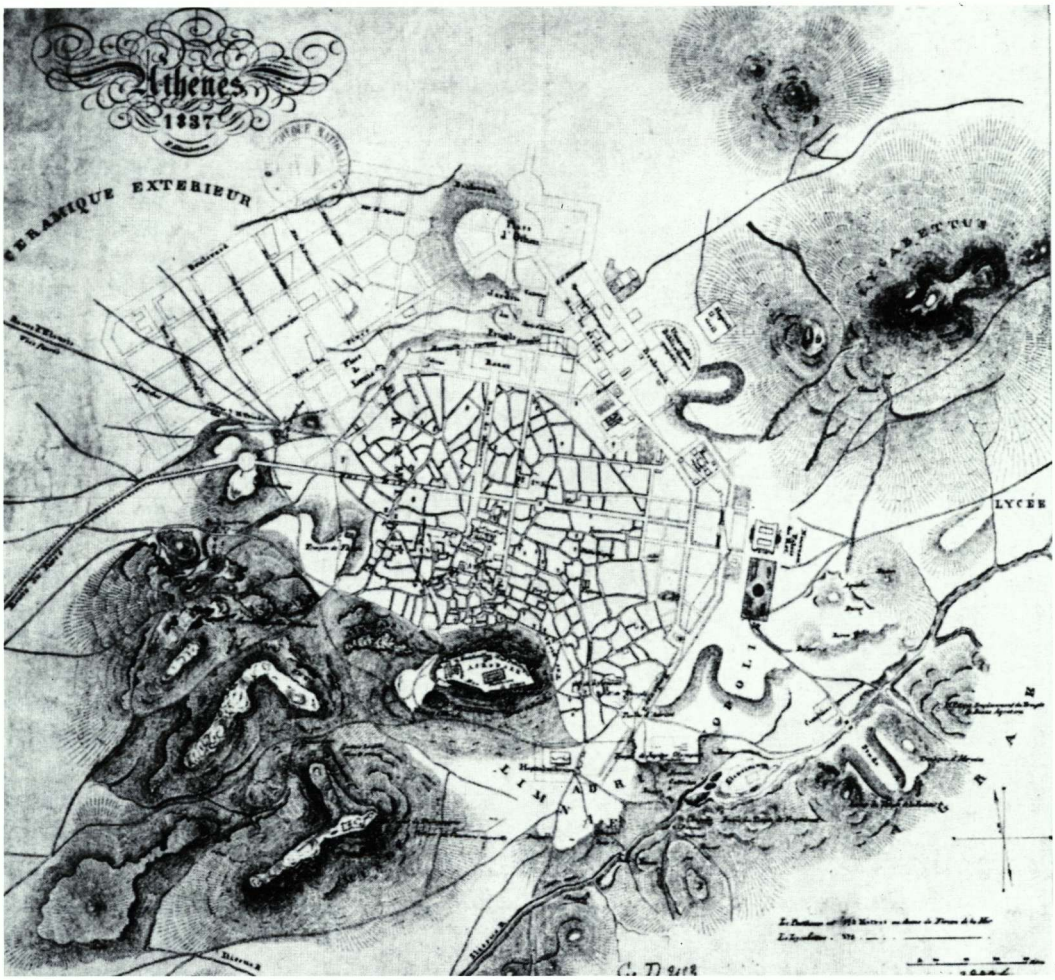


2. Klenze's modified plan of Athens, 1834. Lithograph 43 x 53 cm. Bayer. Staatsbibliothek, Klenzeana VIII 18 Munich. (Catalogue of the exhibition *'Eine Griechischer Traum'*, Munich Glyptothek 6.12.1985-9.2.1986, 314).

impossible, one of the basic reasons being the lack of money to recompense the owners of properties scheduled for compulsory purchase. So it was decided to modify Schaubert and Kleanthis's plan. Leo von Klentze, architect to Otto's father, King Ludwig I of Bavaria, was commissioned to undertake this project and arrived in Athens from Munich on 20 July 1834.[1]

In Leo von Klentze's modified town plan compensation was limited to properties expropriated for opening roads, and the site of the palace and the administration was transferred to the area of ancient Kerameikos. This plan was approved by Otto in the RD of 18/30 September 1834 (fig. 2). The area

1. Newspaper *Αθηνά*, year III, iss. 162/21 July 1834.



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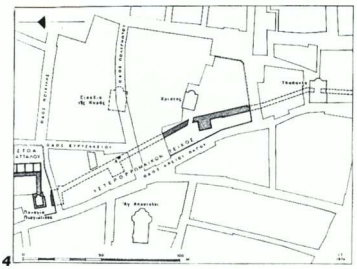
forseen as the centre of the new capital naturally attracted the interest of many wealthy Greeks living abroad, as well as a considerable number of foreigners, who bought house plots in the vicinity of ancient Kerameikos and in Piraeus street, where they proceeded to build private houses and opulent mansions. However, Klentze's plan was not applied either and a succession of revisions ensued. In the end the city centre began to develop around the area where the foundations of the palace were laid, on 25 January 1836, on the knoll of Aghios Athanasios just above what is now Syntagma (Constitution)

3. Town plan of Athens by F. Aldenhoven, 1837. Lithograph 33 x 39 cm. Bibliothèque Nationale. Cartes et Plans. GED 2553. (Catalogue of the exhibition *'Αθήνα ευρωπαϊκή υπόθεση'*, Athens 12.10-1.12.1985, 99).



4. Topographical plan of the southwest corner of the Ancient Agora of Athens, I. Travlos. Αγγελική Κόκκου, Το κιονόκρανο..., op. cit., 108.

Square. Concurrently there was rapid rebuilding of ruined properties as well as the building of new ones.

The translocation of the centre of Athens took place at the expense of the centres designated in the previous plans for the city. A large number of the residences that had already been built near Kerameikos and in Piraeus street were abandoned and their owners removed to the new centre. The maps in figs 1-3 illustrate these first adventures of the town plan of Athens. In F. Aldenhoven's map of 1837 (fig. 3) the development of the new urban web upon the traces of the old can be clearly seen, even in the area of the palace. Piraeus street and Exo Kerameikos were clearly outside the city centre.

Among the wealthy expatriate Greeks who settled in Athens after its liberation from the Turks in 1833, were the Cantacuzenoi, descendants of the Byzantine family from Phanari in Constantinople, members of which had served as Princes of Wallachia between 1711 and 1821. After the outbreak of the Greek War of Independence the Turks began appointing local nobles as princes of Wallachia and Moldavia, but the Cantacuzenoi retained their title even when they settled in Greece. It seems that their haughty behaviour was consistent with the absolutism it harboured and the press of the day ironically referred to them as the 'Greekish Princes Cantacuzenoi'.[2] An important political mainstay of the family was the marriage of Alexandros Cantacuzenos's two sons, Stephanos and Demetrios, to the daughters of the powerful man of the Regency, Count Armansperg.[3] Stephanos married Sophia and Demetrios Louise, who died of plague on their honeymoon and was buried on the islet of Psyttaleia in the Saronic Gulf.[4]

Another scion of this Phanariote family, Georgios, linked his name closely with the history of the building of the silkmill at Athens. A rich merchant and entrepreneur from Wallachia, he arrived in Athens in the summer of 1833 and bought near Piraeus street, at the site of *Chrismeno Lithari*,[5] a plot 9,421 royal square cubits in area.[6] This corresponds to the present neighbourhood of Metaxourgeion, nowadays delimited by Kolokynthous, Megalou Alexandrou, Thermopylon and Leonidou streets.[7] There he decided to erect a complex that would include his own residence and a large corner building with shops and houses for the tradesmen.

Georgios Cantacuzenos also bought a piece of land on the site of the Ancient Agora, behind the Stoa of Attalos. Though its exact boundaries are not known, what is known for certain is that he used it as a kind of quarry, removing the material from the ruined and demolished buildings, as well as the scattered ancient marbles, to build the aforementioned complex. The Ephor of Antiquities Kyriakos Pittakis, in his publication of an ancient inscription, gives the following information in 1852: 'This inscription was written in Attic lettering on part of plaque of Pentelic marble. It was found on 19 May 1834 in the house of Athan. Sourpios, which is close to the Bouleuterion and the Metroon. This house was bought this year by Georgios

2. Newspaper *Αθηνά*, year IV, iss. 230/20 March 1835.

3. Count Joseph von Armansperg (1787-1853) served as a member of the Regency (1833-1835) and as Prime Minister of Greece (1835-1837).

4. The marble sepulchral monument still stands in the northeast part of the island, see *Το Εργον της εν Αθήναις Αρχαιολογικής Εταιρίας* anniversary issue 1837-1987, 97.

5. The toponym *Chrismeno Lithari* (Anointed stone) was taken from the boundary sign of fields at the beginning of what is now Sphakterias street. In later times the version *Chezolitharo* (Shit stone) prevailed. The names *Chrysomeno Lithari* (Gilded stone), *Chrysi Petra* (Golden stone), *Chesmeno Lithari* (Shat stone) are all known, see also K. Μπίρης, *Αι τοπωνυμίαι της πόλεως και των περιχώρων των Αθηνών* [K. Biris, The place names of the city and the environs of Athens], Athens 1971, 33, 118.

6. Chr. Zioulas Collection, Report of compulsory confiscation, inv. no. 128, of 22nd September 1853, report of the evaluator V.P. Tsakonas. I am most grateful to Ms Lili Spiliotaki and especially to Chr. Zioulas for making a significant part of their archives available to me, to Mr Georgios Kalatzakos for permission to study the old contracts in his archive and to Mr Georgios Konstas for facilitating access to the Archive of the Association of Notaries of the Appeal Courts of Athens, Piraeus, the Aegean and the Dodecanese.

7. K.K. Σπηλιωτάκης, Αρχείον Μιχαήλ Ιατρού 1802-1893 [K.K. Spiliotakis, Michael Iatros Archive 1802-1893], *Τετράδια εργασίας Κέντρου Νεοελληνικών Ερευνών*, no. 6, Athens 1983, 34.

Cantacuzenos, who took all the material, destroying the house and the church inside it, called of Aghia Kyra, and removed it to his house at Exo Kerameikos'.[8] The church of Aghia Kyra (Our Holy Lady) in the southwest part of Polygnotou street, was dedicated to the Presentation of the Virgin in the Temple and formerly belonged to the Kapetanakis family. The icon of Aghia Kyra in its interior was considered miraculous and after the church's demolition in 1834 was transferred to the church of the Holy Apostles-Solakis in the Ancient Agora. The Byzantinist A. Xyngopoulos mentions that in the same year Cantacuzenos also pulled down the church of Saint Thomas, which used to belong to the Athenian Palaiologos family and stood at the edge of the area bought by the prince, at Vrysaki east of Evrysakeiou street (fig. 4).[9] Antiquities were also discovered when Saint Thomas was demolished.

Pittakis wrote that 25 poros blocks, each 'four feet long and two and a half wide', were used in G. Cantacuzenos's new building.[10] There is no doubt that an abundance of ancient marbles, considered to be of secondary archaeological importance, was used too. The use of ancient marbles as building material was, in any case a usual phenomenon throughout the nineteenth century.[11]

As a result of this tactic of demolishing buildings within an archaeological site, Georgios Cantacuzenos acquired an important archaeological collection comprising 160 pieces 'of column capitals, inscriptions, statues and other sculpted and architectural works'.[12] In 1844 he donated 40 pieces to the Ephor of Antiquities Pittakis, who writes in this connection: 'I persuaded this good and kind man to give me the remains of those antiquities found in the demolition of the church called Aghia Kyra, adjacent to the Bouleuterion, material from which was used in the construction of his large house to the north of Athens. In praise indeed of this good deed and donation, I wish to publish the letter to me in French from him, in which he offered me personally these pieces. I deposited them in the Archaeological Collection inside the Theseum...'.[13] The growing interest in antiquities and the fate of archaeological collections is manifest in a series of articles published in the newspaper *Aion*, under the general title 'The state of the ancestral relics'. The journalist provides the information that '... the Ephor of Antiquities Mr Pittakis formed prudently in 4 parts our Archaeological Collection, in the Theseum, below the Stoa of Hadrian, on the Acropolis and inside the Tower of the Winds...'.[14]

Georgios Cantacuzenos had engaged the architect Christian Hansen (fig. 5)[15] to supervise the demolitions and the digging out in the house plots on the site of the Ancient Agora, the transport of material from there and the construction of the building complex at Chrismeno Lithari. A scholarship-holder of the School of Architecture in the Copenhagen Academy of Fine Arts, Hansen's education was directly related to ancient Greek art. After all, he had been awarded a scholarship to study Roman and Classical Greek

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5. Portrait of Christian Hansen by E. Lehrmann, 1848. Pencil drawing 17.5 x 15.2 cm. Det National Historiske Museum Paa Frederiksborg inv. no. A 3306. (Catalogue of the exhibition *'Arkitekten Christian Hansen I. Graekenland 1833-1850'* in the Academy 12.4-4.8.1986).

8. K. Pittakis, *Εφημερίς Αρχαιολογική* 1852, 678-679. Α. Κόκκου, Το κιονόκρανο του ναού της Σουνιάδος *Αθηνάς* Ε.Μ. 4478 και η συλλογή του Κανταζηνού, [A. Kokkou, The column capital of the temple of Athena Sounias N.M. 4478 and the Cantacuzenos Collection], *Αρχαιολογική Εφημερίς* 1974, 106.

9. Α. Ξυγγόπουλος, Τα βυζαντινά και τουρκικά μνημεία των Αθηνών [A. Xyngopoulos, The Byzantine and Turkish monuments of Athens], *Ευρετήριον των μνημείων της Ελλάδος* [Index of monuments of Greece], Α. Ευρετήριον των μεσαιωνικών μνημείων, 1. Αθηνών [Index of medieval monuments, 1. Athens], fasc. II, Athens 1929, 112. Δ. Γρ. Καμπούρογλου, *Αι Παλαιαί Αθήναι* [D.G. Kambouroglou, Old Athens], Athens 1922, 148-153 Κ. Μπίρης, *Αι εκκλησίαι των παλαιών Αθηνών* [A. Biris, The churches of old Athens], Athens 1940, 38, 42.

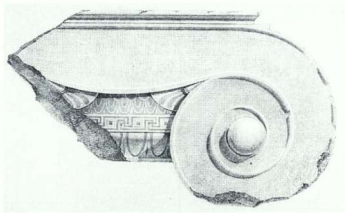
10. K. Pittakis, op. cit., 679, n. 1.

11. A. Kokkou, op. cit., 111-112.

12. K. Pittakis, op. cit., 679, n. 1. A. Kokkou, op. cit., 107.

13. K. Pittakis, *Εφημερίς Αρχαιολογική*, 1856, 1337 A. Kokkou, op. cit., 107.

14. Newspaper *Αιών*, year VII, iss. 569/18 October 1844, iss. 571/25 October 1844, iss. 573/2 November 1844, iss.575/8 November 1844, iss. 578/22 November 1844.



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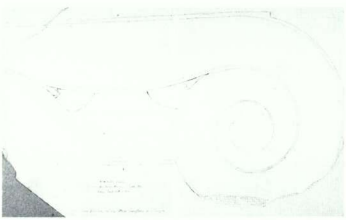

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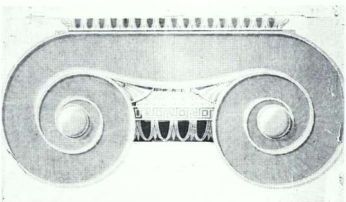

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6. The Ionic column capital with coloured decoration, from the temple of Athena Sounias, 1834. Water-colour by Christian Hansen, 52 x 76 cm. Kunstakademiets Bibliotek, Copenhagen, inv. no. 14994 B.

7. The preceding Ionic column capital, 1834. Pencil drawing by Christian Hansen, 42 x 66 cm. Kunstakademiets Bibliotek, Copenhagen, inv. no. 14994 A.

8. The same Ionic column capital. Reconstruction drawing by E. Ziller. National Gallery, Athens.

15. The Danish architect Christian Hansen (1803-1883) came to Greece via Italy, on a scholarship awarded by the Danish Academy of Fine Arts. With Athens as his base, he lived in Greece from 1833 until 1850 During this period he made a profound study of ancient art and a seminal contribution to the creation of Athenian Neoclassical architecture. He was actively involved in the archaeological investigations on the Acropolis and was the first to teach drawing at the School of Arts. As an employee in the Secretariat of the Interior he worked on the planning and construction of public buildings, and as a free-lance architect designed private houses and funerary monuments. Among his best known works, apart from

architecture in depth. Consequently he cannot have been oblivious to the choice of antiquities for G. Cantacuzenos's private collection. Among these objects was the painted column capital from the temple of Athena Sounias, which aroused the interest of archaeologists, many travellers and the press of the day.[16] Christian Hansen had found this column capital in April 1834, in the foundations of a church whose name is not mentioned. Rendered in his life-size drawing are the reddish colours of the ornaments, as described by Pittakis in 1855 (fig. 6): 'In this collection there is also an Ionic column capital, preserving reddish colours and ornaments of meander like the other in the Acropolis in the Ionic order too, lying in the collection of Ionic column capitals'.[17] The Danish painter Martinus Roerbye, who had visited Athens during 1835-1836, also referred to the same column capital: 'Below the Acropolis and towards the side of the Theseum, a wonderful Ionic column capital with many severe proportions has been found. The ornaments are as on the Parthenon, they are not indicated in relief but in colour'.[18] The restoration of the colours attempted by Ernst Ziller thirty years later is far removed from the original range. Furthermore, the red and the green are totally hypothetical, as Ziller himself says in his relevant note (fig. 8).[19]

Christian Hansen made a second drawing of this column capital, on which he does not include the colours but adds below an important piece of information: 'Column capital found in the foundations of a church in Athens, in April 1834, it belongs to Prince Cantacuzenos. In the same church, at a depth, were found the foundation stones of an ancient temple' (fig. 7). Here are revealed the date and in part the place –given that the church in which it was found is not named– of the discovery, two pieces of evidence so far unknown. Pittakis, when writing about the objects handed over by Cantacuzenos, clearly states that 'these are remains of antiquities that were found in the demolition of the church known as Aghia Kyra'.[20] Since the same reliable Ephor does not mention any other church demolished by Cantacuzenos,[21] the conclusion is that the column capital was found in the ruined church of Aghia Kyra. Christian Hansen drew several churches and ruined churches in Athens. In a water-colour dated 1833, and which is one of his first pictures of Athens, the transverse section of a ruined church, with wall-paintings of full-bodied saints inside, is depicted (fig. 9). In the area around the church are ancient ruins, leaving no doubt that it had been founded upon an ancient building. It is still difficult to determine the orientation. If we accept that this water-colour depicts Aghia Kyra shortly before it was pulled down and that the sanctuary of the church is on the right of the picture –the roof is lower at this point–, then we can assume that the second church discernible in the background is the Virgin Pyrgiotissa, built within a bastion in Justinian's city wall, at the southern end of the Stoa of Attalos (fig. 4).[22] Today there is a shrine in the sanctuary of Aghia Kyra, with the wall-painting of Saint Matrona (fig. 10), which fact reinforces the hypothesis that there was

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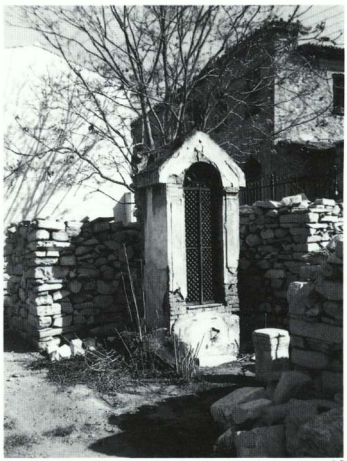

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9. Ruined church with remnants of wall-paintings, built on the foundations of an ancient edifice, 1833. Water-colour by Christian Hansen, 11 x 17.5 cm. Kunstakademiets Bibliotek, Copenhagen, inv. no. S 51 18543 p. 36.

10. Shrine, part of the sanctuary of the church of Our Holy Lady (Aghia Kyra) with wall-painting of Saint Matrona. Polygnotou street, Plaka.

some relationship between Our Holy Lady and Hosia Matrona the Chiopolitis, who is known on Chios also as Saint Kioura.[23]

As has been said already, Georgios Cantacuzenos had commissioned both the design and the execution of the building complex from the architect Christian Hansen, whom he had met in late July-early August 1833 while travelling by ship from Corfu to Patras. The project was scheduled in two phases, the first concerned the private residence of Cantacuzenos. This information is derived from two letters sent from Athens by the architect. One, addressed to his brother Peter in Copenhagen, is dated 24 December 1833: '... I was afraid of finding myself in financial difficulties in a foreign country, far from friends and acquaintances who could help me. However, I had the good fortune to meet on the ship from Corfu to Patras, a Greek prince who asked me to draw the plans for the private residence he was intending to build here in Athens...'.[24] The other, dated 8 July 1834, is addressed to the Academy of Fine Arts in Copenhagen: '... I am very lucky to have found work, since my scholarship for the second semester was delayed. I have drawn the plans for a large corner building with shops on the ground floor and houses in the upper storey. At the moment I am busy with the construction of the building...'.[25]

The Cantacuzenos residence

Very little is known about the first building, the Cantacuzenos residence, whereas much more information is available on the large corner building, that was used later as a silkmill. We shall examine the two buildings separately, beginning with the one built first. The original design does not exist. In the

the Cantacuzenos complex, are the conversion of the church of Holy Mercy (Aghia Eleousa) into a courtroom, the Mint, the Civil Hospital, the bath-house on Kythnos, the University, the Anglican church, the Eye Hospital, Muller's sepulchral monument on Kolonos hill.

16. See relevant study by A. Kokkou, op. cit. The column capital was also drawn by another Danish architect, H.C. Stilling, when he visited Athens in 1853, see M.Bendtsen. De attisk ioniske kapitaeltyper indtil udgangen af 5 aarh f. Kr., *Museum Tusculanum* 56 (1984-1986), Klassisk Arkaeologiske Studier, fig. 11.

17. K. Pittakis, Εφημερίς Αρχαιολογική, 1855, 1260 A. Kokkou, op. cit., 105.

18. *Dansk Kunstblad* I, 6 April 1836, no. 3, 21.

19. A. Kokkou, op. cit., 103.

20. K. Pittakis, *Εφημερίς Αρχαιολογική*, 1856, 1337-1336.

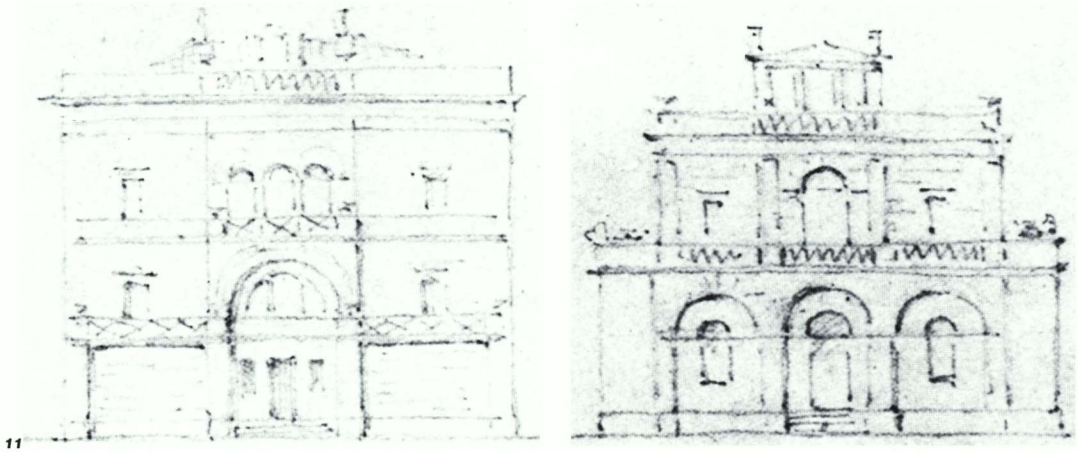
21. D.G. Kambouroglou, op. cit., 146, writes that on 9 June 1834 '[the church of] Saint Thomas was knocked down by Prince Georgios Cantacuzenos and some antiquities were found in its ruins' As we have said, Xyngopoulos agrees with this view, whereas Pittakis says that the church of Saint Thomas was demolished in 1845 and the material from it used in the construction of the Metropolis, A. Xyngopoulos, op.cit., 112.

22. A. Xyngopoulos, op. cit. 110.

23. D.G. Kambouroglou, op. cit., 152-153.

24. Royal Library, Copenhagen - Det Kongelige Bibliotek, Haandskriftafdelingen NKS 3954 4o.

25. State Archive of Denmark - Rigsarkivet, KA 1. 2.16.



11. Two preliminary designs for the Cantacuzenos residence in Athens, October 1833. Pencil sketch by Christian Hansen, 8 x 15.5 cm. Kunstakadamiets Bibliotek, Copenhagen, inv. no. S 18541 p. 39.

archive of Christian Hansen's plans, in the Copenhagen Academy of Fine Arts, there are two pencil drawings on which the architect notes: 'Ideas for the Cantacuzenos house in Athens, October 1833' (fig. 11). In Stademann's panorama (figs 12, 13) the prince's house is visible on the east side of the complex, standing separate from the large oblong building and in the form it had in 1835. In volume and area it basically resembles the drawing. The house was finished that same year, but we do not know if and for how long G. Cantacuzenos lived in it. What we do know is that this residence had been let for an interval, before 1842, to Otto Gropius[26] and from 1842 at least to the sculptor Siegel.[27] Because it was a rather spacious house both these tenants sub-let those parts they did not use to single persons and to families. In 1842 the family of Queen Amalia's pastor, Asmus Heinrich Friedrich Luth, moved into the upper storey, where they resided until March 1843. Luth's wife, Christiana, notes characteristically in her diary: 'On 1 September we moved again... In Gymnasia Square it was open and the air clean, Siegel had rented a large house there. We took the upper floor in the same house, with five quite large rooms. Next door to us resided the French Duchess of Plaisance'.[28] Christiana Luth's sister, Hanne, writes of this same house in her memoirs, in 1883: 'Between September 1842 and March 1843 we had moved to a solitary house near Piraeus street, in Gymnasia Square. The Bavarians called this house Die Burg. We lived in the upper storey, while Siegel, Schlumberger and an army officer lived on the ground floor. The kitchen was in the courtyard'.[29] It is very possible that the abandoned corner building had been dubbed 'Die Burg', on account of its size and location near Gymnasia Square.

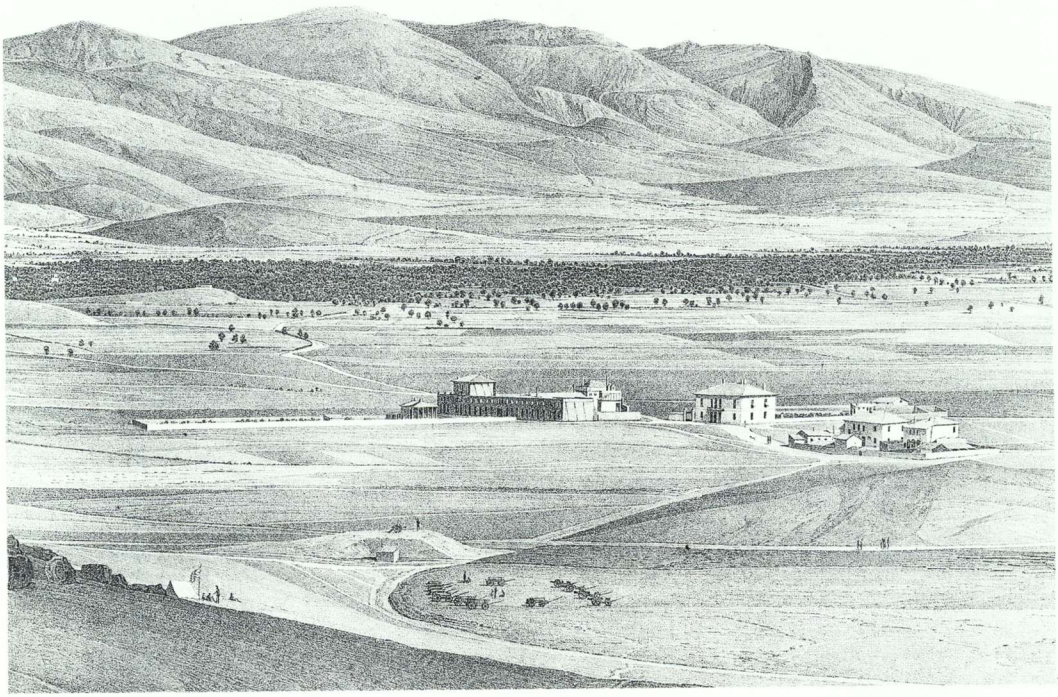
The practice of sub-letting is also attested by a law suit brought by Siegel against Albrecht Witte, agent and director of the British firm 'A Wrampe & Co.', about which more will be said below. In September 1854 Siegel lodged a

26 Otto Gropius had applied to King Otto on 27 November 1834, to set up 'premises for the rearing of silkworms' in Athens; several relevant documents in the GSA, Otto Archive, Ministry of the Interior, file 252, sub-file Seidenzucht von Otto Gropius. This silkmill began operating in Spring 1843, newspaper *Ελληνικός Παρατηρητής*, 18 May 1843.

27. Christian Erik Siegel (1808-1883), Bavarian sculptor and architect domiciled in Greece. In 1839 he created the Memorial to the Bavarians who died of fever in 1833-1834. This is the relief lion carved on the rock of All Saints in the suburb of Pronoia, Nauplion. Siegel was a professor at the Polytechneion, Athens in 1847-1850. He died in Greece in 1883 and is buried in the Protestant section of the Ist Cemetery, Athens.

28. Christiana Luth, *Μιά Δανέζα στην Αυλή του Όθωνα* [A Danish lady in Otto's court], ed. A. Papanicolaou-Christensen, Athens 1981, 76 and drawing 36, 212-213.

29. Hanne Fischer, *Familie optegnelser fra 1819-1883. Ophold i Athen 1839-1852*, Royal Library, Copenhagen, Acc. no. 1971/188, unpublished manuscript.



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12. The earliest depiction of the commercial centre, under construction, and the Cantacuzenos residence in a separate building behind, 1835. (Fr. Stademann, *Panorama von Athen*, pl. 8 - detail).

complaint against Witte because the latter was in arrears with the rent on the room he had sub-let to him from February 1853 to August 1854. It is interesting that the rent included one meal a day 'with choice wine'. Siegel demanded 1,080 drachmas compensation, but Witte asked for the case to be dismissed because the meals were very frugal.[30] Siegel's relations with 'A. Wrampe & Co.' dated back to 1852, when this firm bought the Cantacuzenos complex. From the patchy documents that have survived, it seems that Siegel owned some areas of land bordering on the Cantacuzenos plot, while he continued to rent and sub-let the Cantacuzenos residence. At the end of 1852 a contract was signed between A. Wrampe and Siegel, according to which the latter sold Wrampe a large orchard of 8.5 stremmas, opposite the oblong building whose east face was onto Kerameikou street, as well as the larger part of a field that bordered on its north side with 'the former Cantacuzenos residence'. The piece he kept was about half a stremma and located on Pheidiou street, as Kerameikou street was formerly known. This same contract included a clause stating that Siegel retained proprietorship of the rooms 'in the former house of Mr Cantacuzenos already belonging to Mr

30. Chr. Zioulas Collection, 'Suit of Christian Erik Siegel resident of Athens against Albrecht Witte resident of the same', Athens 27 September 1854, and 'Writs of Albrecht Witte living in London against Christian Erik Siegel resident of Athens', Athens 23 February 1855.


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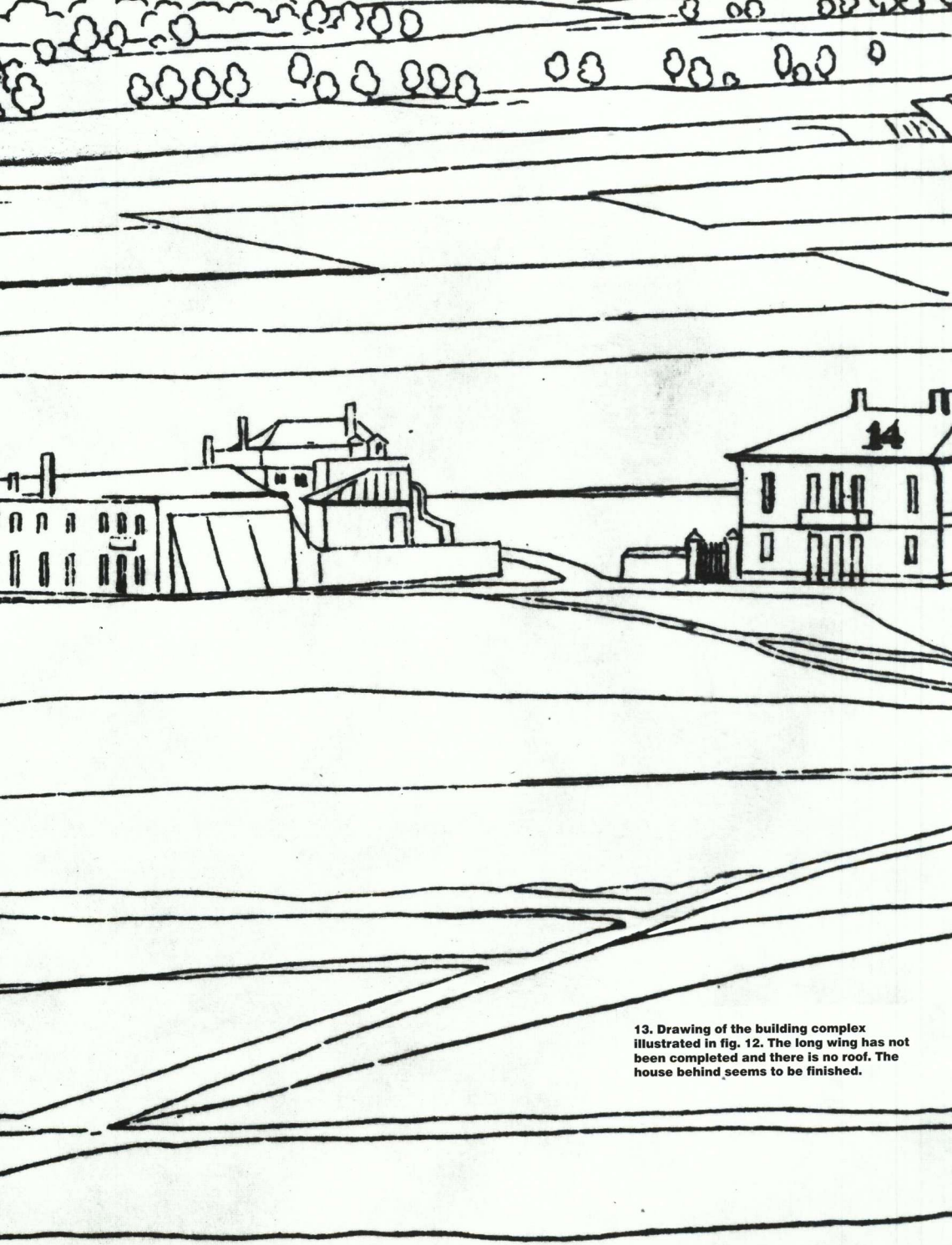
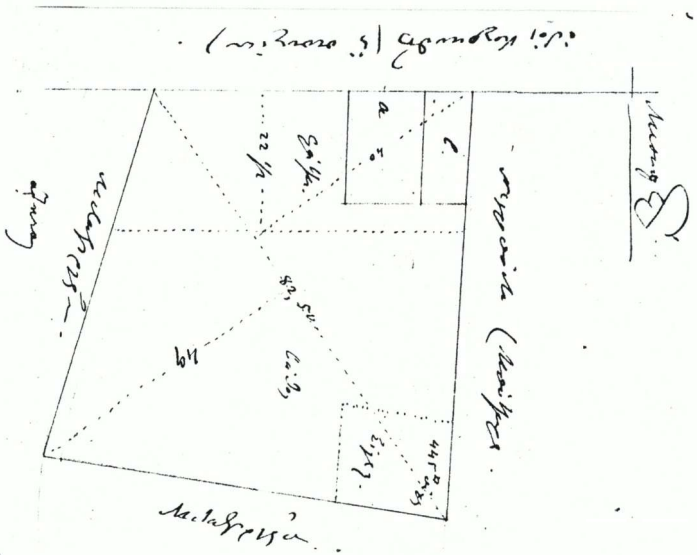


13. Drawing of the building complex illustrated in fig. 12. The long wing has not been completed and there is no roof. The house behind seems to be finished.

14. Measurements of Charalambos Kritikos's plot of land, bought by the 'Société Séricicole'; the Siegel plot is to the southwest. The sketch is signed by the engineer D. Zezos and dated 10.10.1856. (G. Kalatzakos Archive).



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Wrampe, which had in any case been granted to him by Otto Gropius'. The rent was fixed at 1,200 drachmas a year, the high sum being justified by the size of the house. Concurrently, Wrampe undertook the obligation of obtaining from Siegel a quantity of marble worth 10,000 drachmas and in the case that this agreement was not kept, Siegel would have the right to claim 'as his property the above pieces of land sold to A. Wrampe'.[31]

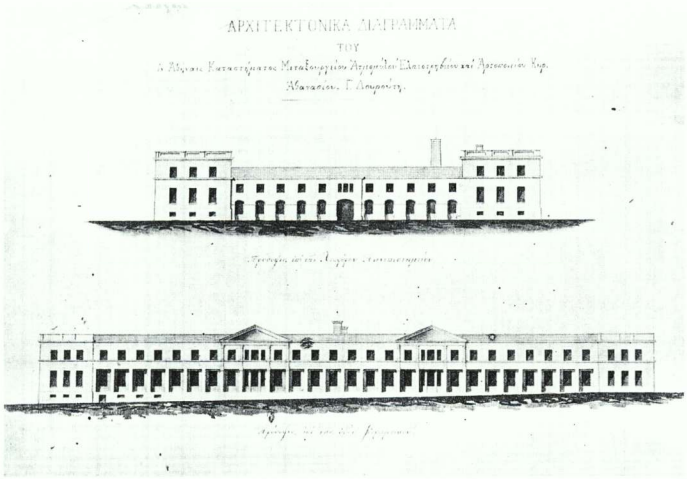
Early in 1853 Siegel requested and received permission from the Athens and Piraeus Police Department to build, together with some foreigner named Hamp, a house on his plot in Kerameikos street and to close the street between the Cantacuzenos and Negrepontis residences, on the east side.[32] In a survey made in 1856 a plot of 445 square cubits was noted as belonging to Siegel, on the site where the Cantacuzenos residence stood (fig. 14). This residence, 'the first house of Cantacuzenos' as it is mentioned in a deed of transfer between Siegel and Athanasios Durutti,[34] must have been pulled down sometime between 1873 and 1883, the date of Siegel's death. A drawing of 1868 gives the plan of the house, beside which is the note 'measured and drawn in Athens, 20 March 1873 by D. Mavridopoulos' (fig. 15). In another plan accompanying a contract, on which the house plots and the new streets are marked, the house had been demolished. Here there is the note: 'Athens 10 June 1882, Ioannis Dedes. Copied in Athens on 17 May 1974 by Christos Zioulas. From the attached to contract no. 29162/1883 of the then solicitor at Athens Georgios Gryparis' (fig. 16). It is also characteristic that there is no mention of the house in the various auctions held from 1853 onwards. The

31. After the company's bankruptcy in 1854, Siegel embarked on a series of lengthy lawsuits, claiming back his plots of land because the terms of the above contract had not been honoured. The case came before the Supreme Court in 1867, without any satisfactory ruling.

32. Chr. Zioulas Collection, document no. 10, Athens 6 February 1853.

33. Chr. Zioulas Collection, Evaluation of the entire complex, 1869, in which it is mentioned that it bordered to the south with the Siegel residence or the Artillery barracks.

34. Chr. Zioulas Collection, Deed of arrangement, Athens 31 March 1864.



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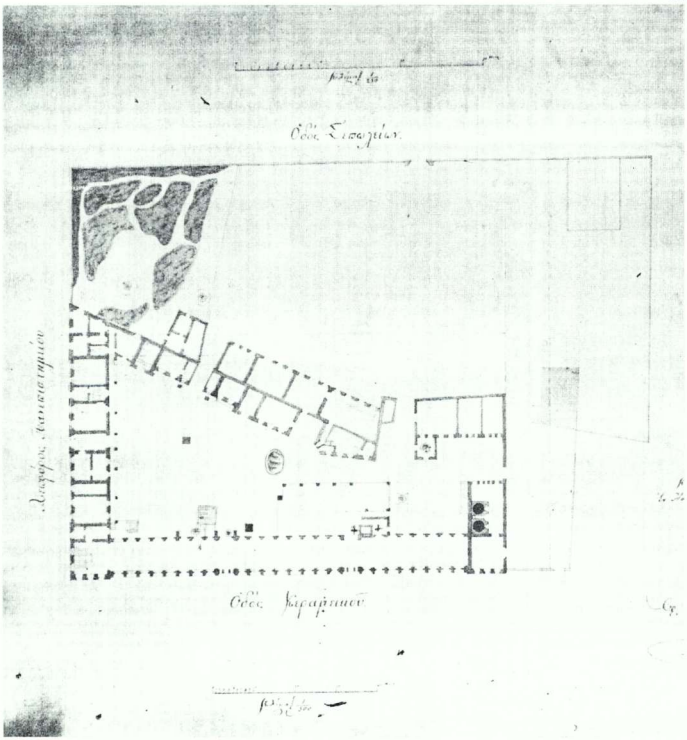
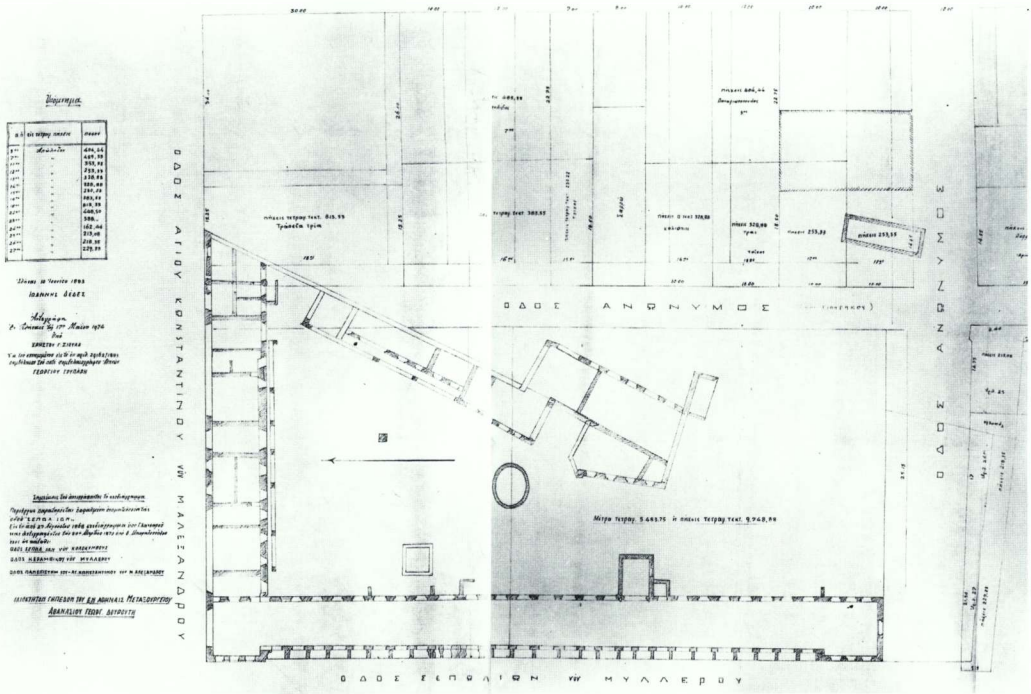


15. Plan and elevations (north and west faces) of the silkmill in 1868. The diagram is entitled 'Architectural diagrams of the Silkmill, Steam mill, Oil press and Bakery of G. Durutti at Athens. Façade onto Panepistimiou avenue. Façade onto Kerameikou street', and at the bottom the note: 'Measured and drawn in Athens on 27 August 1868 by G. Katsaros. Copied in Athens on 10 March 1873 by D. Mavridopoulos'. Photocopy of plan, 14 x 18.5 cm. (Chr. Zioulas Collection).



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16. Ground plan of Metaxourgeion with the new street layout and the neighbouring building plots. 'Athens 10 June 1883 Ioannis Dedes', 44 x 66 cm. (Chr. Zioulas Collection).

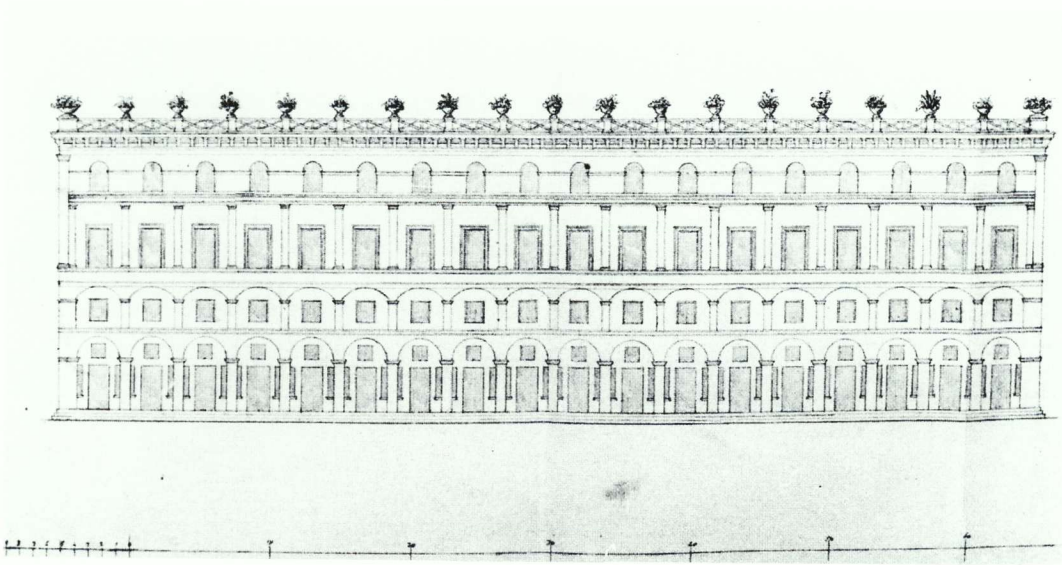
information from notice of an auction in 1865, that the 'shop at Metaxourgeion' borders south with 'the buildings of Demetrios Votsaris and Christian Siegel', does not clarify the question of whether it is a building put up by Siegel or the former residence of G. Cantacuzenos, which as property remained in his jurisdiction.[35]

The Cantacuzenos shopping centre

The large corner building of the G. Cantacuzenos complex constitutes the first attempt to found a covered shopping centre in the capital, according to the models of corresponding centres in the large European cities. The idea of founding a closed market was adopted from Cantacuzenos by the businessman Feraldi,[36] who in August 1834 submitted an application to the Regency to found a 'food, fruit and flower' market. The project foresaw 48 shops in rectangular arrangement and 32 two-storey houses for the tradesmen, built after European models, a spacious tree-filled atrium with a fountain at the centre (fig. 18). Feraldi proposed that this market be located as close as possible to the palace and the centre of the new city, on a site the

35. Newspaper *Ο Δικαστικός Κλητήρ*, year IV, iss. 580/ 7 August 1865.

36. The wealthy entrepreneur and French citizen François-Théophile Feraldi (1805-1888) came to Greece around 1830. He was involved with shipping and showed particular interest in undertaking various major projects in Athens and Piraeus. We cite indicatively, a market in Athens, the Athens-Piraeus railway line, installing piped gas in the capital, the cottonmill at Piraeus and expanding his business to Syros and Naxos. He had built a complex of houses and shops in Piraeus, of which he negotiated the sale in 1836. There is information on his business interests in Greece in the GSA, Otto Archive, Ministry of the Interior, files 78 and 252. See also Δέσποινα Θεμελή-Κατηφόρη, *Το γαλλικό ενδιαφέρον για την Ελλάδα στην περίοδο του Καποδίστρια 1828-1831* [Despoina Themeli-Katifori, French interest in Greece during the period of Capodistria 1828-1831], Athens 1985.



17. Drawing of the portico designed to link the market with the public baths. There was provision for shops on the ground floor and tradesmen's residences above. Pencil drawing, 14 x 23 cm. (GSA, Otto Archive, Ministry of the Interior, file 78).

state would have purchased from private citizens.[37] The government modified the plan accompanying the proposal (fig. 19), the most basic intervention being the uniting of the market with the baths and the public gardens, by a portico with shops on the ground floor and houses on the first.[38] The whole was to be covered by a flat roof with plant pots (fig. 17). This plan was provisionally accepted orally, but in the autumn of 1834 difficulties had already appeared that led to its cancellation. The press opposed the purchase of a plot by the state, while the site of the market had been transferred from the centre to the outskirts of the city, the exact spot is not known, but according to Feraldi was totally unsuitable for commerce.[39] In the end Feraldi's proposal to build a covered market was shelved.

Georgios Cantacuzenos did not encounter comparable difficulties with his shopping centre, since he built it on a plot he owned himself and with his own money. We do not know who were the previous owners of the plot, but judging from its area, 9,748.88 royal square cubits or 5,483.75 square metres, there must have been more than one.[40] Building of the Shopping Centre began in July 1834, on the assumption that the palace was to be built at Kerameikos, according to Klenze's modified plan. As said already, the complex was designed by Christian Hansen, who had also undertaken to oversee its construction. The testimony is given by Hansen himself, in his aforementioned letter of 7 July 1834, giving a report on his works in Greece to the Copenhagen Academy of Fine Arts. It is clear from this text that Christian Hansen had designed and undertaken the construction of a large corner building with shops on the ground floor and houses for tradesmen above.[41]

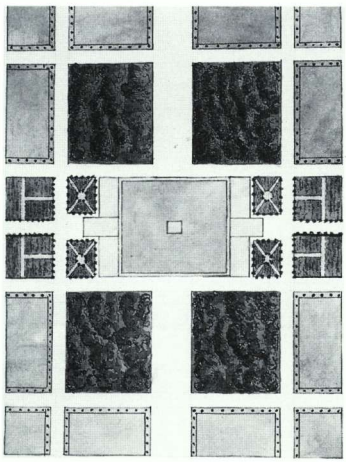
37. There is a detailed description of the market in Feraldi's proposal to Armansperg, which is accompanied by the relevant plans. The market was to be ready by July 1835, GSA, Otto Archive, Ministry of the Interior, file 78, Nauplion 14 August 1834, in French.

38. GSA, Otto Archive, Ministry of the Interior, file 78, Nauplion 13/27 October 1834, in French.

39. GSA, Otto Archive, Ministry of the Interior, file 78, Nauplion 31 October/12 November 1834, in French.

40. Research in the notarial archives of the GSA and the Association of Notaries, Athens produced no evidence of buying and selling by Georgios Cantacuzenos.

41. State Archive of Denmark - Rigsarkivet KA 1. 2.16.



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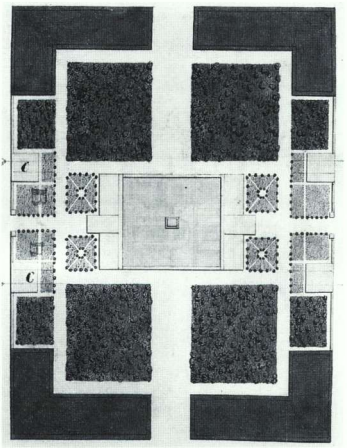

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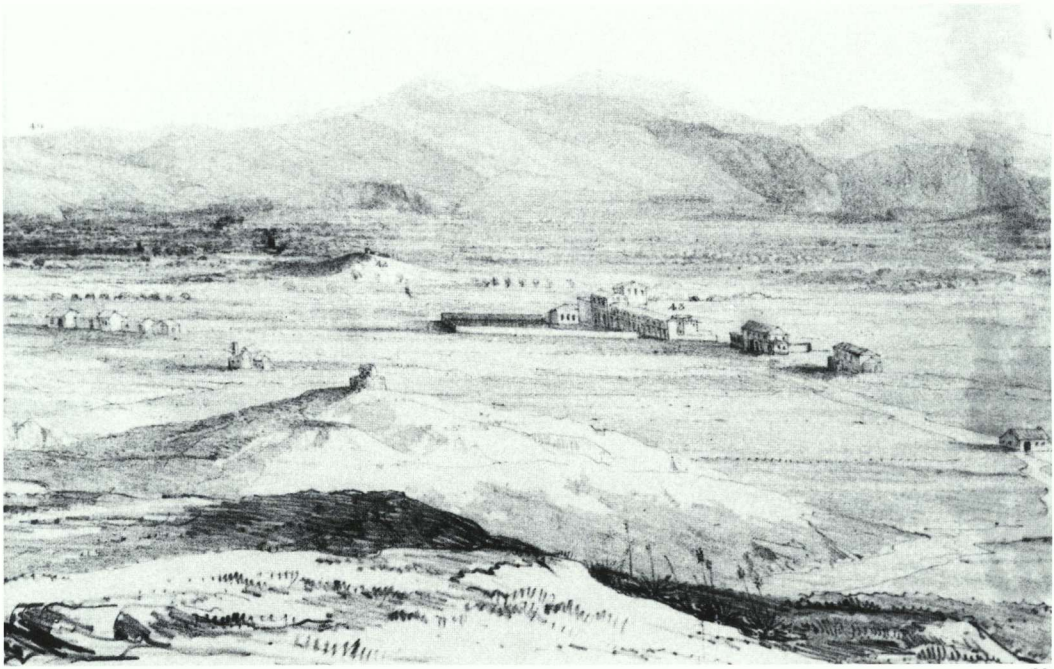
18. Plan of the Feraldi Market. The buildings at each corner are intersected by smaller streets. At the centre of the market place, a large fountain. Water-colour 17 x 25 cm. (GSA, Otto Archive, Ministry of the Interior, file 78).

19. Modification of the plan in fig. 18. By abolishing the streets and building a wall with two entrances the market acquired a more closed form. Water-colour 17 x 25 cm. (GSA, Otto Archive, Ministry of the Interior, file 78).

Stademann's Panorama of Athens, drawn in 1835 (figs 12, 13) shows the corner building then under construction, with the openings of the shops on the ground floor, the attics with small windows and the manager's house that was taking shape higher up on a regular first storey with windows and balcony.[42] As the project progressed problems arose between the owner and the architect, and the latter resigned his post as overseer. The basic reason for this disagreement was Cantacuzenos's request for an additional storey, whereas Hansen insisted on keeping to the plans already made. These events are narrated by the Danish architect himself in a report of his works in Greece, sent from Athens on 11 October 1835 and published in the Danish art journal *Dansk Kunstblad*: '... Unfortunately I have been disappointed by some of my work. You are perhaps aware that I designed a building that has only shops on the ground floor and attics above for the tradesmen to live in. This project was commissioned by a prince from Wallachia. To my great chagrin, however, this prince used the very worst workmen he could find, with the result that the whole work is not satisfactory. Furthermore, he wants to add a storey and so destroy my whole work. Then I explained that I was not going to sign my name on such a plan and at the same time I handed in my resignation from every building activity. I was working on this building with another architect who spoke very good Greek...'.[43] It seems that work continued for a little while after, perhaps under the other foreign architect.[44] In the end no other storey was added and the building was covered with a gable roof. In fact the building was left unfinished and abandoned by its owner, on account of the relocation of the city centre. So it appears in the 1836 Panorama of Athens (fig. 20).[45] In the summer of 1837, in a report of his activities in Greece, Christian Hansen laconically mentions the corner building of Cantacuzenos: '...I have left a building with shops half-finished...'.[46] Early in 1839 the architect Kaftantzoglou wrote in an article that the inhabitants of Athens formed the centre of the new capital upon the ruins of the ancient 'leaving far away the few houses of the newcomers, which were built in the newly-planned city, and which although larger and better situated still remain unoccupied, such as that of Cantacuzenos, Vranis etc.'.[47] Miliarakis also provides similar evidence: '...Cantacuzenos residence, a large oblong building begun in 1834, was left unfinished when it became known that the palace would be built where it now stands...'.[48]

Wrampe & Co.

The corner building remained unfinished and unused for over fifteen years. During this time its owner had abandoned any idea of opening a shopping centre. The very few testimonies of the period merely mention the sad sight of dereliction. Even the appellation 'Die Burg' alludes to the size and isolation of medieval castles.



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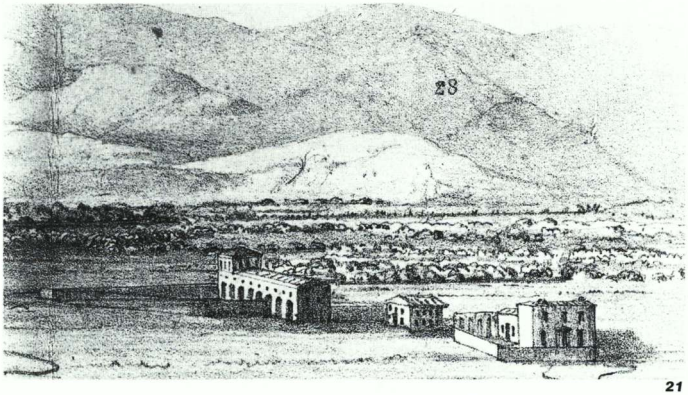

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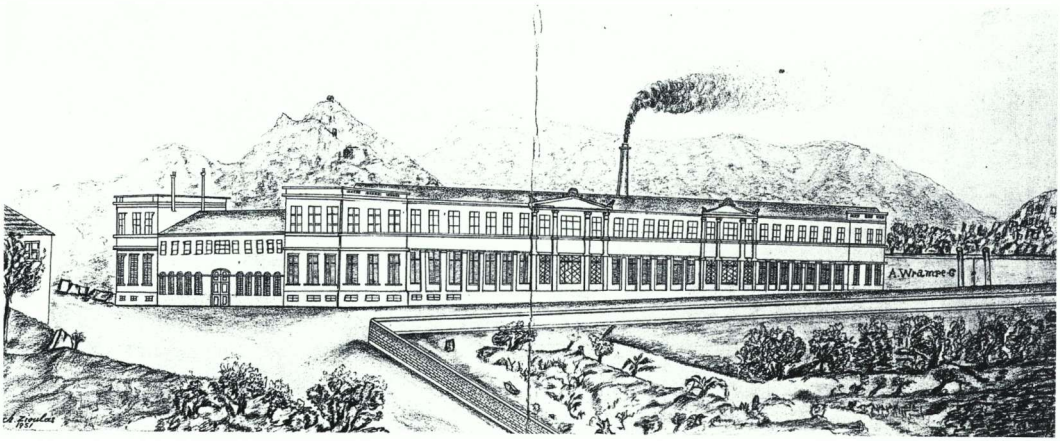
20. Detail from Celina Bracebridge's Panorama, May 1836. The long wing is roofed in its entirety. Zinc etching on paper 27.5 x 219 cm. (Vouros-Eftaxias Foundation, Museum of the City of Athens, inv. no. 387).

21. Detail from Celina Bracebridge's second Panorama, May 1839. Only the long wing of the complex is illustrated. Zinc etching on paper 26.5 x 268 cm. (Gennadios Library, Athens).

In 1852 the British firm 'A. Wrampe & Co.'[49] bought from G. Cantacuzenos his house, the corner building and various construction machinery for 327,000 drachmas. The value of the unfinished corner building was estimated at 225,000 francs.[50] At the same time, as we have seen, Wrampe bought from Christian Siegel two 'adjacent plots of land' for 8,000 drachmas.

42. We notice that G. Cantacuzenos's shopping centre was not rectangular in arrangement with large atrium at the centre, as was usual in European cities. It is very possible that the plan of the corner building was dictated by the need for the prince's residence, at the back of the plot, to remain detached in its own grounds.

43. *Dansk Kunstblad*, I no. 20, 7 January 1837. The Greek press of the day made acid comments on G. Cantacuzenos's arrogance when he tried to cancel the auction for the Kalograiza Monastery in Attica, in order to buy it himself, newspaper *Αθηνά*, year IV, iss. 264/ 10 August 1835. The 'other architect' must have been Siegel, because, as we shall see below, he was later in charge of finishing the building according to the existing plans (1852-1853).



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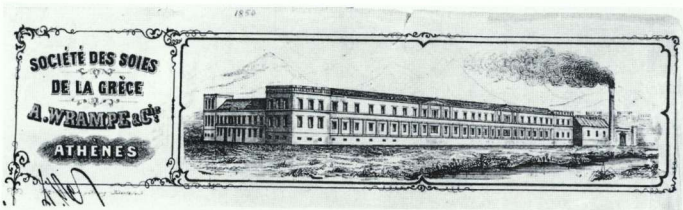
22. Copy of a drawing of the silkmill under A. Wrampe's onwership, 1853-54. The original pencil drawing no longer exists. 16 x 39 cm. (Chr. Zioulas Collection).

23. The silkmill as depicted on a share of A. Wrampe and Co. The extension with the little house and the tall chimney was never built in the place shown. 5 x 23.5 cm. (Chr. Zioulas Collection).



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In the relevant contract it seems that Siegel owned 'an orchard and a field' in the locality 'Aschimi [ugly] or Chrysomeni Petra [gilded stone] close to the former Cantacuzenos residence'. The 'orchard' of 8.5 stremmas, inside the town plan, was walled and contained 'various fruit trees, a water tank, wells, a small building etcetera'. It bordered east with Kerameikou street and had been acquired by Siegel just one month earlier, on 24 November 1852. The field, also inside the town plan, bordered 'north with the former Cantacuzenos residence' and it too had been recently purchased by Siegel. Wrampe committed himself to buying from Siegel, over an interval of ten years, marble to the value of 10,000 drachmas. Should he fail in this obligation, the contract of sale would be null and void, and the land revert to Siegel.[51] The orchard with the little building is depicted in Stademann's *Panorama* (figs 12, 13) while the 'field' occupies part of Kerameikou street. The British company intended to extend the corner building here.

Augustus Wrampe set up the firm 'A Wrampe & Co.' for the purpose of founding a silkmill in Athens, in the premises of the corner building. The decision to set up such a factory was based on the fact that silk-reeling showed favourable prospects for industrialization in Greece, given that the raw material was available in abundance and a large part of the rural population was involved with processing silk in the framework of traditional cottage

44. In 1834 the architects Lüders, Wiber, Schaubert, Stauffert, Laurent, Weiller and Hoffer were active in Greece. Christian Hansen shared accommodation with the last in December 1833. Hansen seems to have chosen the sculptor and architect Siegel as his collaborator on the construction of the G. Cantacuzenos complex.

45. Celina Bracebridge's 'Panorama', *Notes descriptive of a panoramic sketch of Athens taken in May 1839. Sold in aid of the funds of the London benevolent repository Sketched from Nature and on Zinc by Mrs Bracebridge. May 1839*, W.H. Dalton, London 1839, was published in May 1839 in order to raise money to build the Protestant church in Philhellinon street.

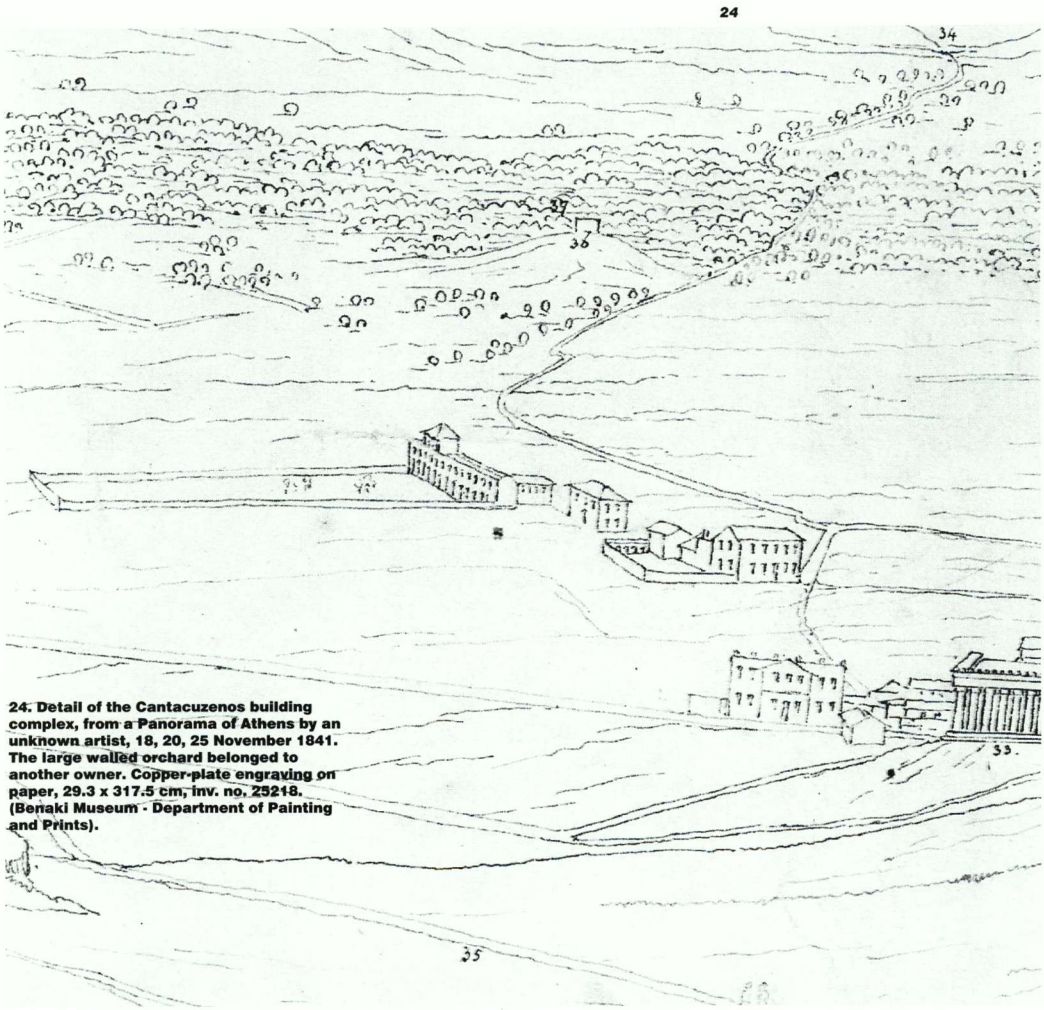
46. Art journal *Dansk Kunstblad*, II no. 10, 10 June 1837.

47. Λύσανδρος Καυταντζόγλου, Σχεδιογραφία Αθηνών, [Lysandros Kaftantzoglou, Plan of Athens] newspaper *Αιών*, year I, iss. 46, 8 March 1839.

48. Αντώνιος Μηλιαράκης, Αι προ πεντηκονταετίας μεγάλαι των Αθηνών οικίαι, [Antonios Miliarakis, The great houses of Athens fifty years ago] newspaper *Εστία*, year I, iss. 470/1885, 23-27.

49. August Wrampe was an English merchant who lived permanently in London.

50. The above information is taken from A. Durutti, who observes that 'the history of the initial setting up and the adventures of the factory are known to all', Αθανάσιος Δουρούτης, *Σηρική Εταιρία της Ελλάδος* [A. Durutti, Société Séricicole de la Grèce], Athens 1854, 5.



24. Detail of the Cantacuzenos building complex, from a Panorama of Athens by an unknown artist, 18, 20, 25 November 1841. The large walled orchard belonged to another owner. Copper-plate engraving on paper, 29.3 x 317.5 cm, inv. no. 25218. (Benaki Museum - Department of Painting and Prints).

industry.[52] Silk-reeling factories had been established in Sparta, Messenia, Andros, Lamia, Piraeus and Kalamata. The specialist technology required for operating organized silkmills was mainly obtained from Italy, which predominated in silkworking and sericulture in Europe in the early nineteenth century.[53] The Greek state had supported such efforts on several occasions. In 1837 it had granted 7,000 drachmas to the Technical School, directed by Captain Fr. Zentner, to construct machinery for weaving silk textiles,[54] and in 1847 it established a school of silkworkers in the same institution.[55] During the

51. Chr. Zioulas Collection, contract of 31 December 1852, between 'Mr Christian E. Siegel Professor of Sculpture at the Polytechneion, resident of Athens, and Mr August Wrampe merchant, resident of London', of the Athenian solicitor D.K. Soutzos, no. 1226. On 20 July 1853 Siegel requested the cancellation of this contract, filing suit agains Wrampe who showed no inclination to fulfil the term concerning the purchase of marble.

52. On the domestic silk-reeling industry, its transition to the factory system and the first attempts to set up large silkmills see Χριστίνα Αγριαντώνη, *Οι απαρχές της εκβιομηχάνισης στην Ελλάδα τον 19ο αι.* [Christina Agriantoni, The beginnings of industrialization in 19th-century Greece], Athens 1986, 33-34.

period when Wrampe was making the necessary moves to found and open the silkmill in Athens, P. Stephopoulos's silkmill was already operating successfully at the foot of Lykavittos hill, behind the Civil Hospital.[56] Stephopoulos had studied silkworking in Vienna on a Greek state scholarship. He opened his mill in 1850 and by 1852 it had '2 weaving sheds in operation, 2 in preparation and 3 preparatory machines in operation'.[57]

The Wrampe & Co. silkmill was intended to be the largest and best in Greece. We do not know the exact state of the corner building when it was bought by Wrampe, or how far works had progressed under the ownership of G. Cantacuzenos. It was however inevitable that in the course of its conversion from a shopping centre to a silkmill certain alterations were made to its original form. From careful scrutiny of the surviving plans some limited conclusions can be made. The building's aspect up until 1852 is known from the depictions in the *Panoramas*, which show its southwest face. We have no ground plan nor corresponding description of the whole. Works to complete and convert the building for use as a factory began immediately after the purchase of it and the adjacent plots. The basic changes to its original form included demolishing the elevated section of the west wing, depicted in the 1841 *Panorama* and probably destined for residence-offices of the manager of the shopping centre (fig. 24), as well as arranging the ground floor and the upper storey as two single spaces. The transfer of the central entrance to the north side of the corner building resulted in a balanced façade of two units with six windows in two overlying rows, between four pilasters upholding a triangular pediment (fig. 22). This articulation of the façade also had the aesthetic effect of relieving the monotony of the long line of windows.[58] The British firm evidently intended to extend the factory southwards, to the opposite side of the alleyway and the 'field' it had bought from Siegel (fig. 23). The machinery for the silkmill was ordered from Lyons in France, an important European centre of silkworking. The purchase, transport and installation of the plant was undertaken by Louis Roeck, director of the French company 'Louis Roeck et Cie.'.

Research into the contracts concerning the silkmill premises has revealed that the British company had appointed Siegel in charge of the building works. On 1 December 1852 Siegel signed a contract[59] with the 'mason' Ullisse Sals, who undertook 'the building from the foundations of an annexe to the Athenian residence of Augustus Wrampe standing on Pheidiou street [former name of Kerameikou street] at the site of Chrysomenon Lithari, as this annexe is nowadays divided'. Sals was obliged to begin 'putting up the walls of this annexe from the foundations, therefore the width of the walls will be along these foundations, their height up to the height of the existing buildings'. The materials he would use were stones, bricks, lime, sand, 'quoins from Hymmetos and Aegina', as well as old abandanoned quoins from the original building. The annexe was to be united with the old building and the 'mason'

53. Μαρία Χριστίνα Χατζηιωάννου, Η τύχη των πρώτων ιταλών μεταξουργών στο ελληνικό κράτος [Maria Christina Chatziioannou, The fate of the first Italian silkworkers in the Greek state], *Μνήμων*, 13/1991, 121-138.

54. GSA, Otto Archive, Ministry of the Interior, file 249, doc. no. 22470, 25 May/6 June 1837.

55. *Αθηνά*, year XVI, file 1492, 20 February 1847.

56. A description of the 'Stephopoulos weaving mill' and a wood-cut of its interior were published in *Νέα Πανδώρα* vol. III, iss. 58/15 January 1853, 471-473.

57. *Αθηνά*, year XXI, iss. 1862, 29 April 1852.

58. The relevant drawing was made by Christos Zioulas in 1951, based on a badly damaged drawing and at the request of Ioannis Durutti. The original, on a scale of about 1/3 of the copy, no longer exists.

59. Association of Notaries-Records Office Athens, contract no. 6982 of 1 December 1852, solicitor Argyrios Pepas.

was obliged 'to also turn the old existing timber portico and vaults with bricks and quoins as Mr Ch. Siegel orders him to and according to the existing design'. Work was to begin after the Christmas and New Year holidays, on 5 January 1853, and should be completed forty days later, while the cost was estimated at 75 lepta a square mason's cubit. This unbuilt area is clearly visible in Stademann's *Panorama* (fig. 13). This 'annexe' constituted part of the completion of the Cantacuzenos building on the basis of Christian Hansen's plans. The fact that Siegel had these plans in his possession, and that he was entrusted with the task of completing the building, reinforces the view that Christian Hansen's collaborator on the building of the Cantacuzenos complex in 1834-1835 was Siegel himself.

Before works got underway on building the so-called annexe, a fire destroyed the roof and upper storey of the long west wing of the building. Siegel began to restore the building, again employing Sals. In the relevant contract[60] the latter undertook 'the demolition down to the floors and building up to the ceiling, according to the plans, of all that side burnt by the fire that had occurred, and the building of all the south part from the floor to the ceiling, according to the plan', and in addition 'to build and raise from the foundations to the ceiling, according to the plan, also all the south walls of the above building according to the existing plan of these walls'. These works were to begin as soon as Siegel had 'replaced the floorboards' and were to finish forty days later. The cost of construction was estimated at 95 lepta a square mason's cubit. The above works were evidently completed within the agreed time frame and in early April of the same year Sals undertook the completion of the building. In the relevant contract,[61] dated 4 April 1853, Siegel is cited as 'owner' of the 'house' under construction and commissions Sals 'to construct and complete within thirty working days from tomorrow', the following: a gutter in the middle of the wall for the rainwater and 'about one hundred metres of cornice according to the design', at a cost of three drachmas a metre, and three coats of stucco, at ninety lepta a metre, the joining of 'all of the tiles with mortar... at twenty-five lepta a square metre', as well as 'to cover the face of the wall of the courtyard with two coats of plaster at thirty-five lepta a square metre', lastly 'to cover the façade of the house and the whole house inside and out with three layers and in general all the parts where there is a need to be plastered'. This work was to cost 45 lepta a square metre. Thirty days later the above tasks had not been finished. There remained 'the plastering of the west façade of the upper storey from the roof to the pilaster capitals'. In another contract[62] between Siegel and Sals the latter undertook to meet his obligation in fifteen days from the day of signing. Concurrently he assumed the obligation 'to complete also the water tank' for 275 drachmas.

The press of the day was particularly enthusiastic about the idea of a large factory opening in Athens. The newspaper *Athena* wrote characteristically:

60. Association of Notaries-Records Office Athens, contract no. 7130 of 26 January 1853, solicitor Argyrios Pepas.

61. GSA, Archive of solicitor Kosmas Kokkidis, contract no. 12323 of 9 April 1853.

62. Association of Notaries-Records Office Athens, contract no. 8047 of 12 July 1853, solicitor Argyrios Pepas.

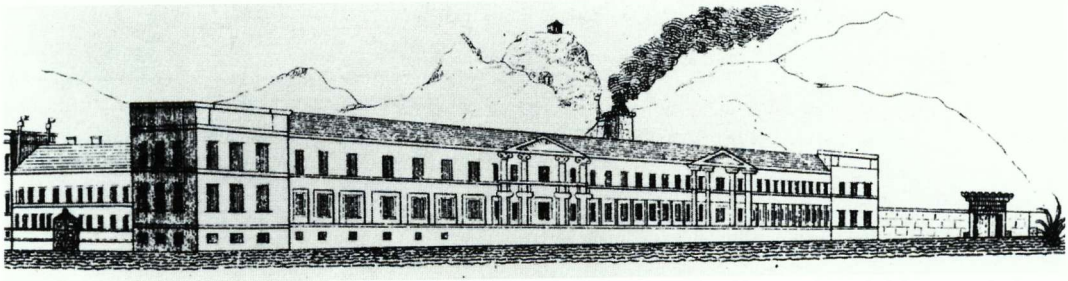
'The very expensive and huge building that its original owner Mr Cantacuzenos had left half finished, has already been bought by this very rich English family, and is being completed and indeed enlarged on the west side. Work began a few days ago with great earnestness and speed, and already some one hundred men are working there. It is said positively that this extensive building is being prepared for a silkmill, in which silk will not only be reeled but also woven inside the same factory. In announcing this to our fellow citizens we also take the opportunity to congratulate this noble and ambitious English family that first decided to set up here in our fatherland this nationally beneficial industrial factory from which not only will the country have important benefits but also the owners of the aforementioned factory will accumulate for themselves all the silk trade'.[63]

The silkmill of 'Wrampe & Co.' never opened. On 20 August 1853 the firm was declared bankrupt, before the premises were completed and the various machines installed. Once more this large building was abandoned, awaiting new adventures.

Compulsory confiscation and auctioning of the premises

Immediately after the declaration of bankruptcy, the chief creditor, Louis Roeck, director of the firm 'Louis Roeck & Cie.' of Lyons, filed suit against the agent and director of A. Wrampe & Co., Albrecht Witte, demanding payment for the purchase and shipment from France of the machines for the silkmill. On 7 and 9 September 1853 the Court of the First Instance as Commercial Court, at Athens, issued a judgment in Roeck's favour stating that Witte owed him the sum of 32,500 French francs plus 12% interest from 20 August 1853, as well as 17,022 French francs at the same rate of interest and the cost of court proceedings. Witte refused to pay these sums and on 22 September of the same year the silkmill was confiscated together with its entire plot, various buildings, machinery and furniture. According to the surveyor Vasileios P. Tsakonas, the total area was some 9,421 square cubits, 3,200 of which were occupied by the corner building. The 'vineyard-orchard' of 8.5 stremmas, opposite the building and west of Kerameikou street, was also sequestered. The statement of confiscation (no. 128/22.9.1853) was sent to Witte, the Mayor of Athens and the company's creditors. A few days later, on 3 October, the first auction notice was posted on the doors of Witte's house, the silkmill and the two Magistrates Courts 'of the north and the south side of Athens'. At the same time the relevant public announcement appeared in the newspaper *Athena*. One month later, on 9 November, the second notification of auction was posted.

In the spring of the following year, on 28 April 1854, the 'Court of the First Instance as Commercial Court' convened the British firm's creditors, 24 in all, for the purpose of compiling a list 'for election of the provisional



25. Detail from a share of the 'Société Séricicole' (1855), with depiction of the silkmill.

assignees of the bankruptcy'. The creditors included Roeck, Witte, Siegel and several Greeks. However, it seemed that the bankruptcy sale would not be an easy matter; there was a strong possibility that no buyers would appear or if there was just one interested buyer the bid might be very low. For this reason, on 9 July 1854 the creditors agreed to proceed jointly with the forced auction, 'to co-auction' and 'to outbid' another bidder should he bid less than 112,000 drs, but not to go beyond the sum of 120,000 drs. It was also agreed that if the creditors bought at auction 'the immoveable property and machines', they would sell immediately, on their behalf to the Greek government, 'the buildings together with their immoveable appurtenances' for at least 75,000 drs. The machines would be auctioned separately with a starting price of 40,000 drs. If bids did not go beyond this price, Roeck was obliged to accept the amount of 40,000 drs in cash, to pay off the debt on them. 'Louis Roeck factory manager from Lyons and the lawyer in this city [Athens] Mr Michael Potlis' were appointed authorized representatives for executing the above acts.[64] The auction was scheduled to be held two days later, on 11 July, as usual on a Sunday, after Mass, between 10 a.m. and 12 noon, in Aghios Panteleemon Square, in Aiolou street.[65] The opening bid for the 'premises of the silkmill' was set at 50,000 drs. The lawyer Leonidas Goutas bid 80,000 drs and Roeck 100,000 drs, to whom the auctioneer's hammer fell. The opening bid for the orchard was 1,000 drs. Nikolaos Pillikas, Themistocles Kosta Dimou and Roeck all bid, and the last obtained it for 6,000 drs.

In the report of the aforementioned compulsory confiscation there is a detailed description of 'the premises of the filature with all its plot'. This is a very important piece of evidence, of additional interest because it contains information on the conversion of the building from shopping centre to silkmill. The large building is described as 'stone-built with tiled roof', its entrance is in the north section, in Panepistimiou avenue (nowadays Megalou Alexandrou street), and it comprises three wings: west, north and east. The west wing includes a basement, ground floor and first floor, and has 'buttresses to support the wall'. There are two large rooms, one each in 'the upper storey and lower storey'. The length of the wing from north to south is approximately 140 tectonic cubits. The floor of the ground floor is paved with Maltese flagstones. The west and north sides have 38 windows with iron grille, the frames of which are ready for placement (figs 23, 25). The east side has 28

63. *Αθηνά*, year XXI, iss. 1933/5 December 1852.

64. Chr. Zioulas Archive, Prospectus for creditors - Athens 28 April 1854 and Contract - Athens 9 July 1854.

65. The church of Saint Panteleemon or the Katholikon stood at the junction of Mitropoleos and Aiolou streets. It was demolished between 1834 and 1836 and a fountain was later placed on its site, see D.G. Kambouroglou, op. cit., 237 and K. Biris, op. cit., 39.

window openings that were to be fitted with 'window frames and shutters', as well as 6 large doors ready to be hung. There is also a heating system in which steam is conducted from the basement along cast-iron pipes.[66] At the far end of the north section of the ground floor room, two wooden staircases lead to the upper storey, which is the same size as the ground floor. The floor is wooden and the roof 'of wood or thick beams and on top of these close-set planks with iron girders that clamp the beams to the roof'. This upper room has five stone-built arches, 'for greater stability of the roof'. There are 74 windows in all and two doorways with 'plain leaves and with shutters and window frames' which have not been fitted in the openings. In the interior of the room the 'pillars or beds for feeding the silkworms' are not all in place. The basement, occupying the north section of the wing and only part of the rest, has been arranged as 11 'vaulted' rooms with 11 windows with iron grilles, one for each room. The north wing also has 'an upper storey, ground floor and basement'. In the upper storey there are one large room and two smaller ones, each with a marble fireplace, and the floors and ceilings 'bear colours'. The rest of the rooms in the upper storey, 'six in a row' are 'coloured' (i.e. painted) too. In addition there are two kitchens with paved floor and 'the necessary charcoal-stoves'. Leading to the first floor from the ground floor entrance is a wooden staircase 'with painted banisters' which ends in a 'small vestibule', off which two doors open, one left and one right. At the far end, towards the east side, a second staircase 'consisting of four spirals with painted wood and iron banisters' leads from the ground floor to the upper storey, to a sitting room with marble fireplace, three other rooms and a 'parlour'. The ceiling of all the above rooms is decorated with flowers, 'well-painted with oil paint'. Below these rooms are two others, also upper storey rooms, with wooden floors and painted ceilings, which one enters from a small stone staircase. Outside these, on the courtyard side, is the place for the charcoal. Along the length of the wing facing the courtyard is a covered lobby (hayat) supported by 'seven stone-built piers', with colourful painted ceiling. One ground floor has two rooms with wooden floors and painted ceilings. One of these rooms used to be a kitchen and has a stone staircase leading to the courtyard. There are another five rooms in a row, paved with Maltese flagstones. One of these is a kitchen. Below the row of five rooms are four vaulted basements, which communicate with them via four stone staircases, one from each. Next to these cellars is a hencoop. The north wing has 'the necessary doors and the following windows': in the upper storey 11 onto the courtyard and 16, with shutters and glass panes, onto the street; on the ground floor nine, with glass panes and iron grille, onto the street; in the basement three just with iron grille, onto the street (figs 23, 25). In the east wing, at the height of the upper storey, are five rooms in a row and another three with their own entrance, all with wooden floors and 'ceilinged', as well as four lavatories or privies. There are two stone staircases leading up, one on

66. There was apparently a similar heating system in the University building, which was designed by Christian Hansen, see *Οδοιπορικό στην Ελλάδα* [Travels in Greece], Athens n.d., 39.

the north and one on the south side. Outside the rooms, on the courtyard side, is a lobby (hayat) 'without roof with wooden balustrades, which is supported by four stone pillars'. Below the hayat are five ground-floor rooms in a row, each with its own doorway, and four privies. All 14 windows on the first floor overlook the courtyard.[67]

The description of the courtyard mentions three stone-built wells with potable water, a half-finished water-tank, an oven –'stone-built with tiled roof'–, a little way off a row of 11 privies –'stone-built with tiled roof'–, and close by an old cistern. There are also various building materials such as planks, beams, bricks, tiles, large pieces of Pentelic marble, 'quoins from Hymmetos and Aegina' etc. The compulsory confiscation report also gives a detailed description of the 'silk-reeling machine and the extra appendages and appurtenances of it'. Immediately after, the boundaries of the 'silk factory' are mentioned, which 'neighbours to the east with fields of Panayotis Kritikos and Konstantinos Bouros, west with Kerameikou street, north with Boulevard street or Panepistimiou avenue and south with a house plot and courtyard of Christian Siegel'. The estimate for the property, made by Stephos Georgoulas, municipal evaluator, is of the order of 250,000 drs.

Also included in the above compulsory confiscation of the property of the debtor A. Wrampe is the 'vineyard-orchard' west of Kerameikou street, which he had bought from Christian Siegel (fig. 12). Its description in the confiscation text is paricularly detailed. The orchard covers an area of 8.5 stremmas and has also been measured by the surveyor Vasileios P. Tsakonas. Its 'face' onto Kerameikou street is 126.25 tectonic cubits long. On this same side are the two double-leaf gates. Inside the orchard there are a large cistern, the rim of which is covered with Maltese flagstones, a small water-tank, a stone-built pump-well and a well for drinking water, also stone-built. The orchard is well tended, because it has 105 fruit trees, about 1,100 vines, vegetables and rose bushes of different hue. Within it are a 'shed of planks with tiled roof', about 35 square tectonic cubits, a (basin) trough and a poros sarcophagus, two 'round pillars' and a table with a marble column as the base. The orchard is surrounded by a stone and brick wall about 2.5 cubits high, and 'neighbours' east with Kerameikou street, west with the meadow of Georgios Kazoulis, north with the meadow of Palaiologos and Nikolaos Venizelos and south with the goat farm of Nikolaos Eptanesios. The municipal evaluator assessed its worth at 3,000 drs.[68]

At the auction the lack of potential buyers and the reluctance of the commercial and business world to invest money in a silkmill were obvious.[69] After all this was a period when, due to the Crimean War, there were British and French troops in Piraeus, and cholera was rife in the country. At this point another event is recorded, which was anything but encouraging for potential buyers of the silkmill; in 1854 it was converted temporarily into a 'Hospital for Cholera Patients'. The Ministry of the Interior documents on

67. In general outline the description of the east wing corresponds to the drawing made in 1868 (fig. 15). In the plan made in 1883 (fig. 16) this wing seems to have been altered extensively. This is not the case with the west and north wings, where no significant changes were made Siegel had appointed the 'mason Zikos Georgios to build the walls of the privies', 10 m long and 3 m high, for 65 lepta a square cubit. The relevant contract no. 7330 was prepared by the solicitor Argyrios Pepas on 28 February 1853 (Association of Notaries-Records Office Athens).

68. Chr. Zioulas Collection, Auction report 2132/ 11 July 1854 and Report of compulsory confiscation of the real estate, i.e. of the silk-reeling factory upon it with the machines and appurtenances thereof, inv. no. 128.

69. There was uncertainty over the development of a silk factory in the paramount urban centre of Greece, Athens, and indeed when the duty on the free export of cocoons clearly operated in favour of the producers.

the cholera epidemic[70] mention 'the setting up of a special hospital for cholera patients in Athens', in July 1854, which, to conform with the relevant sanitary regulations, was far away from the city's houses, but they give no further information on exactly when and where this hospital opened. The 'Hospital for Cholera Patients' issued a regular 'Health Bulletin' giving the state of the patients and the number of dead. The 'Health Bulletin' was issued until November 1854, when the cholera epidemic in the capital had begun to subside after the upsurge in the summer months. Quite understandably, the inhabitants of Athens were terrified and resorted to masses and litanies against the fatal disease. The following characteristic testimony of I.A. Vretos on the situation prevailing in the cholera-stricken capital, also informs us that the former Cantacuzenos premises functioned as a hospital for those suffering from the sickness.[71] 'At that time my father was in the Municipal Hospital with bad legs, and I was visiting the hospital every so often, until I was banned from doing so. One of Angelitch's workers[72] contracted cholera, and the doctor ordered his transfer to the hospital for cholera patients, adjacent to the Cantacuzenos residence and run by the Sisters of Mercy. Carrying the cholera patient by the two arms, Angelitch and I took him to the hospital at night. The cholera patients were lying from the door of the room to the inside, there was a curtain which I lifted up to enter the room, but the sisters rushed to turn me away... One day I wanted to go down to the old barracks, to follow the military band that marched up to the Palace every day. From the corner of Stadiou and Aiolou streets I entered Aiolou street. This was completely deserted as far as the old barracks. Shops and houses closed. I was the sole pedestrian. Only beside the present Auction-rooms did I meet a funeral cortège of a Catholic. The priest was at the head, then the coffin carried by four pall-bearers and no-one else. In the Old Market-place only one grocery store and one butcher's shop were open. I learnt from the army doctor Klados, that on the previous day there had been 200 cases of cholera in the Old Barracks. I was the only person following the band as far as the Palace, and I returned to my room along Stadiou street, without meeting a living soul.'

The fact that the auctioned property was knocked down to Roeck saved the factory from certain dissolution, the return of the machinery to France and the probable conversion of the premises into a barracks. As we have seen, Roeck was authorized by the creditors of Wrampe & Co. to sell the whole premises after the auction. So on 23 July 1854 he transferred part of the premises and the 'vineyard-orchard' to a group of Greek businessmen. According to the notarial act no. 2181, of the solicitor Pan. Poulos, Louis Roeck made over to Demetrios Mavrokordatos,[73] Panayotis Papiolakis,[74] Athanasios Durutti,[75] Michael Iatros,[76] Ioannis Tsatsos[77] and Constantine Durutti[78] 'the possession of six-eighths of the Premises and the Vineyard-Orchard' for the sum of 90,000 drs. The buyers were obliged to pay 60,000 drs

70. GSA, Otto Archive, Ministry of the Interior, file 191, Public Health - cholera.

71. Α. Βρετός, Η Αυτοβιογραφία μου [A. Vretos, My autobiography], *Εγκυκλοπαιδικόν Ημερολόγιον 1921*, year 18, third period, Athens, 20.

72. Angelitch was upholsterer to King Otto, I.A. Βρετός, op. cit., 20.

73. Demetrios Mavrokordatos (1821-1873) studied Law in Athens and Paris. He was made a judge in 1850 and was concurrently encharged with draughting the Civil Code. In the constitutional discussions during the period 1863-1864 he proposed the setting up of services for Trade and Industry.

74. A merchant who was later awarded the silver medal for his silkmill in Piraeus, at the Olympia Exhibition in 1859, Maria Christina Chatziioannou, op. cit., 132-133.

75. Son of Georgios Durutti (1770-1836), the wealthy merchant from Kalarrytes in Epirus who had settled in Ancona, Italy, see in connection the article by Maria Christina Chatziioannou in this volume.

76 Michael Iatros (1779?-1868) was a merchant from Loganiko in Laconia who had settled in Nauplion. In 1836 he collaborated with Constantine Durutti in founding the silkmills at Sparta and Messene (Nisi). In 1850, together with Athanasios Durutti, who had married his daughter Florentia in 1847, he set up the trading company 'M. Iatros and A. Durutti', in Athens, K.K. Spiliotakis, Αρχείον Μιχαήλ Ιατρού, op. cit., 34.

77. Merchant, resident of Athens.

78. There were three Durutti brothers, Ioannis (1798-1852), Constantine (1808-1878) and Athanasios (1816-1901), fig.34.

in cash, and on behalf of Mr Roeck, to 'the liquidators of the bankruptcy of Mr Wrampe and Company'.[79] The remaining 30,000 drs were to be paid in cash to Roeck himself 'after the full completion of the Premises', which had to be ready within 40 days from the day of signing the relevant contract. According to the terms of the contract, the following works were needed: Building a party wall with the neighbouring properties and the walls of the courtyard on the streetward side in the south section. Modelling the central entrance and completing the marble staircase. Constructing a large water-tank and fountain (jet) as well as deepening the well in the courtyard. Building 'the house for the boilers and the steam-powered machines, finishing the cocoon storerooms', installing the windows, building the chimneys and whatever else was required for the full equipment and operation of a steam-powered 'Silk-reeling Factory of the first order'. The above six Greek businessmen agreed to found, together with Roeck, a company for managing the factory. It had 152,000 drs as share capital, which represented the value of the premises and the vineyard-orchard. The share capital corresponded to 152 1000-drachma shares, 38 of which belonged to Roeck, while the remaining six shareholders had 19 each. They also agreed to issue another 152 1000-drachma shares in order to increase the company capital, which would thus reach 304,000 drs. The shareholders were to sell these shares of the second series to third parties, or to buy them themselves in proportion to their participation in the original capital, by 1 January 1855.[80] If within the set period Roeck had not bought the 38 shares or part of them, then the company would have the right to levy 9% interest from him. It was also agreed that the company's director would have the right to borrow and to mortgage the company's immoveable property, at his discretion.[81]

26

26. Share of the 'Société Séricicole de la Grèce', 31 March 1855. 34 x 39 cm. (Chr. Zioulas Collection).

The founding of the Société Séricicole de la Grèce

Two weeks later, on 6 August 1854, the seven aforesaid merchants and entrepreneurs founded the 'Société Séricicole de la Grèce', surnamed 'Athanasios G. Durutti and Co.', with the aim of 'developing and improving the mulberry trees in order to set up cocoon-rearing in order to reel silk according to the latest French methods'.[82] The company was to be based in Athens and its duration was set as ten years, from 1 January 1855. According to the statutes, once the decade expired it would be dissolved *ipse jure* and the owners of the 152 first shares would have the right to buy the premises of the silkmill for the sum of 152,000 drs plus 2% interest for the damage incurred over the years. The shareholders themselves had the right to request the dissolution of the company after at least three years had elapsed since operation of the silkmill commenced. Athanasios Durutti was appointed director for the whole decade at a salary of 6,000 drs per annum and had the right to reside on the premises of the complex.

79. Chr. Zioulas Collection: in a document '1st list of preferential creditors' of 1.9.1854, mentioned in three columns, in the following order are: 'The state for custom's duties 4,187 drs, N. Georgoulis for rates 232 drs and 43 lepta, Nikolaos Klontzas gardener of the premises 454 drs and 41 lepta, Kr. Gaitanos servant 276 drs, Nikol. Georgopoulos from servant's wages 302 drs, Io. Koutzochristos from servant's wages 407 drs and 80 lepta, Chr. Ziegel architect 1,000 drs, Augustus Sampson servant or labourer in the factory 1,463 drs and 18 lepta'. The total amount was 9,658 drs and 72 lepta. Furthermore, Nikolaos Meletopoulos was to receive from Wrampe & Co. the sum of 10,000 drs for supplying cocoons. The company's payments had ceased on 1st June 1853, newspaper *Αιών*, year XVI, iss. 1425/9 January 1854.

80. On account of the spread of cholera in Athens in the summer of 1854 this term was modified and a three month extension granted for the purchase of shares, until 31 March 1855, Athanasios Durutti, op. cit., 11.

81. Chr. Zioulas Collection, contract no. 2181 of 23 July 1854, signed by all the shareholders, seven in all, and draughted by the solicitor Panayotis Poulos. There is a summary of the same contract in French, dated 26 July 1854.

82. Chr. Zioulas Collection, the relevant contract no. 2245 had been drawn up by the solicitor Panayotis Poulos on 6 August 1854.

The company sign, 'featuring the emblem of the Greek state, the symbols of the company, the names of the members of the company etc.', was painted by the artist Antonios Intzerilla, whom Roeck commissioned on behalf of the Société. The painter worked over the months of October and November 1854 'for forty days without break' and 'from morning till the lights went out'. He painted the company sign on the left wall of the 'director's room', as one entered.[83] An artist's usual fee was 10 drs a day for a few hours work. Intzerilla asked for a similar fee, noting that this was, moreover, a particularly hazardous time, on account of the cholera epidemic. He also pointed out that the daily wage of 3 drs, offered by the company, was the remuneration for labourers and builders.[84]

The Société Séricicole was founded at a time when the future of sericulture in Greece was anything but promising. The unrestricted import of cocoons, that had been continuing since 1847, had become a basic constraint on the development of local sericulture. Greek silk production had developed significantly since the 1830s, both on a domestic basis and in the form of organized businesses. The entrepreneurs C. Durutti. E. Tsouchlos and S. Valvis had acquired the exclusive privilege 'for the import and installation of machines [filatories] for reeling silk in the Italian or French manner', which applied to most of the country from 1/13 January 1837 till 1/13 January 1845.[85] But the growth in the export of cocoons after 1846 competed with local silk processing. When the Société Séricicole was founded only two of the six silkmills founded after 1837 were operating.[86]

The founding of the Société Séricicole to establish and run a factory for producing and processing silk, was due more to the opportunity of purchasing Wrampe's bankrupt filature at a low price, and less to the existence of related legislation with terms favouring the promotion of silk-reeling in Greece. A commentary in the newspaper *Elpis*, on the state of sericulture in Greece and abroad, ends: 'If the factory of the Société Séricicole, directed by Mr A. Durutti was founded at Athens two years ago, this is due to an exceptional case, because it is known that within one year the business of the foreign company went bankrupt and the building was sold by the creditors at a very moderate price'.[87]

A. Durutti submitted the company's statutes to King Otto for approval, accompanied by the following letter: 'Your Majesty, I am emboldened to place at Your Majesty's feet the statutes of the Greek company set up here by Greek citizens, who considered it a matter of national pride to keep in Athens the Silkmill, which was in danger of dissolution on account of the bankruptcy of its first founders. The purpose that the Société Séricicole promotes, the conviction that these industrial premises will bring many benefits to the fatherland and the circumstance that for the first time in Greece is applied in the said business the cooperation of capital, that has created so many huge projects in western Europe, encourage the owners of

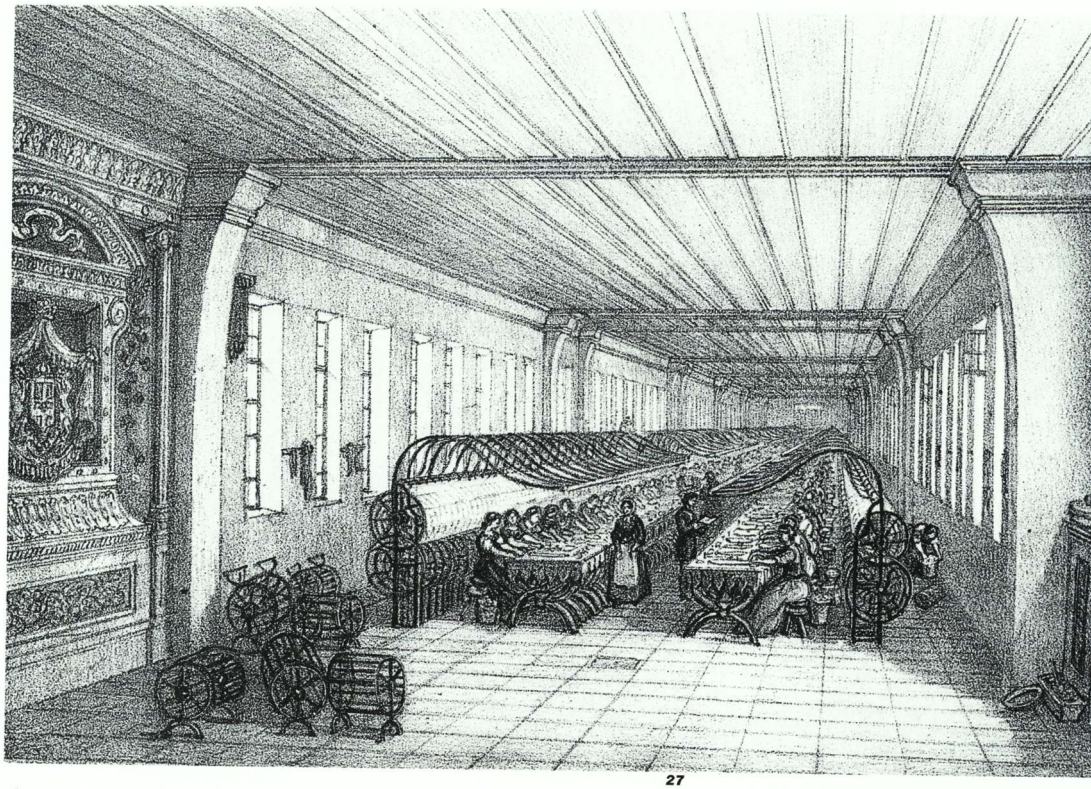
83. The section of the national emblem depicted in the view of the interior of the hall with filatories (fig 27) has no relation to the company sign.

84. Intzerilla was working in the north wing of the silkmill at the time that the west one was converted into a hospital for cholera patients. The painter sued A. Durutti as director of the company for delay in paying his fee. He asked to be awarded 400 drs as wages plus 12% for the interest and a further 50 drs for the cost of buying paints and two paint brushes, Chr. Zioulas Collection 'Action before the Court of the First Instance as Commercial Court, brought by Antonios Intzerilla, painter, against Athanasios Durutti, Director of the Société Séricicole in Athens, Athens 20 January 1855'.

85. This exclusive privilege had been granted by RD 6/18 January 1836 and was signed by the Minister of the Interior, Drosos Mansolas.

86. A. Durutti had repeatedly approached the government regarding measures to be taken about the development of silk-spinning, see Αθανάσιος Δουρούτης, *Καθ'ην στιγμήν πρόκειται να συζητηθή το τελωνειακόν δασμολόγιον* [A. Durutti, Any moment the tariff of customs dues is going to be discussed], Athens [1856].

87. GSA, Vlachoyannis Archive, Δ 118, 'Industry', copy of newspaper *Ελπίς*, 29 September 1856.



27

27. Interior of the large reeling room. The ceiling is upheld by internal buttresses. On the wall left the national emblem of Greece. (Μ. Παπαδόπουλος-Βρετός, *Εθνικό Ημερολόγιο 1864*, 73).

the premises and founders of the company to ask Your Majesty's Royal assent to placing the Société Séricicole under Your Majesty's special patronage. Laying at Thy feet, as director of the Société Séricicole, this fervent request of my partners and myself, I am convinced that our benign King will not refuse this greatest guarantee of success for this industrial firm, which will provide a livelihood for some 300 poor families in the capital. I sign with the deepest respect for Your Majesty, your most loyal subject A.G. Durutti, Athens, 11 January 1855'.[88] A. Durutti also asked the Ministries of the Interior and Finance to support the silkmill enterprise and proposed measures that would contribute to the development of the Société Séricicole. These were basically to increase the export duty on cocoons, to allow free import of cocoons from abroad, to exempt from tax the export of silk processed in the European manner and to abolish or decrease the duty on silk noils. Implementation of these measures constituted a necessary precondition for the 'newly-founded' Athens silkmill to be able to compete with European

88. GSA, Otto Archive, Ministry of the Interior, file 252.

counterparts.[89] In September 1856 the government agreed to some of the proposed measures, specifically tax-exemption 'on the export of silk processed in the European manner' and tax-exmption on 'cocoons imported from abroad'.[90]

1855-1856, first period of operation of the silkmill

The silkmill began operating early in 1855. It had cost 980,000 drs to equip and was the first steam-powered factory in Greece, without rival 'in western Europe in size of the machines'.[91] The event was enthusiastically received by the press of the day, which underlined the social role of this large workplace, given that it was a source of livelihood for over three hundred poor families. A brief history of the silkmill was published in the journal *New Pandora*, where the writer observes that this is undoubtedly an industry that should flourish in Greece and applauds 'the purchase of the silkmill by the Société of Ath. G. Durutti and Co.', because this meant that Greece was not deprived of a 'public-benefit industrial firm' of this kind.[92] The writer of an article about the silkmill in the newspaper *Athena* observes that the firm could plant mulberry trees in various estates in Attic and 'have in the garden alongside the factory a nursery from which to supply with saplings volunteers to grow this profitable tree'.[93]

The overwhelming majority of the staff were young women, whom a French specialist and five French female reelers were engaged to train. During the first nine months of the factory's operation over 30 girls had been taught the art of throwing and reeling silk. This number soon reached 140.[94] The girls sang while they worked. The factory was open every day except Sunday. However, the girls' presence attracted undesirable males, 'wise-guys, spivs, trouble-makers... and soldiers from the adjacent garrison', who began pestering them from the windows onto Kerameikou street. The men's behaviour was frequently unruly, for which reason the management of the silkmill asked the Police Department's permission to close off Kerameikou street with two large, double iron gates, one at each end.[95] A previous request to close Kerameikou street had been submitted in October 1854, in order to isolate the factory from neighbours and passers-by. The Minister of the Interior at that time, Rigas Palamidis, notified the director of the Administrative Police of Athens and Piraeus, of 'the temporary closure of the street along the entire length of the premises in order to reinforce the silkmill there', provided that 'it does not cause the neighbours and other inhabitants difficulty in communication'. At the same time, the management of the silkmill undertook to repair the street at the back of the factory, which 'leads to the countryside of the city'.[96] However, the blocking off of Kerameikou street met with the vociferous protest of those living thereabouts. In the end the street was returned to public use, on the order of the Minister of the

89. Ath. G. Durutti, op. cit., 2. There were of course comments to the effect that Durutti opposed the export of cocoons because in that way he could buy them from the producers at rock-bottom price, GSA, Vlachoyannis Archive, Δ 118, 'Industry', copy of newspaper *Ο Φιλόπατρις*, 6 October 1856.

90. Ath. G. Durutti, op. cit., 'To the Ministerial Council, Athens 24 September 1856'.

91. Ath. G. Durutti,, op. cit., 5 Albert Gaudry, *Recherches scientifiques en Orient entreprises par ordre du Gouvernement pendant les années 1853-1854*, Paris 1855 and Marinos P. Vretos, *Εθνικόν Ημερολόγιον* 1864, 73-74.

92. *Νέα Πανδώρα*, year V, iss. 116/15 January 1855.

93. *Αθηνά*, year XXIV, file 2211/19 January 1855.

94. Ath. G. Durutti, op. cit., 'To the Ministerial Council, Athens 15.11.1855'. This number includes a young girl and three men. The men's wage was 2.50-3.0 drs and the women's 0.50-1.70 drs. Children received no wage. All the females were illiterate except two, while only one of the male labourers was illiterate. These data are taken from a statement on the 'industrial premises of Ath. G. Durutti', Chr. Zioulas Collection.

95. Chr. Zioulas Collection, handwritten notes of Ioannis Durutti 1890-1895 concerning the history of the silkmill.

96. Chr. Zioulas Collection, document of the Ministry of the Interior no. 20958, 22 October 1854.

Interior, in July 1858.[97] The management of the silkmill had also asked the Ministry of the Armed Forces to appoint two guards. The relevant order, dated 19 October 1855, signed by Minister L. Smolentz, states that: 'Two men will be appointed from the detachment of the company of Veterans here, the most suitable to be guards of the Silkmill at the site of Aghia Triada'.[98] After the 'opening' of Kerameikou street, the management was forced to hire two other guards, originating from the Mani. Under the threat of rifle, no-one was allowed to approach the windows of the silkmill where the girls were working. If someone managed to slip through as far as the windows, then the female overseer had *carte blanche* from the management to pour boiling water from the factory's cauldrons over the offender.[99]

During its first year of operation the factory had satisfactory results. The value of its products was 800,000 drs, while the outlay for purchasing raw materials was 760,000 drs.[100] At the extraordinary general meeting of the shareholders of the Société Séricicole, on 24 January 1855, it was decided unanimously to expand the company's activities by building 'next to the premises of the silkmill an oil press and a flour mill, copying European factories of this type', as well as 'to charge the director with seeing to the purchase of the plot alongside the factory, with constructing the necessary building, ordering the machines and completely equipping the oil press and flour mill'. The total cost of putting up the buildings and buying the European machinery was estimated at 30,000 drs.[101]

In less than a month after this shareholders' meeting the company's director, A. Durutti, bought from Mitros Argyris or Balkapas 'farmer and land-owner' a plot of 1000 square tectonic cubits, which bordered west with the premises of the silkmill, for 1,517 drs.[102] He then purchased a second neighbouring plot, that contained 'a house, a pigsty and a well', belonging to the palace chef, Konstantinos Boras, and bordering west with the silkmill. Its area was about 8.5 stremmas and the selling price 6,000 drs (fig. 14). Boras had bought this plot on 17 August 1840 from the then Ambasador of Austria Anton Prokesch von Osten.[103] With these two purchases the property of the Société Séricicole was extended to the east of the silkmill. In the following year A. Durutti bought other neighbouring plots. He authorized the land-owner A. Papadakis to buy from the farmer Pavlos Selinis and his wife Stamata ('of no profession') a plot 304 square tect. cubits in area, 'bordering eastwards with the field of Christos Siegel, westwards with the factory of the Société Séricicole, for 515 drs'.[104] Three months later the same agent bought the plot of the gardener Charalambos Dretakis and his wife Chrysoula ('of no profession'), an area of 3,610 square tect. cubits 'bordering westwards with the Siegel field and the area of the silkmill and northwards with that silkmill', for the sum of 5,491 drs.[105] A. Durutti's assignee then bought the plot belonging to Captain Abraham Baxevanoglou, of the 'IInd Convoy', which was 362 square tect. cubits in area, 'bordering northwards with a street and on

97. Chr. Zioulas Collection, document of the Ministry of the Interior no. 13774, 8 July 1858, document of a 'Constable of sector III of the city of Athens', no. 2229, 18 July 1858.

98. Chr. Zioulas Collection, document of the Ministry of Military Affairs, no. 25762, 19 October 1855.

99 Chr. Zioulas Collection, handwritten notes of Ioannis A. Durutti, op. cit.

100. Chr. Zioulas Collection, 'Industrial premises', op.cit.

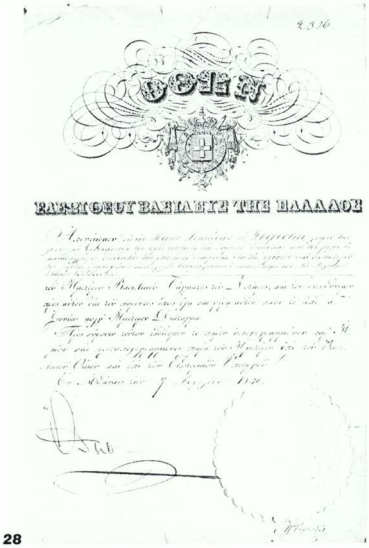
101. Minutes of the Meetings of the Société Séricicole de la Grèce (photocopy from the miscellaneous papers of M. Iatros, kindly shown to me by K. Spiliotakis).

102. G. Kalatzakos Archive, contract no. 848 of 18 July 1855, solicitor Panayotis Poulos.

103. G. Kalatzakos Archive, contract no. 1226 of 10 September 1855, solicitor Panayotis Poulos.

104. G. Kalatzakos Archive, contract no. 874 of 23 July 1856, solicitor Panayotis Poulos.

105. G. Kalatzakos Archive, contract no. 1372 of 26 October 1856, solicitor Panayotis Poulos.



28

28. Diploma granting a silver award to Athanasios G. Durutti. 'In Athens on 7 April 1856, Otto'. 32.5 x 20.5 cm. (Chr. Zioulas Collection).

the remaining three sides with the premises of the silkmill', for the sum of 688 drs.[106] Between 1855 and 1856, with the aforementioned purchases of neighbouring plots, the Société Séricicole greatly extended the boundaries of the silkmill premises. All these plots were within the city plan.

In parallel with silk-reeling, the Société was trying to augment its activities by importing machines from France, through Roeck, who also undertook to install them. Characteristic is the notification of the palace: 'To the Management of the Société Séricicole. For the installation of the great pump in the palace garden, that Mr Roeck had sent from France, please send according to Mr Roeck's wishes tomorrow at 9 a.m. my engineer Mr des Georges to the Chamberlain's office, Athens 26 June 1856, per pro the Chamberlain, Secretary Schiffer'.[107]

Athanasios Durutti's contribution to the setting up of the Société Séricicole and his efforts to diversify activities on the industrial premises were acknowledged by the state, with the awarding to him of the Silver Cross of the Royal Order of the Saviour. This honour was conferred on 7 April 1856 (fig. 29).[108] A few months later, on 10 December, A. Durutti was declared honorary vice-president of the Universal Society of London (fig. 28).

However, during this same period serious problems had arisen in the running of the factory. The shareholders decided to inform the king himself of the impasse into which the filature had been led and of their decision to suspend its operation. On 21 February/5 March 1857, on behalf of all the shareholders, L. Roeck asked Queen Amalia to intermediate with Otto, when he returned from a trip to Bavaria, so that a swift and favourable solution be given to the situation. The letter mentions that during the first year of operation of 'the Royal Silkmill at Athens' the value of its output was some 260,000 francs and that '300 young female reelers had been trained'. In the following year, 1856, the letter continues, 'the value of the output of silk was at least 750,000 francs and more than 250 young persons were employed daily'. The reeling in the silkmill itself was an act 'more of patriotism and less of profit' for the Société, which in no way wanted 'to imitate the merchants who were selling cocoons to France'. The government's negligence in 'regulating this serious situation' would lead the Société Séricicole to the painful decision to suspend operation of the factory and to engage in trade, which was profitable. If the firm were involved only with trade it would make a profit, but at the same time it would take the bread out of the mouths of 300 poor Athenian families that lived from this factory.[109] The issue of the export duty on cocoons continued to exist even after Greece returned to political normality, after the end of the Crimean War and the withdrawal of the British and French occupation forces in February 1857. In parallel various problems cropped up in running the factory.

Despite the financial difficulties the shareholders decided to expand the business by founding a steam-powered flour mill and a steam-powered oil

106. G. Kalatzakos Archive, contract no. 1526 of 26 November 1856, solicitor Panayotis Poulos.

107. Chr. Zioulas Collection, document of the High Chamberlain's Office no. 513 of 26 June 1856.

108. Chr. Zioulas Collection, relevant document no. 2336 of 7 April 1856.

109. GSA, Otto Collection, Ministry of the Interior, file 252, document (no number) 21 February/5 March 1857, in French.

press, in accordance with the previously mentioned decision taken at the general meeting in the first year of the silkmill's life. So in the interval of five years from the opening of the factory on the original premises, as they have been described on the basis of the 1854 auction report, a flour mill, an oil press, a forge and a carpenter's shop were added. The firm's offices were in the upper storey of the north wing, above the factory warehouses, and the overseers' houses were in the east wing. 'Privies' had also been built, for men near the flour mill and for women near the steam boilers.[110]

Of fundamental importance for running the steam-powered factory was securing adequate water reserves. Roeck, as an engineer, had assured the company 'that there will be the sufficient quantity of water, the necessary steam and power for the machines'.[111] In the first year the factory covered its water requirements from a well about 12.40 m deep. Its capacity was not large and in times of drought there could be problems in supplying the machines. Moreover, because of the increased needs, as a result of the founding of new enterprises in parallel with the silkmill, it was judged essential to take certain measures to ensure sufficient water. The first task was to deepen 'by one and a half metres and a volume of 3.50 m' the well that had existed since 1855 in the garden south of the complex, which although 12.40 m deep had a small capacity. This was a difficult job because the ground was rocky. The whole outlay, including the installation of lead pipes and lowering the pumps to a greater depth, was 411 drs. This measure was not as effective as expected and the problem of water shortage continued to be felt during the summer months. The company then decided to carry out a series of works that would have better results and proceeded to sink three new wells. So a second well 'one m deep and about 9 m in volume' was sunk in the same garden. Its cost, together with the construction of a 69.20 m-long conduit to carry the water to the first well, was 2,748.62 drs. A third well was sunk in the basement of the stable and together with the 63.95 m-long conduit cost 3,894.20 drs. The fourth was sunk in the north garden of the factory, behind the stables and together with the 19 m-long conduit cost 2,333.45 drs. The fifth well was sunk east of the factory, to a depth of 12.80 m, and was coated with hydraulic plaster of Theran pozzuolana. Water was transferred to the large reservoir, where it was collected from all the wells to be channelled into the factory along built conduits and lead pipes. The cost of this last well was 5,104.34 drs. In all, 14,503 drs were spent on the five wells, thus securing the 17.5 cubic metres of water needed to run the factory.[112]

The excellent quality of the commodities produced by the enterprises of the Société Séricicole, and primarily of the silk, earned the company prizes and medals at exhibitions in Greece and elsewhere. Athanasios Durutti, director of the silkmill, was acknowledged at home and abroad as a pre-eminent figure in the sphere of silkworking. The many awards received by the Société Séricicole essentially honour the activities of its director. In 1855, at

29

29. Diploma conferring the title of honorary vice-president of the Universal Society on Athanasios G. Durutti, London 10 December 1856. 58 x 48 cm. (Chr. Zioulas Collection).

110. Chr. Zioulas Collection, Evaluation report of the National Bank on 9 April 1860, in which the dimensions of the areas and the assessment of their value are given.

111. Chr. Zioulas Collection, contract no. 2181 of 23 July 1854, op. cit.

112. Chr. Zioulas Collection, copy of analytical survey report 'For evaluating the works being carried out by the Société Séricicole for increasing the water [supply]', 29 March 1860 and 'Survey report' of 28 February 1864.

30

30. Silver medal from the Paris World Fair, 1855, with the bust of the French Emperor Napoleon III. Engraver Albert Barre, diam. 6 cm. (Chr. Zioulas Collection).

31

31. The box and the reverse of the medal in fig. 30, with the imperial coat of arms and the national emblems of the participant states in the Fair (Chr. Zioulas Collection).

32

32. Silver medal from the Olympia Exhibition in Athens, with the bust of King George I, 1870. Engraver Barre, diam. 4 cm. (Chr. Zioulas Collection).

33

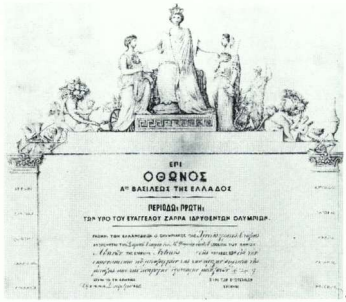
33. The box and the reverse of the medal in fig. 32. 'Agonothetes Evangelos Zappas Olympia at Athens ΑΠΟ' Ist class'.

the World Exhibition of Agriculture, Industry and Fine Arts, held in Paris, the Société Séricicole was awarded a silver medal (figs 30, 31). In the exhibition of products at Olympia in 1859, A. Durutti received two gold medals *('νομισματική')*, one for the 'steam-powered flour mill' and the other 'for the great importance of the silkmill of the Société Séricicole in [producing] excellent silk'.[113] In September 1860, again at the Olympia exhibition, 'a gold crane Ist class is awarded to the Société Séricicole under Ath. Durutti director' (fig. 34), and at the same exhibition in 1870 A. Durutti received a silver medal (figs 32, 33). On 19 February that year King George I had awarded A. Durutti the 'Gold Cross of the Knights of the Royal Order of the Saviour' (fig. 35). This decoration had also been awarded to Constantine Durutti, on 25 May 1865, 'for importing the first filatory to Greece and so backing the progress of Greek industry' (fig. 36). Athanasios Durutti was also an authority on matters pertaining to silk. For this reason the President of the Central Committee of Greece for the World Exhibition in London in 1862, asked A. Durutti and I. Tsatsos to inspect the quality of the 'manufactured silk, cotton and woollen textiles' before these were sent to the stands in London.[114] A. Durutti had also been elected a member of the Committee 'of experts', convened by the Greek Ministry of the Interior to study Georgios Kassonakos's 'discovery concerning the cure of the disease of the silkworms [pébrine]'.[115]

However the distinctions awarded to A. Durutti and to the Société Séricicole for the excellence of its products did not relieve the firm's financial difficulties. Early in 1860 A. Durutti applied to the National Bank of Greece for a loan of 250,000 drs, charging as security the silkmill and the surrounding properties. A detailed report was prepared, signed by the valuers Metaxas, E. Manitakis and Th. Aravantinos, according to which 'the plot on which the silkmill stands with the annexes and orchard on it' covered an area of 13,157.28 square metres or 23,368.50 square tect. cubits. The 'plot of the garden to the south of this premises covers an area of 9,435 square metres or 16,773 square tect. cubits'. The overall area was 40,141.50 square tect. cubits and the total value, calculated at 3 drs a cubit, 120,425.50 drs. To this sum was added the value of the buildings and the machines, giving a sum of 611,628 drs which represented the estimate in drachmas for the mortgaged property.[116] The National Bank of Greece approved the loan at an annual interest rate of 8%, payable every six months. In accordance with article 105 of the Bank's rules and regulations, it had the right to request 'in any case and at any time' repayment of the loan within three months from the day the creditors were notified. The Société Séricicole also committed itself 'to protecting the factory and its machines against fire'. Constantine G. Durutti, Athanasios's brother, was appointed guarantor 'until the final repayment of the capital and the interest'.[117] The Bank had initially proposed Michael Iatros, Athanasios Durutti's father-in-law, as guarantor.[118]

Report on the premises for auction

On 1 January 1865 the decade since the founding of the 'Société Séricicole de la Grèce "A.G. Durutti et Cie"' expired, and according to its statutes the company was dissolved *ipse jure*.[119] A. Durutti and I. Tsatsos assumed responsibility for clearance. The assets of the liquidated company were insufficient to settle the debt with Constantine G. Durutti, a sum of 215,000 drs plus 61,000 drs interest, calculated from 31 December 1864. The case was taken to 'the Court of the First Instance as Commercial Court at Athens', which in decision no. 516, of 12 June 1865, proceeded to the compulsory confiscation of the silkmill premises with all its out-buildings and the orchard, pending their sale by auction. This was scheduled for 19 September 1865, a Sunday –the normal day for auctions–, in Aghiou Panteleemon square. Constantine Durutti fixed the starting price as '280,000 drs for the silkmill and 40,000 drs for the orchard'. In the description of the property there is a deviation in the orientation and once again, because the accompanying plans are missing, it is not possible to determine the various places exactly. Characteristic of this report is that the working of the steam-powered factory is explained in detail. Comparison of the description of the property in the 1865 report with the earlier auction report of 1854 yields interesting evidence on what the complex looked like after its first decade of use, evidence which is referred to below. The main entrance in the north wing, 'wide, double and painted', led to the 'forecourt of the factory'. Inside the forecourt was a clock, on top of a stone-built column 4 m high, and next to it a chronometer. There was also a 4 metre high water-tank that collected water from the three wide, deep wells in the courtyard. There were seven iron furnaces of European construction, that fired the boilers, generating steam which was conveyed along copper pipes to the mill. Each furnace had a corresponding chimney stack, one built entirely of 'stones, bricks and lime', the other two built only half way up, with an iron flue for the rest of the height. The steam-powered flour mill was on the northeast side of the courtyard and a detailed description is given of its working. At the back of it was the forge and on this same side, which comprised six different buildings, were the steam-powered oil press and a silo for wheat and flour above. Other storage areas for wheat, flour and olives are mentioned. In the 'attic' section of this same side there were three houses for factory employees. The above buildings covered an area of 921 square metres and had a tiled roof. No alterations had been made to the north and west wings. The plot on the south side of the factory had been transformed ito a lovely orchard with a circular dovecote 5 m high. In the other orchard, the large one below Kerameikou street, two water-tanks had been constructed, one to collect 'the dirty water from the silkmill along an underground gutter', which was used for watering the orchard, and the other to collect drinking water from the two wells in the orchard.



34

35

34. Diploma granting a gold award to the 'Société Séricicole'. 'In Athens on 20 September 1860' the Interior Minister Lykourgos Krestenitis'. 41 x 46 cm. (Chr. Zioulas Collection).

35. Diploma granting a gold award to Athanasios G. Durutti. 'In Athens 19 February 1870. George'. 29 x 38 cm. (Chr. Zioulas Collection).

113. Chr. Zioulas Collection, two documents from the Ministry of the Interior to A. Durutti, signed by Minister Rigas Palamidis, 27 and 28 November 1859.

114. Chr. Zioulas Collection, document 'of the Royal Commission for the World Exhibition', no. 282 of 3 January 1862.

115. Chr. Zioulas Collection, document of the Ministry of the Interior and Finance, prot. no. 14490-16218 of 13 August 1862.

116. Chr. Zioulas Collection, 'Valuation report for the factory, the plot and the plant of the Société Séricicole at Athens', Athens 9 April 1860.

117. Chr. Zioulas Collection, contract no. 1332 of 19 July 1860, of the solicitor Panayotis Poulos.

118. Chr. Zioulas Collection, document from A. Durutti to the 'Managment of the National Bank of Greece', 11 July 1860.

119. The following data concerning the compulsory confiscation and auction are drawn from the Notification of auction of the property, 3 August 1865.

36

36. Diploma granting a gold award to Constantine Durutti. 'In Athens 25 May 1865. George'. 29 x 38 cm. (Chr. Zioulas Collection).

In the end the auction was never held and the silkmill with its annexes and the two orchards came into the possession of the two brothers Constantine and Athanasios Durutti.

1865-1875, second period of operation of the silkmill

As the property of the Durutti brothers, the silkmill entered a new phase in its operation, with A. Durutti as director once again. In 1866 a further business was established on the factory premises, the bakery, with two ovens for 'making bread and pastries'. In a copy of an insurance policy of 1869, all the sectors of the industrial complex are mentioned, including those used 'as residence of the director, of his family and of some employees, one of them with his family'. A stable, a carriage shed and a carriage-driver's house are also noted. The whole complex had been insured for 5,000,000 drs with a company unknown to us and with four others, to which the following premiums had been paid: Phoenix 100,000 drs, General Assurances 60,000 drs, Riunione Adriatica di Sicura di Trieste 70,000 drs and Anchor 30,000 drs.[120] In February 1870, A. Durutti was decorated with the Gold Cross of the Knights of the Royal Order of the Saviour (fig. 35), in recognition of his work in developing and promoting the silkmill.

The days of the factory were numbered, however. Events such as the outbreak of pébrine in 1859, with its adverse effects on silk production, as well as the more general crisis in the sector of filature, began to take their toll on the silkmill's finances.[121] In 1873 A. Durutti 'thinking that for the good of the company or continuing along until when' decided to found a company with starting capital of one million two hundred thousand drachmas. Concurrently he submitted a request to the Ministerial Council concerning public participation in the company. At the cabinet meeting presided over by A. Koumoundouros, a decision was taken on state participation in the said company, with shares worth 100,000 drs, on condition that this decision was approved by parliament.[122] Evidently the decision was not approved by parliament because it was never implemented. All A. Durutti's efforts to find money failed. The financial crisis began to have a serious effect on the running of the complex and in February 1874 the factory stopped working. During that year the forge only operated to cover limited needs and the oil press only for those who brought their own olives. The bakery had closed too.[123] In these circumstances it was impossible for the first steam-powered factory in Athens to continue operating much longer. In 1875 it was finally shut down, after twenty years, albeit checkered, of important contribution in the sphere of silk-reeling.

The debt to the National Bank of Greece had not been paid off; on the contrary it was growing continually because A. Durutti had stopped paying the interest. On 9 October 1875 the bank's director sent notification that the

120. The description refers in latin characters to some unknown plan, Chr. Zioulas Collection, copy of insurance policy 1869.

121. Christine Agriantoni, Le sort de la soie en Grece au XIX s., *Cultural and Commercial Exchanges Between the Orient and the Greek World*, Athens 1990, 37-54.

122. Chr. Zioulas Collection, Decision of the Session of the Ministerial Council, no. 178 of 21 April 1876.

123. Chr. Zioulas Collection, 'Industrial premises', op. cit.

bank would henceforth cover the interest from the rents of the mortgaged properties and that A. Durutti must proceed to sell the mortgaged plots of land in order to settle the debts.[124] On 26 February 1876 A. Durutti made a final effort 'to revive' the silkmill, the steam-mill and the oil press, by proposing to the National Bank that it contribute to the founding of a company expressly to get the factory operating again. The capital of the company had been fixed at 800,000 drs, of which 500,000 drs would be a motgage loan and 300,000 working capital. Constantine Zappas and Baron Emile Erlanger had both shown interest in this venture,[125] but it was doomed to failure. On 28 January 1881 the National Bank put up for auction the mortgaged premises of the silkmill and the smaller of the two orchards. A. Durutti managed to get the auction postponed, in the hope that a compromise settlement could be reached with his creditors.[126] However, he was unable to meet his financial obligations and the auction took place on 1 April 1884. His son, Georgios Durutti, secretary of the Lavrion Mining Company, made the highest bid of 176,100 drs. He paid the National Bank 54,100 drs in cash and held the remaining sum of 122,000 drs as a loan at an annual interest rate of 8%.[127]

37

37. Diploma granting a gold award to Athansios G. Durutti, Vienna 30 October 1873. 34 x 22 cm. (Chr. Zioulas Collection).

1875-1890, the former premises of the silkmill

The new owner Georgios Durutti was clearly interested in putting these large premises to some other use. The fact that he insured all the buildings and put the moveable properties into store was characteristic of his intentions. In an insurance policy of 1884, [128] the premises are described with their former use and stored material, such as furnituure and machinery, is mentioned. The value of all the buildings is estimated at 180,000 drs. It is also notes that streets had been laid out in the area and that the 'building standing next to the fire-service barracks' borders with the plots of various owners until the 6 metre-wide street foreseen in the city plan is opened. The opening of this street 'will destroy the laundry and an oven for household use' on the east side of the complex, and these 'will be replaced elsewhere' (fig. 38).

One year later G. Durutti proposed to the government that the Audit Office be housed in the premises of the former silkmill, since the building met all the necessary preconditions. It was sturdily built, well ventilated, close to the horse-drawn tram station, with abundant drinking water and a large-capacity water-tank, useful in the event of fire.[129] In the late 1880s Germanikou street was laid, splitting the silkmill in two, at the point where the façade of the west wing was modelled with four pillars surmounted by a pediment (fig. 15). The equivalent formation in the same wing should be sought today at that point where the openings of the windows of the façade are very close together. This partitioning of the west wing was followed by its conversion into two-storey houses with balcony on the first floor. This is the form of the one-time silkmill today. In the north wing onto Megalou

124. Chr. Zioulas Collection, document from the National Bank of Greece to Mr A. Durutti, no. 731 of 9 October 1875.

125. Chr. Zioulas Collection, letter from A. Durutti to the National Bank of Greece, 26 February 1876.

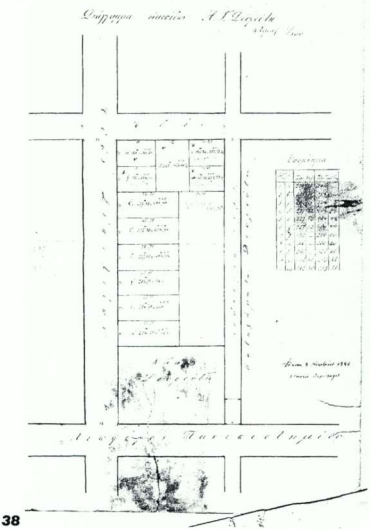
126. Chr. Zioulas Collection, letter from A. Durutti to the Management of the National Bank, 10 June 1881.

127. Chr. Zioulas Collection, contract no. 29303 of 16 April 1884, of the solicitors Ilias D. Tsokas and Georgios Gryparis.

128. Chr. Zioulas Collection, insurance policy of Assicurazioni generali in Trieste, with the description of the factory formerly of A.G. Durutti.

129. Chr. Zioulas Archive, to the president of the Ministerial Council and of Finances, Athens 19 July 1886.

Alexandrou (former Panepistimiou) street, the lower section preserves the earlier form of the original building. The whole complex now belongs to the Municipality of Athens, the technical services of which are studying the premises and making measured drawings. In general outline the building has kept the original plan of the L-shaped shopping centre of 1833, designed by the architect Christian Hansen.



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39

38. Plan of the A. G. Durutti plots with the new street layout. 'Athens 1883. A summary exists'. 27.5 x 39.5 cm. (Georgios Kalatzakos Archive).

39. Small relief plaque with representation of ancient Greek inspiration. It was attached to the door of the factory office. Bronze. 5 x 12 cm. (Chr. Zioulas Collection).

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'SOCIÉTÉ SÉRICICOLE DE LA GRÈCE': ADAPTATION AND ASSIMILATION OF A LARGE INDUSTRIAL FIRM

If the uniqueness of the components of the history of each individual enterprise makes it difficult to standardize and incorporate them in paradigms of universal value, the history of the Athens silkmill is an especially atypical case which, at first glance, offers very little for detecting the norms of Greek industrialization. This early firm represents a sizeable investment by Greek and foreign capital, made in the form of a limited joint-stock company, in the capital city of the realm and oriented towards exports: all these are elements that differentiate it considerably from the typical Greek industrial unit in the nineteenth century, that is the small, personal-family firm or simple partnership business, set up in the main ports and mainly developed in response to the demands of the home market.

Nevertheless the Société Séricicole can contribute to our understanding of the forms taken by industrialization in Greece: the atypicality of the original, somewhat 'static' form is counterbalanced by the dynamic of its adaptation, that enhances the receptive conditions, the structural traits of the milieu, which have a generalizing value. If the Athens silkmill did not constitute the representative precursory specimen of Greek industry in its original form, it was in time transformed, gradually taking on those characteristics that dominated the morphology of the typical Greek firm. The dynamic of its development is the result of tensions emanating from diverse internal and external factors in relation to the business, and maps the field in which the unique, the individual is answered by the general and the social. The firm's relations with the markets, the way it accumulates its capital, the business behaviour its management unfetters, its import and assimilation of industrial techniques, its installation in the urban web, are all issues to be studied. For even though they do not appear here in typical form, they nevertheless delimit the field of potential options this attempt to establish an industrial firm encountered in Greece.

The beginnings

The founding of the silkmill at Athens was the outcome of wider tendencies that appeared in silkworking at an international level and which led Western European businesses close to those lands where their raw material was produced. From the 1830s, British, French and Italian entrepreneurs had begun to found silk-reeling factories in Bursa and Smyrna,

1. The bronze seal of the 'Société Séricicole' (in French). 2 x 4 cm. (Chr. Zioulas Collection).

in Salonika, Cyprus and the Lebanon.[1] The reasons for these moves have been analysed repeatedly elsewhere and do not concern us here. What is important is that the enterprise is the result of initiatives and prospects that went beyond the boundaries of Greek economic space and from the outset the silkmill was included in the international network of transactions and economic relations, thus bearing witness to the early incorporation of the Greek economy in the world economy.

The relevant initiative was taken by 'Augustus Wrampe & Co.' of London, a firm about which very little is known. In 1852 the Wrampe company purchased the half-finished shopping centre of G. Cantacuzenos and turned it into a silkmill.[2] On 4 January 1853 Augustus Wrampe signed, in the presence of the Athenian solicitor D.K. Soutzos, the statutes of a new joint-stock company ('*en commandite*') to be known as the 'Greek Silk Company "August Wrampe & Co.".[3] It had 500,000 francs (or 20,000 pounds sterling) nominal capital in 500 one-thousand franc (40 pounds sterling) shares, a ten-year duration and headquarters in Athens. 'A. Wrampe & Co.' kept the direction-management of this new company and one-fifth of the capital, that is 100 shares. Albrecht Witte was appointed its agent in Athens and managing director of the silkmill. The managing company would hold on its behalf half the net profits, while the other half would be shared as dividend to the shareholders. The net profit, however, was reckoned after subtracting from the gross profit 5% of the value of the shares that would be paid annually to the shareholders. This detail is of some significance because, as we shall see, no distinction was made between interest and dividend in the statutes of the Greek Société Séricicole.

According to its statutes, Wrampe & Co. transferred to the new company 'all the field, the buildings of the plant in Athens together with the steam-engines and the other materials and tools' (article 12), which statement indicates that the conversion of the premises into a silkmill had begun with the signing of the contract, but had perhaps not been completed. The whole was valued at 225,000 francs, that is 225 1,000-drachma shares, of which 'Wrampe & Co.' were entitled to make 125 available to third parties. In other words, 'Wrampe & Co.' intended to accumulate 400,000 francs from the issue and transfer of shares.

It is extremely doubtful whether these statutes were implemented and whether the 'Greek Silk Company' ever acquired flesh and bones, because in all subsequent documents 'A. Wrampe & Co.' is cited as owner of the silkmill, with headquarters in London. Indeed, perhaps the inability of Wrampe & Co. to dispose of its shares was the basic cause of its insolvency. It is not possible here to specify the reasons for this inability. It may be assumed that in a period when the boom of the British economy had just begun, with the discovery of gold in California and Australia, the burgeoning of mining exports and of railway enterprises, there would have been no special interest

1. A. Gaudry, *Recherches scientifiques en Orient*, Imprimérie Impériale, Paris 1855.

2. See here Aristea Papanicolaou-Christensen, The Athens Silkmill.

3. *Statutes of the Joint Stock Company 'en commandite' formed for the object of promoting the production of silk in Greece...*, Charles Skipper and East, St. Dunstan's Hill, n.d. The statutes are dated 4 January 1853 (Athens).

in a business that was traditional by British standards. Moreover, the subsequent transfer of the Silk Company from British to French interests perhaps bespeaks precisely the relative 'backwardness' of the French economy.

Whatever the case, some preliminary works must have commenced in the Athens silkmill when, in June 1853, Witte informed the well-known merchant and rentier in Piraeus, Nikolaos Meletopoulos 'to stop supplying cocoons' and ceased payments to him.[4] From then on the person who stepped in as protagonist in the firm's developments was the French industrialist and engineer Louis Roeck, who must have been Wrampe's number one creditor: his company ('Louis Roeck & Cie.') in Lyons had supplied the equipment for the silkmill and he had personally supervised its installation. Roeck resorted to the Greek courts and secured a first ruling in September 1853, from which it emerges that Wrampe owed him a total of 49,572 francs (without interest), perhaps the cost of the machinery.[5] This was followed on 22 September by the compulsory confiscation of the premises, that was announced to another twelve creditors, while at the beginning of October the first 'notification' of auction was posted.[6] In the meantime, after what seems to have been an independent court case brought by Meletopoulos in early November, for debts incurred by Witte to the sum of 10,000 drachmas, the Wrampe company was declared bankrupt.

The auction eventually took place nine months later, on 11 July 1854. In the interim period Louis Roeck must have taken moves to ensure the succession. Whether he already knew the Durutti brothers, either from Constantine's previous silkmill or from Athanasios's short sojourn in France, is not known. However, it would not have been difficult to approach the family that had introduced the most modern silk-reeling mill in Greece. Two of the people with whom he must have come into contact, Otto Gropius and Loukas Rallis, had close connections with silkworking.[7] The Athenian solicitor Demetrios K. Soutzos, who also became a shareholder in the Greek Société Séricicole, must have played some role in facilitating Roeck's contacts, as did the lawyers Michael Potlis, who was appointed treasurer of the Wrampe bankruptcy, and George Vellios, who frequently appeared as Roeck's representative and interpreter, since his client evidently knew very little Greek.[8]

The succession was ready in July 1854, when the silkmill was auctioned. The value of the premises (plot 9,421 square cubits, buildings and machines) had been assessed at 250,000 drachmas by the mayoral adjunct S. Georgoulis, and the value of the adjacent orchard at 3,000 drachmas, while the starting bids were fixed at 50,000 and 1,000 drachmas respectively. Apart from Roeck, the only other bidders were Nikolaos Pillikas and Themistocles Karadimas, who were interested in the orchard, whereas there was only one counter-bid (80,000 drachmas) for the silkmill, from the lawyer Leonidas Goutas.[9] In the

4. Excerpt from the announcement of the 'Wrampe' bankruptcy, in the newspaper *Αιών*, 9.1.1854.

5. All this information and that which follows is from the notarial act no. 2132/11.7.1854, of D.K. Soutzos, solicitor at Athens: 'Auction report for the silk-reeling mill and the garden opposite' (Athens Records Office of the Association of Notaries), henceforth: Auction report 1854. The decision of the Court of the First Instance (no. 427) is dated 7 and 9 September 1853. I am very grateful to Mr Georgios Konstas for his considerable assistance during my research in the Records Office.

6. The notice was published in the newspaper *Αθήνα*, 2.10.1853. The mortgage creditors are mentioned by name in the Auction report 1854, but it is not clear whether these concern mortgages on the property from before or creditors of 'Wrampe & Co.'. The names given are: Ioannis Bucherer, Georgios Pla[ka], Heinrich Scheiberling, Pavlos Skouloudis, Antonios Michalinoudis, Loukas Rallis, Iakovos Sarochvis, Odysseas Saltsas, Edward Reinigge, Nikitas Lambrynidis, Georgios Katopis and 'Fredholm in Marseilles'. Apart from the last, the others are mentioned as resident in Athens. Scheiberling and Reinigge were Bavarian carpenters-cabinet makers settled in Athens and had probably worked on the construction of the silkmill (see Christiana Luth, *Στην Αθήνα του 1847-48* [In Athens 1847-48] (translated and edited by Aristea Papanicolaou-Christensen), Athens 1991, 33, 53, 71, 83-84 etc). If all the above were creditors of 'Wrampe & Co.', then one can assume that after buying the premises this firm had no money to function in Greece, but used this property as surety for activating local capital.

7. Georgios Gropius was one of the earliest owners of part of the silkmill plot, while Otto Gropius was the person who had 'at one time' let rooms in the Cantacuzenos residence to Christian Siegel, see here Aristea Papanicolaou-Christensen op. cit., and contract no. 1226/31.12.1853 of D. K. Soutzou between Augustus Wrampe and Chr. Sigel (Records Office, Athens). Otto Gropius is known to have tried to set up a silkmill at Nauplion, in 1845. Loukas Rallis, owner of the Piraeus silkmill (1844), appears among the 'mortgage creditors' of 'Wrampe & Co.' (see n. 6).

8. On Potlis's role, see submission of auction proceedings, dated 29.12.1854, by the notary Pan. Poulos, attached to the Auction report 1854. M. Potlis (1810-1863) became a university professor in 1855 and later served as the University parliamentary deputy (1861-1862). G. Vellios was present at the signing of the founding contract of the Société Séricicole, as Roeck's 'interpreter'. The role of the circle of solicitors and lawyers in the economic life of Greece still awaits study. It is more or less certain that during the early decades of the new state, when there was a glut of court cases as a result of the necessary adaptation of customary law to the legislation of the new state, those in the legal professions in the urban centres, and above all in the capital, were among the first to amass fortunes, which must have been disbursed in business activities in various ways. This situation is also evident in the history of the Société Séricicole. On analogous issues see P. Mathias, The lawyer as businessman in 18th c. England, in D.C. Coleman - P. Mathias, *Enterprise and History: Essays in Honour of Charles Wilson*, Cambridge University Press, 1984, 151-167.

9. Themistokles Karadimas or Kostadimas appears in the contract 1226/31.12.1853 of D.K. Soutzos as the earliest owner of the orchard. In all probability Nikolaos Pilikas was brother of the well-known Professor of Criminal Law, parliamentary deputy and Minister of Justice, Spyridon Pilikas, a lawyer himself and board member of the National Bank, see *Απομνημονεύματα της υπουργίας Σπυρίδωνος Πηλικα...* [Memoirs of Spyridon Pilikas's Ministry...], published by Ioannis N. Pilikas, Athens 1893, 6.

end both properties were hammered down to L. Roeck, at 100,000 drachmas for the silkmill and 6,000 drachmas for the orchard.

A few days later, on 23 July 1854, after compensation of Wrampe's remaining creditors had been regulated,[10] Roeck made over six-eighths of the ownership of the silkmill to the six new shareholders of the Société Séricicole.[11] The overall value of the properties was determined as 120,000 drachmas. Of the 90,000 drachmas, the price of the transfer, the six contracting with Roeck undertook to deposit 60,000 drachmas to the receiver of the Wrampe bankruptcy and to pay Roeck himself the remaining 30,000 drachmas, since he was finishing construction work on the complex within forty days. This included completing the wall round the compound, a marble staircase, the entrance portal, water-tanks, wells and chimney stacks. With the same agreement the contractors committed themselves to setting up a stock company with 152,000 drachmas starting capital, which would be doubled by issuing new shares.

So Roeck did not contribute a single drachma to the purchase of the silkmill: the balance of the sale at auction, 46,000 drachmas, approximately equalled Wrampe's old debt, most of which Roeck converted into capital as his participation in the new company, while also securing the payment of another 30,000 drachmas for completion of the building works. Roeck succeeded in doing that which Wrampe & Co. had failed to do: in transferring the company to Greek hands. On their side, the Greek shareholders bought for 90,000 drachmas the greater part of a premises actually worth about 250,000 drachmas (consequently 187,500 drachmas for the sixth-eighths) and acquired shares of nominal value 1,000 drachmas by paying in reality 788 drachmas.

'Société Séricicole de la Grèce'. Individuals and institutions

The statutes of the Société Séricicole were signed in Athens on 6 August 1854, in the home of Michael Iatros, in Ermou street.[12] In addition to L. Roeck, the six Greek shareholders were Athanasios G. Durutti, Constantine G. Durutti, Michael Iatros, Panayotis Papiolakis, Ioannis K. Tsatsos and Demetrios S. Mavrokordatos, all merchants except the last. The new firm retained the form of the previous British company: it was a joint-stock company (*société en commandite par actions*) with managing director, which post was assumed by Athanasios Durutti, who had sole responsibility for the course of the business. It also kept the title-type of the first company: 'Société Séricicole de la Grèce "Athanasios Durutti & Cie.". Its duration was fixed at ten years and its starting capital at 152,000 drachmas, or 152 1,000-drachma shares, representing the value of the real estate property. Roeck retained two-eighths of this capital (38 shares) and the remaining six shareholders received one-eighth or 19 shares each. The company was to issue immediately another 152 shares, which, if not disposed of to third parties, the shareholders were

10. In a subsequent testimony A. Durutti refers to a document dated 17 July 1854 (not found), which must concern the transfer to Roeck of the rights of the rest of the creditors to the auction proceeds. One of these creditors was Chr.E. Siegel, who was to bother the Société Séricicole for years, suing for the application of agreements that had remained pending with the bankruptcy of 'Wrampe & Co.'. See in connection, Chr. Zioulas Collection, 'Charges of Athanasios Durutti & Co. against Chr.E. Sigel, L. Roeck and Ami Thiebau before the Court of the First Instance at Athens', 9 March 1866, and Aristea Papanicolaou-Christensen, op. cit. On the redemption of the mortgages, there is a certified statement from the Records Office, dated 3.7.1856, in the Chr. Zioulas Collection. (I here thank Mr Chr. Zioulas for the archival material he made available for study).

11. Contract 2181/23.7.1854 P. Poulos (Records Office, Athens).

12. Contract 2245/6.8.1854 P. Poulos (Records Office, Athens) and copy in the Chr. Zioulas Collection. The statutes were also published in the pamphlet *Σηρική Εταιρεία της Ελλάδος υπό την επωνυμία Αθανάσιος Γ. Δουρούτης & Σια εν Αθήναις* [Société Séricicole de la Grèce 'Athanasios Durutti & Cie' in Athens], Athens 1854.

obliged to buy in the same ratio as their initial participation. The statutes made a clear distinction between the original 152 shares 'of ownership', which were personal and ensured rights over the ownership of the property, and the new shares which were anonymous (article 7). This distinction, which did not exist in the statutes of the British firm, considerably complicated the accumulation of capital by the Société Séricicole, as we shall see, and certainly atttests some special sensitivity to the issue of ownership. In any case the statutes also declared that when the ten years expired, the owners of the 152 personal shares had the right to re-assume ownership of the premises (article 8).

There were some other interesting differences between the two statutes. In the case of the Société Séricicole the remuneration of the managing director was not half the net profits but a specific sum, 6,000 drachmas a year (article 20), while he was also entitled to an additional 6% of the net profits, calculated after subtraction of his salary (article 18). There is no mention in the Société Séricicole's statutes of the compulsory payment of 5% interest from the gross profits on the shares, but simply of the payment of dividend, providing there was a net profit (article 23). On the contrary, in the case of the Société Séricicole the annual deduction of 2% of the value of the 152 personal shares was compulsory 'for the damage to the premises during the year' (article 18), a sum which the original shareholders would have taken at the end of the decade or during the dissolution of the company (article 8) and which in a way corresponds to the concept of depreciation, though this is not stated explicitly in either of the two sets of statutes. Lastly, the concept of reserve capital, which does not exist in the British firm's statutes appears marginally in those of the Greek successor: provided the apportionable (net) profit exceeds 12% of the capital, 'the excess will be saved as reserve capital' – but this up to a limit of 25% of the capital: the surplus is apportioned [...] as dividend' (article 24).

It is apparent from the above that the shareholders in the Société Séricicole rather preferred the security of ownership to the guaranteed annual return on their capital; that Athanasios Durutti preferred the steady annual remuneration to the unpredictability of the percentage of the net profits; and lastly, that the concepts of depreciation and reserve capital –concepts fundamental to the correct management of an industrial enterprise– were not clearly formulated in the consciousness of the shareholders in the Société Séricicole, Greek and foreign.

The persons

The small circle of the original shareholders of the Société Séricicole encompassed local dignitaries, expatriate merchants and Phanariote capitalists, all eminent members of Athenian society. Without doubt the central nucleus of the new firm was the Durutti family (the two brothers and Athanasios's father-

13. Athanasios and his wife Florentia, daughter of Michael Iatros, lived in her father's house in Athens. See article by Maria Christina Chatziioannou in this volume. Biographical information on Iatros in K.K. Σπηλιωτάκης, Αρχείον Μιχαήλ Ιατροῦ [K.K. Spiliotakis, Michael Iatros Archive], *Τετράδια Εργασίας KNE/EIE* no. 6 (1983). Despite damage suffered by the Iatros Archive, the distribution of the letters Iatros received (according to Spiliotakis's catalogue) can be taken as an indirect index of the intensity of his entrepreneurial activities: 335 in the decade 1831-40, 359 in the decade 1841-50, 206 in the decade 1851-60 and 140 between 1861 and 1863, the year of his death.

in-law, Michael Iatros). The last, a wealthy Peloponnesian merchant-banker, land-owner and politician, was undoubtedly the Durutti brothers' basic mainstay while first settling in Greece. Nevertheless, he was not present in person at the signing of the contract and his participation in the Athens silkmill must not have been particularly active, other than his financial contribution and, of course, his status, contacts and the more general social support his presence ensured. About seventy-five years old at the time, Iatros spent most of the year in Nauplion and his activities had naturally begun to decline.[13]

Panayotis Papiolakis can also be included in the Durutti circle. His close collaboration with Athanasios Durutti in Athens, as well as with M. Iatros in Nauplion, is attested from at least 1849, while an earlier contact of both families in Trieste is possible.[14] However, his participation in the Société Séricicole was short-lived; from the following year, 1855, Papiolakis ceased attending the company's general meetings and seems to have transferred his portion to A. Pappadakis. It is not impossible that this withdrawal – or final independence – was the result of an estrangement with the Durutti brothers: a little later, in 1859, P. Papiolakis founded his own small, steam-powered silkmill at Piraeus, a venture which, however, did not last long.[15]

A second circle was formed around the person of Ioannis K. Tsatsos, a circle tangental to the Phanariote aristocracy and Hellenism in the Danubian principalities. Scion of a leading family in Eurytania and a successful merchant in Athens, I. Tsatsos had lived in Nauplion for many years, where M. Iatros had surely made his acquaintance.[16] Through his wife, Athena Rosetou, Tsatsos had contacts with Phanariote circles: so it was probably he who 'brought' the only non-merchant shareholder into the Société Séricicole, Demetrios S. Mavrokordatos ('Doctor of Laws' as he is characterized in the founding contract), to whom he may have been distantly related.[17] Mavrokordatos,[18] who had studied Law in Paris and was destined to become a judge, university professor and government minister, was the youngest and most intellectual member of the group of shareholders, the person who addressed the salutation to Otto when the king visited the silkmill in January 1855.[19] In all probability the later collaboration of A.Ph. Pappadakis with the Société Séricicole was due to this second circle of shareholders.

As the composition of the group of original shareholders reveals, the Société Séricicole was founded essentially on Greek businessmen: the initiative of foreign investors did not meet with response only from progressive literati or other bourgeois rentiers, as had happened fifteen years earlier with the Royal Sugar Refinery, the first experience of an industrial company in Greece.[20] It was more smoothly incorporated in the Greek business world, which fact is confirmed by the widening of the group, which will be discussed below, a world that was certainly more mature and more amenable to new companies and the risk of industrial investment. However, though the incorporation was smoother, it was neither *en masse* nor

14. Michael Iatros Archive, I.N.R./N.H.R.F. (henceforth: MIA), vol. VIII, two letters from P. Papiolakis to Iatros, dated 17 May and 7 July 1849. The collaboration concerned the pre-purchase of silk from Sparta, for export to Marseilles on behalf of the Tzitzinia Brothers. Although Papiolakis's letters reveal his respect for and loyalty to Iatros ('Please order me freely so that I can prove to you who I am always...'), he also appears to have had some independence: he communicated directly with the Tzitzinia in Marseilles and Constantinople, while preparing to set up his own business enterprise (in the second letter, the 'newly established company "Kapoudas, Papiolakis & Cia." is mentioned). On his possible relations with Trieste, see Όλγα Κατσιαρδή-Hering, *Η ελληνική παροικία της Τεργέστης (1751-1830)* [Olga Katsiardi-Hering, The Greek community of Trieste (1751-1830)], vol. 2, Athens 1984, 645, where Georgios and Konstantinos Papiolakis aquired navigation permits for their own ships in 1784 and 1824 respectively.

15. Μαρία Χριστίνα Χατζηιωάννου, Η τύχη των πρώτων Ιταλών μεταξουργών στο ελληνικό κράτος [Maria Christina Chatziioannou, The fate of the first Italian silk-reelers in the Greek state], *Μνήμων* 13 (1991), 133.

16. Ioannis's father, Konstantinos I. Tsatsos (or Tzatzios-Tzatziou), took part in the National Assemblies at Epidaurus (1826) and Argos (1829) as plenipotentiary for Karpenisi, and about this time he settled in Nauplion as a merchant. See. A. Μάμουκα, *Τα κατά την Αναγέννησιν της Ελλάδος* [A. Mamouka, Events during the Renaissance of Greece], vol. IV, Piraeus 1839, 53, 100, 107 and vol. XI, Athens 1852, 1; *Πανελλήνιον Λεύκωμα Εθνικής Εκατονταετηρίδος* [Panhellenic National Centennial Album], vol. II, Athens 1925, 333. Ioannis (Karpenisi 1817 - Athens 1895) succeeded his father as a young man, after attending primary school on Andros and high school on Aegina. He travelled in Europe, modernized the family business and in 1850 settled in Athens. Shortly before 1854 he married Athena A. Rosetou, of the well-known Phanariote family (see B. Σφυρόερας, *Οι δραγομάνοι του στόλου* [V. Sfiroeras, The dragomans of the fleet], Athens 1965, 117-119), daughter of Konstantinos Rosetos and maternal granddaughter of the wealthy Constantinopolitan merchant in London, Constantine Ionidis. This information is from the family tomb, see Ελένη Τσουγκαράκη-Αγγελομάτη, Δέσποινα Τσουκλίδου-Πέννα, *Μητρώον Α΄ Νεκροταφείου Αθηνών, Α΄ Ζώνη-1ον Τμήμα* [Eleni Tsoungaraki-Angelomati, Despoina Tsouklidou-Penna, Register of 1st Cemetery Athens, Zone I-Section 1], Athens 1972, 81-83, and M.-D. Sturdza, *Dictionnaire historique et genealogique des grandes familles de Grèce, d'Albanie et de Constantinople*, Paris 1983, 403 (s.v. Rosetti). Sturdza cites Ioannis Rosetti as father of Athanasios Rosetti, even though he has consulted the study by Tsoungaraki - Tsouklidou. (Thanks are due to my colleague Florin Marinescu for his help in the maze of genealogical sources). I. Tsatsos served several terms as a member of the Commission for the Animation of National Industry. His grandson was the former President of the Hellenic Republic, Konstantinos Tsatsos.

17. An uncle of Demetrios, Konstantinos G. Mavrokordatos (1789-1842), had married Luxandra, daughter of Konstantinos Rosetos, in Bucharest, see Sturdza, op. cit., 403. Owing to some confusions in Sturdza's study, the degrees of affinity are uncertain.

enthusiastic. From the outset the Société Séricicole was organized essentially around one family and probably had difficulty in placing the new shares, which do not seem to have passed beyond the circle of businessmen associated with the silk trade: the acceptability was due to the special mobility that characterized the silk-reeling sector during the 1850s and not to some deeper readiness of the entrepreneurial world for industrial projects. They were, moreover, not fortuitous members of this world: most of them were persons with wider social and political influence, that transcended the strict bounds of the economic sphere.

The widening of the group

The statutes of the Société Séricicole stipulated that the 152 new shares should be made available by 1 January 1855 (article 9). The extension of the

TABLE 1
THE SHAREHOLDERS OF THE SOCIÉTÉ SÉRICICOLE

Name	*Contract 6.8.1854*	*G.M. 24.5.55*	*G.M. 15.3.56*	*G.M. 8.8.57*	*G.M. 31.7.59*	*G.M. 21.1.60*	*G.M. 21.1.62*
A.G. Durutti	19	32	32	32	32	32	32
M. Iatros	19*	32*	32*	32*	32*	32	32*
I.K. Tsatsos	19	32	32	32*	32	32	32
D. Mavrokordatos	19	32	32	32	32	32*	32*
P. Papiolakis	19	–	–	–	–	–	–
A.Ph. Pappadakis	–	40	40	40	40	40	40
L. Roeck	38	76	76	71	19*	19*	19*
Frères Souchon	-	-			33*	-	33*
A.Thiebaud	-	-	-		-	19*	19*
K.G. Durutti	19	24	24	42	24	24	24*
N. Morozinis	-	-	-		-	10*	10*
S. Alexandrakis	-	-	-		-	2*	-
A. Papatheodorou	-	-	-		-	1*	-
S.S. Askolis	-	-	-		-	-	-
Call. Papadoukas	-	-	-		-	-	-
I. Chatzipetros	-	5	5	-	-	5	5
Alexios Pallis	-	4	4	-	-	4	4
Chr.I. Paramythiotis	-	-	6	6	-	6*	6*
Dem.K. Soutzos/ Kon.D. Soutzos	-	-	-	-	6	5	5
A. Liberopoulos	–	–	–	–	–	2*	2*
Represented shares	152	277	283	287	250	265	295

* Shareholders represented by proxy at the General Meetings are marked with an asterisk, and those neither present nor represented with a hyphen. The shares entered for L.Roeck and C. Durutti in 1857 correspond to the total they represented.

18. Descendant (4th generation) of the Voevod of Moldavia, Nikolaos Mavrokordatos, son of Stephanos Mavrokordatos and Aikaterini Schina, Demetrios was born in Bessarabia in 1821 and had completed his legal studies in Paris by 1847 (see Sturdza, op. cit., 235 and D.E. Maurocordato, *Thèse pour la licence*, Faculté de Droit de Paris, Paris 1847). He served as a judge in Athens, later as a university professor and for a short spell as Foreign Minister in the first government after the expulsion of King Otto (1863), while his activity as an author attests a wide range of interests, among which economic issues are prominent. Apart from his legal texts (Δημ. Στ. Μαυροκορδάτου, *Δοκίμιον ιστορικόν περί της Ρωσικής Νομοθεσίας από των αρχαιοτάτων άχρι των καθ'ημας χρόνων* [D. St. Mavrokordatos, Historical Essay on Russian Legislation from most ancient times to our day], Athens 1857), Mavrokordatos wrote a series of articles on banking questions in the newspaper *Κλειώ* in Trieste, which were also published in a book (*Επιστολαί εκ Γερμανίας περί πιστωτικών τραπεζών του λαού* [Letters from Germany on credit banks of the people], Leipzig 1869), while he was also concerned with educational issues (*Υπομνημάτιον περί εκπαιδεύσεως του λαού* [Note on the education of the people], Athens 1872). He was a member of the committee of the Parnassos Society, which in 1872 founded a school for indigent children, see in connection M. Λάμπρου, *Απόρων παίδων βίος και έθιμα* [M. Lambrou, Life and habits of pauper children] (reprint from the 13th volume of *Παρνασσός*, Athens 1890, 2).

19. See in connection *Αθηνά* 28.1.1855.

deadline by three months, granted on 28 December 1854, was probably not due entirely to the anomalous circumstances prevailing in Athens and Piraeus during the second semester of 1854, with the blockade of Piraeus and the cholera epidemic in Athens, as the relevant announcement by the company states.[21] Because, even though the majority of the new shares had been placed in June 1855, when the first general meeting of the Société was held, they had to a large degree been bought by the original shareholders themselves (see Table 1). Roeck doubled his initial share; four of the five Greek founders took 13 new shares, while Constantine Durutti just 5. Only one new shareholder, A. Pappadakis, bought a significant part of the new shares (21) together with the 19 of Papiolakis. So 36 new shares (or 36,000 drachmas) remained for disposal on the Greek market, which, after certain transfers, reached 40 in 1860.[22]

Antonios Kambanis-Pappadakis 'son of Frangios',[23] from Crete, brother of the legendary Ishmail Ferik Pasha, was a wealthy land-owner and businessman in Athens, where he had settled some time in the 1840s, after serving on the Sturdza estates in Bessarabia. As we shall see, Pappadakis, who had studied Agriculture and became the most important –at a personal level– shareholder in the Société Séricicole as well as a close collaborator of A. Durutti, must have influenced decisively some of the company's initial decisions. Of the remaining ten new shareholders, six belonged to the commercial network of M. Iatros-C. Durutti. The most important. Nikolaos Morozinis, was a merchant domiciled in Trieste, and probably still there.[24] The same was true of A. Papatheodorou, a merchant domiciled in Ancona. Spyridon Alexandrakis was a rising merchant in Kalamata, from where he had corresponded with M. Iatros since 1849 and then had dealings with the Société Séricicole.[25] Anagnostis Liberakopoulos was another of M. Iatros's men, settled in Kyparissia in 1838, and later in Pyrgos, from where he collaborated with the Société Séricicole.[26] No information has been gleaned on S.S. Askolis and Kallinikos Pappadoukas; they did not appear at the meetings however, where they were always represented by C. Durutti. Consequently it is deduced that they too were in his network. These five shareholders only held ten shares all together, that is an average of two each. Lastly, the circle of businessmen closed with the Epirote merchant Ch.I. Paramythiotis (6 shares) who was almost certainly associated with the Durutti brothers.[27]

The other three new shareholders, persons of high social standing, were affluent professionals or officials who invested capital (of course limited) in the company with a view to drawing an income, while at the same time backing its 'patriotic' and 'public-benefit' image. All residents in Athens, they participated in the general meetings. They are Ioannis Chatzi-Petros,[28] senator, who usually chaired the meetings, Alexios Pallis, well-known Epirote physician and university professor, and lastly Demetrios K. Soutzos, solicitor in Athens, who had drawn up the Wrampe contracts, member of a well-known

20. On the Greek shareholders in the Royal Sugar Refinery, see. A. Ραγκαβής, *Απομνημονεύματα* [A. Rangavis, Memoirs], vol. 2, Athens 1895, 123ff.

21. *Ηρωική Εταιρεία* [Société Séricicole], op. cit., 11.

22. All the information on the distribution of shares is from certain loose documents preserved in the Chr. Zioulas Collection. The first document consists of three sheets that seem to come from the book of minutes of the Company's meetings (now lost); the first sheet is titled (in Greek) 'Minutes of the Meetings of the Société Séricicole de la Grèce' and the whole contains the minutes of the first meeting (24.6.1855) and part of the second (15.3.1856). The remaining documents are copies of the minutes of the meetings on 8.8.1857, 31.7.1859, 24.1.1860 and 21.1.1862, all bear a confirmation signed by A. Durutti (dated 29.9.1861 for the first three and 31.1.1862 for the last) that they are 'exact copies of the original in the Minutes of the Société Séricicole de la Grèce', while from other notes and addenda it seems that they were made and used for judicial purposes. Henceforth, all references to these documents are in the form: Minutes of Meeting... [date].

23. This is how Rhea Galanaki imagined him in her novel *Ο βίος του Ισμαήλ Φερίκ Πασά* [The life of Ishmail Ferik Pasha] Athens 1989, 27, shouting his name when bidding his brother farewell. A.F. Pappadakis was born at Psychro, Lasithi in 1816 and after the famous adventure of his kidnapping and captivity in Constantinople, escaped to Odessa. There he met Alexandros Sturdza, who paid for his studies as an agronomer and appointed him steward of his estate. In Athens he became an active member of the Central Pro-Cretan Committee. On his death (1878) Pappadakis bequeathed the greater part of his fortune to the University of Athens. See N.M. Δαμαλά, *Λόγος εκφωνηθείς κατά το μνημόσυνον του αοιδίμου Αντωνίου Φ. Παπαδάκη* [N. Damala, Speech delivered at the memorial service for the late Antonios Ph. Papadakis], Athens 1879, and Π. Κριάρη, *Ιστορία της Κρήτης*... [P. Kriari, History of Crete...], vol. III, Chania 1937 (1st ed. 1902), 410-411 (I am most grateful to Stratis Bournazos for directing me to these sources). See also Τσουγκαράκη-Τσουκλίδου, op. cit., 79-80 (tomb of Calliope G. Kambani). Pappadakis was also one of the shareholders in the Greek Steamship Company, signing up for ten 500-dr shares in 1856 (see K. Παπαθανασόπουλος, Συμβολή στην ιστορία της Ελληνικής Ατμοπλοΐας (1849-1857) [K. Papathanasopoulos, Contribution to the history of Greek Steam-shipping (1849-1857)], *Μνήμων*, 12 (1985), 184). In 1857 he and Constantine Durutti participated in the group of entrepreneurs - S. Sinas, Eleni M. Tositza et alii - who proposed to construct the Athens-Piraeus railway (which was undertaken by Feraldi in the end); see *Τα περί του απ'Αθηνών εις Πειραιά σιδηροδρόμου* [Concerning the railway from Athens to Piraeus], Athens 1858.

24. Morozinis's correspondence with M. Iatros was considerable in the period 1838-1846 (See K. Σπηλιωτάκη, op. cit.). It is to be found in the catalogues of Olga Katsiardi-Hering, op. cit., 631, 644 and 654.

25. His letters in the MIA, vol. VIII (1849). Spyridon Alexandrakis (1807-1871), who originated from Kampos Avia, developed into one of the leading merchants in Kalamata, after first working as a clerk for a flour merchant until 1836. Through his bequests he was also an important benefactor of both Kalamata (Alexandrakeion Hospital, Poor House etc) and his birthplace (Greek School at Kampos Avia). Biographical details in Μίμης Ηλ. Φερέτος,*Μεσσηνιακά* 1968 [M.H. Feretos, Messiniaka 1968], vol. I, Athens 1968, 543-546, and N. Καράμπελας, *Μεσσηνιακό βιογραφικό λεξικό* [N. Karambelas, Messenian biographical dictionary], Kalamata 1962, 22-23.

TABLE 2
DISTRIBUTION OF SHAREHOLDERS ON THE BASIS OF THE NUMBER OF SHARES

Number of shareholders	*Number of shares per shareholder*	*Total of shares* No	*%**
6	32-40	201	66,2
3	19-24	62	20,4
10	2-10	40	13,2
19		303	99,8

*The percentages are calculated on the total of 304 shares.

TABLE 3
DISTRIBUTION OF SHARES

Shareholders	*No. of shares*	*%*
French shareholders around Roeck	71	23,4%
Durutti-Iatros family	88	29,0%
Remaining original shareholders and A. Pappadakis	104	34,2%
Shareholders represented by C. Durutti	18	5,9%
Remaining new shareholders	22	7,2%

Phanariote family related to the Tsatsos and Mavrokordatos families.[29]

In completing the picture of the shareholders, founding and otherwise, of the Société Séricicole, mention should be made of their rather advanced age. Of the sixteen Greek shareholders, the ages of ten are known; of these seven were over 40 in 1854 (two indeed over 50, that is old men for the period), while of the remaining three, two (A. Durutti and I. Tsatsos) were nearly 40 (38 and 37 respectively). Of course the Société Séricicole was essentially in the hands of one of the younger shareholders. Nevertheless, it is clear that its owners had spent the greater part of their working life in pre-industrial economic environments and had neither the stamina nor the adaptibility of younger men. Some inflexibilities in the group, that were to become apparent later, should perhaps be associated with the factor of age.

It is clear from Table 1 that this distribution of shares had been finalized at the general meeting for 1857. On the one hand Roeck had by then transferred the greater part of his shares to merchants in Lyons who collaborated closely with the Société Séricicole, on the other Constantine Durutti had made 18 shares available in his own network. Perhaps the company's positive results in 1856 –essentially the only reasonably favourable year, as we shall see– facilitated placing the shares. In the end Roeck kept 19 shares, that is half his original participation, and soon came into opposition with the Société Séricicole. However, till the end the French participation in the enterprise remained quite important (23%). The final distribution of shares, as formed around 1857, can be seen in Table 2.

26. In two letters from Anagnostis Liberakopoulos to M. Iatros, in 1838 (MIA, vol. V), it seems that he had a public post at that time, since he asked Iatros to intermediate with some 'friend' in Nauplion in order to secure his transfer there or to Corinth.

27. Just as he was friendly with his other fellow Epirote Christodoulos Efthymiou, see in connection Ευτυχία Λιάτα, *Τιμές και αγαθά στην Αθήνα* (1839-1846) [Eftychia Liata, Prices and goods in Athens (1839-1846)], MIET, Athens 1984, 67. Paramythiotis was dead in 1860, from which time C. Durutti represented his share in the meetings, as 'assignee of his children who were minors'.

28. Yannakis Ch. Petrou took part in the General Assemblies at Troezen (1827) and Argos (1829) as plenipotentiary of the province of Aspropotamos, and would certainly have known Ioannis Tsatsos's father, see A. Μάμουκα, op. cit., vol. VIII, Athens 1840, 17, vol. IX, Athens 1841, 153 and vol. XI, Athens 1852, 16. See also Βουλή των Ελλήνων, *Μητρώο Πληρεξουσίων, Γερουσιαστών και Βουλευτών 1822-1935* [Greek Parliament, Register of Plenipotentiaries, Senators and Deputies 1822-1935], Athens 1986, 54.

29. Descendant of the brother of the Prince of Wallachia and Moldavia, Michael Soutzos, Demetrios (1795-1865), notary at Athens, was son of Konstantinos Soutzos and Argyro Skanavi. Many members of his large family were related to the Rosetos and Mavrokordatos families. Demetrios married Eleni, daughter of Demetrios Schinas, (1798-1858), in whose name were the shares of the Société Séricicole that were transferred to his son Konstantinos after her death. See Sturdza, op. cit., 29 and *Ελληνες ηγεμόνες Βλαχίας και Μολδαβίας* [Greek princes of Wallachia and Moldavia] (with foreword by Evangelos Fotiadis), Athens 1972, 223.

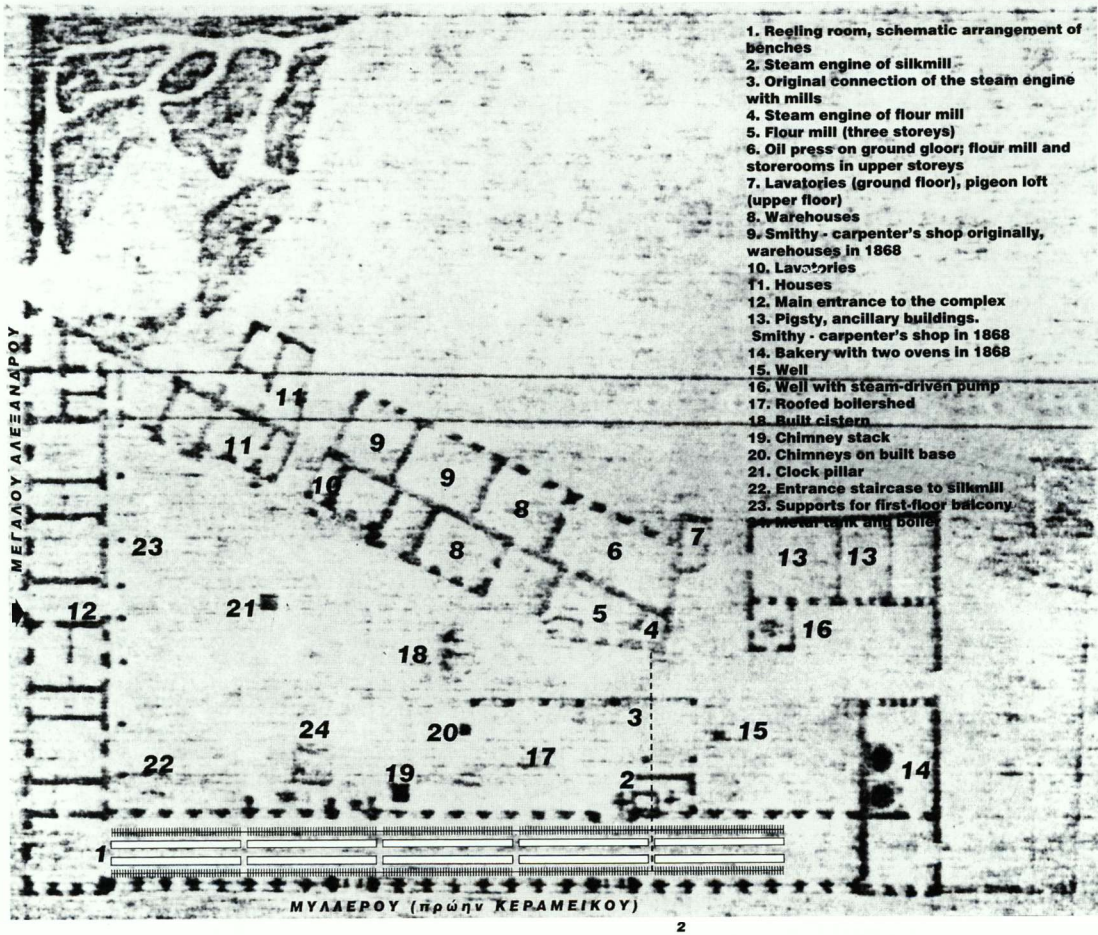
As in other companies, here too the minority of the strong shareholders, that is the six largest shareholders (or 32% of the shareholders), controlled the absolute majority of the shares (66%) and indeed also formed marginally the quorum for the general meeting, a two-thirds majority. However, this impersonal distribution has little meaning. In Table 3 it is clear that in substance the absolute majority was controlled by the nucleus of Greek original shareholders (Durutti-Iatros family and the other two original shareholders together with A. Pappadakis). The Durutti brothers, together with the 'silent' shareholders of their circle, controlled 106 shares, a little over one-third of the total; in practice, with the association of at least one of the other three basic shareholders, they controlled the absolute majority of those present, since the number of shares represented at the meetings fluctuated between 250 and 295, and was usually in the range 277-287.

Nevertheless, no hasty conclusion should be drawn that the above distribution was the result of a specific strategy on the part of the original shareholders or of the Durutti brothers in particular. A greater number and consequently a greater dispersal of shares did not necessarily mean removal of control from the nucleus of basic shareholders, as is in any case shown by the example of Constantine Durutti, who apportioned a greater number of shares to third parties and kept less for himself. In any case, by its very nature the Société Séricicole could not be 'mass', as the *sociétés anonymes* later became –nowhere in the world are joint-stock companies (*sociétés en commandite*) mass– which fact is obvious from the value of the share (1,000 drachmas), high considering the circumstances of the day. Moreover, in the end the French participation seems to have had a symbolic significance greater than its actual proportion of the total capital.

Perhaps more important is the ascertainment that the composition of the new shareholders of the Société Séricicole gives the impression of a judicious amalgam of economic and social power: combining experienced merchants of notable financial standing and socially prestigious persons, the omens for the first industrial firm in Greece seemed particularly propitious. It had in any case a distinct identity: that of the generation of the War of Independence, of the men who took part, from positions of power, in structuring the new society. Their national and social action has overshadowed their economic activities in Greek historiography. It is possible that in their consciousness both levels were connected: pure economic rationalism only exists in theory. How economic practices were invested with the national ideological mantle is an issue awaiting research. The fact remains that for the men of this generation, this was the dominant mechanism for giving meaning to their actions.

The gradual formation of the complex: the technical parameter.

The technical issues, frequently undervalued in studies of economic



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2. Plan of the ground floor of the complex, as it was in 1868. The positions of the basic equipment and the uses of the areas are marked according to the description in the Auction Report of 1865 and the later alterations.

history, are among the most significant difficulties industry has to face in countries with limited technical tradition and infrastructure. The Athens silkmill was, in a way, a factory delivered 'with key in hand' and the technique of reeling was not unknown in Greece. Even so, harnessing the techniques of steam and assimilating the advanced systems of reeling required the presence of French silkworkers, male and female, for several years, while more serious technical problems emerged as the plant was extended and adapted to new uses, which to a great degree determined the development of the enterprise during the first ten years. Analysis of these problems reveals the forces expended and the additional expenses their solution demanded, while knowledge of the technical equipment enables us to understand better the

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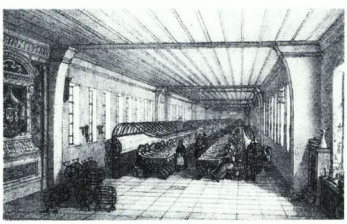

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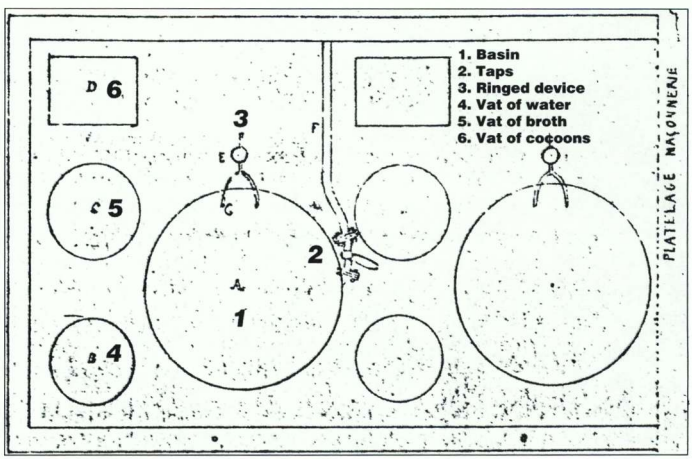

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3. Interior of an Italian silkmill. (Photograph from *Le fabbriche magnifiche*, op. cit. 99).

4. Interior of the reeling room. (M.Papadopoulos-Vretos, *Ημερολόγιον 1864*).

5. The reeling bench (two adjacent work places). Plan with key (originally in French) and no other indication. (Chr. Zioulas Collection).

nature of the investment options, as well as to interpret the morphology of the premises.

The descriptions available to us are naturally summary and sometimes unclear, since they were probably made by non-experts; nevertheless, they enable us to reconstruct the arrangement and the basic features of the equipment (see fig. 2).[30] The principal reeling room was the long, narrow spacious hall on the west side,[31] with 36 windows onto Kerameikou street and another 28 opposite, facing the courtyard of the complex. Along the length of the two long sides were two rows of bronze benches with cast-iron bases, in which the basins were incorporated.[32] Each bench (15-16 m long) had 24 basins and each row five benches, that is there were 120 basins on each side, 240 in all.[33] The workplace corresponding to each basin was 63-65 cm wide, consequently the reelers sat very close together, as can be seen in the picture from a similar Italian silkmill (fig. 4).[34] With their back to the wall, they faced the centre of the hall, with the basins in front and the wheels behind them (fig. 3). This arrangement left the central passage free for supplying the basins with cocoons by a separate group of workers (usually young girls), as well as for the better supervision of the work by the overseers, who can also be seen in fig. 3.[35] In order for the silkworkers to keep an eye on the reeling of the filament on the wheel, they sat on rotating stools.[36]

On the periphery of each basin (fig. 5) there were two stop cocks, terminals of the water and steam system, with which the reeler controlled the input to the basin. The first system was supplied by a water-tank in the courtyard and the second by a boiler, also in the courtyard, next to the boiler of the steam-engine. The pipes ran under the benches with the basins. The handling of the whole system required skill and speed, because the reeler had to turn on the steam in order to bring the water in the basin to boiling point when she threw in the cocoons, and then to reduce the temperature gradually by opening the cold water tap, while simultaneously stirring the cocoons with the 'besom'. Next to the basin were three vats, one that indicated the water level, one for the broth of pupae and a portable one for the cocoons.[37] There was also a device with two rings ('main grip for the thread'), into which the bunches of filaments entered, as soon as the reeler caught their beginning from each cocoon. What followed is described in the 1854 report: 'above each cauldron there is an iron filatory and two wires, and porcelain; each cauldron has opposite an iron wheel and two reels...'. This was the system of double reeling, the so-called *à la Chambon* (two bunches from each basin, fig. 6).[38] The basic difference from the system *à la tavelle* (one bunch), relatively later, lies in that this second system left less waste (shrinkage) and unravelled a more even filament, since it restricted the danger of the double thread (*filo doppio, mariages*: when a bunch snapped), but the quality of the thread, in terms of fineness and sheen, was better from the *à la Chambon* system. The detail has some significance, because it shows that the original investor (the

30. There are descriptions of the silkmill in its initial phase in the Auction report 1854 and the advertisement entitled 'Société Séricicole de la Grèce', published in *Spectateur d'Orient*, 3 (1854-55) (without page numbers). The second description was also published in Greek, in the pamphlet *Σηρική Εταιρεία της Ελλάδος* [Société Séricicole de la Grèce], op. cit., 3-10, where certain technical details were, however, omitted. The same text, Μεταξουργείον εν Αθήναις [Silkmill in Athens], also appears in *Πανδώρα*, iss. 116, vol. 5 (1855), 476-478, from where the description of the silkmill in *Αθηνά* 19.1.1855 is taken. The factory is described in its final form in the 'Notification of Auction Day', published together with the 'Report on compulsory confiscation' in the newspaper *Δικαστικός Κλητήρ*, iss. 580, 7.8.1865 (henceforth: Notification of auction 1865). Supplementary information has been used here from the description by A. Gaudry, op. cit., 321-322, republished in Greek translation in M. Papadopoulos-Vretos, *Εθνικόν Ημερολόγιον του έτους 1864*, vol. IV, 73, together with the relevant illustration (see here fig. 3). The courtyard and the water supply systems are described in two 'Valuers' Reports', dated 29.3.1860 and 18.10.1860 respectively, in the Chr. Zioulas Collection. The technical details of the reeling system (filatories) are from L. Vignon et I. Bay, *La soie au point de vue scientifique et industriel*, Encyclopédie Industrielle, J.-B. Balliere & fils, Paris 1914.

31. I use here the orientation given in the Auction report 1854 (west the side onto Kerameikou street, which is designated as south in the Notification of auction 1865).

32. Copper according to Gaudry, op. cit., 321, of tinned copper according to the description in *Spectateur d'Orient*.

33. Each bench must have comprised three sections of eight basins, because in later phases of the silkmill the (reduced) number of basins is always a multiple of eight (see here below).

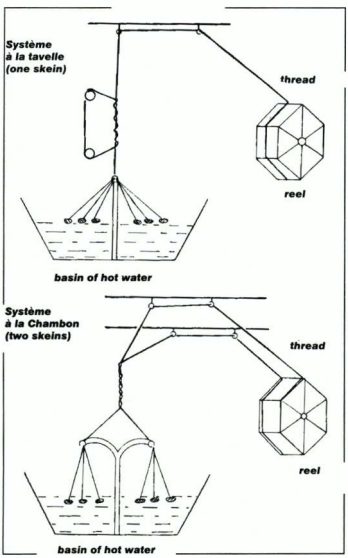
34. Many similar illustrations in the excellent book published by the University of Turin in collaboration with several other bodies, *Le fabbriche magnifiche. La seta in provincia di Cuneo tra Seicento e Ottocento*, Cuneo 1993.

35. The arrangement was the same in the Loukas Rallis silkmill, see Gaudry, op. cit., 319. It seems that in the Piedmonte silkmills the arrangement in which the reeler had the basin and the filatory in front of her was more usual. In this case supervision was more difficult because the overseer saw the reelers' back from the central aisle, while the cocoons were supplied from the aisle between the row of basins and the row of filatories; in other words the whole system required more room (see *Le fabbriche magnifiche*... op. cit.).

36. The Auction report 1854 mentions 'walnut chairs... round and swivelling', and Gaudry 'tabourets tournant sur vis'.

37. The adding of broth from pupae to the water in the basin was common practice in most silkmills of the period. It was intended to facilitate the reeling, even though some considered that the real reason was to increase the weight of the filament, which absorbed part of the sticky substance from the broth, see L. Vignon - I. Bay, op. cit., 125.

38. The description in *Spectateur d'Orient* is clearer: 'le système est à deux bouts'. See also I. Brossard, *Technologie des textiles*, Dunod, Paris 1977, 91 (from where fig. 6 is taken).



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6. Schematic representation of the two reeling systems (filatories) (after I. Brossard, *Technologie des textiles*, Paris 1977, 91). System 'à la tavelle' (one skein) basin of hot water thread reel System 'à la Chambon' (two skeins) basin of hot water thread reel

British company) was not so interested in economizing the raw material. It could be thought, justifiably, that cocoons were abundant in Greece (the expansion of mulberry plantations had already begun); but this situation was soon reversed.

The bunches of filaments were fed to the reels through the rings of a horizontal bar, that was connected to a shuttle mechanism so that the thread was not wound round the same point but was evenly distributed across the width of the reel and did not 'stick'. The descriptions available make hardly any reference to this mechanism, but the curved horizontal, metal bars that can be seen in fig. 3 are probably parts of it. The distance between the two rows of benches was necessary because the silk filament energing from the basin, fine and sticky, had to dry out and 'set' before being wound on the reel.

The reels had an iron axle and a wooden tympanum of hexagonal section and maximum diameter usually 70 cm. The 'iron wheel' was below each pair of reels and constituted part of the whole system of transmitting motion. An axle traversed each row of benches and linked, at the height of the steam-engine, with its driving wheel, via a pair of pulleys and belts. It is not clear in the descriptions or in fig. 3 how the motion was transferred to the row of benches on the opposite side to the steam-engine: most probably via wheels and pulleys on the ceiling of the hall, so as to leave free the central passage. The steam-engine was horizontal,[39] 8 horse-power, one cylinder and set on marble. It was located together with the boilers in a special building in the courtyard, attached to the spinning hall, with which it communicated with a railing, presumably for safety reasons.[40] The driving wheel weighed 1,500 okas.

The direct connection of the steam-engine with the rows of reels attests that it had been installed exclusively for driving the filature. This arrangement, which was usual in silkmills, water-powered and steam-powered, of course restricted loss and permitted the use of limited horse-power (which in any case did not need to be great), but it was not flexible:[41] the subsequent attempt to connect this steam-engine to the new production units proved abortive.

The cylindrical boiler of the steam-engine (about 8 m long and 1 m high) and the boiler producing steam for the basins (9 m long) were built into brick bases and set 'upon iron gratings' over the fire sources. From the Société's balance sheets, which will be discussed below, it seems that the steam-engine of the silkmill was mainly fuelled with charcoal and only boosted with pit-coal from Kymi. There was a third boiler two, perhaps auxiliary, 11 m long.

To complete the description of the silkmill, it should be noted that the entire upper storey, above the reeling room, was arranged as a cocoon-rearing shed, with the necessary 'beds', and that its movable equipment included 240 baskets for carrying the cocoons to each basin, an equal number of 'besoms' for stirring the cocoons, perforated bronze basins (colanders) that were placed inside the permanent ones, instruments for measuring the silk,

39. Rather unusual at the time, see in connection Maurice Daumas, *Histoire des techniques*, PUF, vol. 3, Paris 1968, 65, and vol. 4, Paris 1969, 6: the diffusion of the horizontal steam engine, the superiority of which was acknowledged at the Universal Exhibition in London (1851) and in Paris (1855), began in the mid-nineteenth century.

40. The exact position of the engine can be seen in the drawing made in 1868 (see fig. 2).

41. The central driving shaft on the ceiling, with which all kinds of machines could be connected directly, was of course far more flexible and prevailed in all the factories until the introduction of electricity, which completely changed their arrangement.

thermometers, a clock on the wall, ladles etc.

The silkmill of the Société Séricicole was justifiably described as 'magnificent'.[42] In reality, however, it suffered from congenital gigantism. Certainly its equipment was excellent, and in a period in which mechanized filatures were few and far between it was designed from the outset to exploit steam power even for driving the filatories.[43] This refutes, at least in their general and axiomatic version, the oft repeated arguments that capital investments by advanced countries in less advanced ones initially aimed at exploiting their cheap labour force. In the silkworking sector in particular, the cost of specialist labour, which was not replaced by mechanization, was inelastic and everywhere relatively low simply because it was female.[44] Mechanization replaced unskilled male labour, which was expensive and, primarily, difficult to find for industry everywhere – and certainly in Greece in the mid-nineteenth century.[45] As is so often the case, very little is known about this 'silent' protagonist in the Athens silkmill, that is its labour force. All that is known is that women and young girls were employed, and that in 1874 their daily wage ranged between 0.50 and 1.70 drs.[46] At that time, when the silkmill's operation had already been restricted to 135 basins, it employed 140 women, only 2 of whom were literate, while a young girl, under 12 years old, is recorded. During the early years, when it was working at full capacity, the silkmill must have employed 250-260 females, together with their assistants and the overseers.[47] It would not have been difficult to find this number of female workers in the capital at that time, for the influx of migrants had already begun and, judging by the many references, poverty and begging were serious problems.[48] The possibility that several women would come from the surrounding villages of Attica cannot be ruled out either.[49] The work was not regular all year round; the silkmill operated intensively during the summer and autumn months, from June, when the cocoons were gathered and sorted, till about the end of year, when, as can be seen from the Société's balance sheets, the greater part of the annual harvest had been absorbed. We do not know whether the silkmill shut down completely during the months January to March, like the Rallis factory.[50] But even if the jobs were more evenly allocated throughout the year, it is certain that rarely would all the women be employed simultaneously as its operation at full capacity demanded: its annual production, as we shall see, was equivalent to 3-4 months of full working. It is more likely that employment fluctuated, depending on the availability of reelers and the work offered, a practice that was still applied many years later, at least in the wider sector of the textile industry. The creation of a large factory in Athens in the mid-nineteenth century, and indeed in a sector where the nature of the work had strong rural roots, did not necessarily mean the automatic introduction of systematic forms of industrial type labour, even though the gathering of so many workers under the same roof and in a 'mechanized' environment was of itself an important change.

42. See Gaudry, op. cit., 321 and Πανδώρα, op. cit., 477. The Athens silkmill was not the largest in the East, as was claimed; the sole silkmill in Smyrna, founded ten years earlier by the French businessman Mathon, was operating 252 basins in 1854. The rest were of course smaller: of the nine in the Lebanon, the largest had 90 basins (Gaudry, op. cit., 246-249, 297). Perhaps the success of the Smyrna silkmill was one of the incentives for creating such a large filature in Athens. However, the first had access to a marginally inexhaustible cocoon market, at least from the moment the resistance of the traditional silk reelers was overcome.

43. Even though mechanized filatories had been operating in Turin since 1807 (invented by Ferdinand Gensoul in 1804), the system did not become widespread until the late 1840s, when iron steam boilers replaced copper ones. The 20 or so silkmills in Thessaloniki, for example, were not steam-powered (Gaudry, op. cit., 308). At first the L. Rallis silkmill at Piraeus (1844) did not even use steam for heating the basins (this can be seen in the illustration of its interior, with the characteristic built hearths under each basin, see Μεταξουργείον Λ.Ράλλη, *Πανδώρα*, iss. 67, vol. 3 (1853), 445). Steam was introduced into the installation in 1847, just for heating, and only in 1853, when Gaudry visited the factory, was Rallis thinking about introducing mechanization (Gaudry, op. cit., 319: 'M. Ralli est sur le point d'établir une machine à vapeur pour faire mouvoir ses guindres').

44. Female, or more rarely, child: according to Gaudry, op. cit. 203, in the silkmills of Syria and the Lebanon at this time young boys, aged between 12 and 20, were mainly employed.

45. Rotating the reels with the crank handle did not demand so much strength as stamina, for which reason it was a man's job. In L. Rallis's silkmill the four men who turned the reels (in rows of ten) earned a daily wage of 2 drs in 1853, whereas the reelers earned 1.2 drs (and novices 0.40), see Μεταξουργείον Λ. Ράλλη, op. cit., 449.

46. Preserved in the Chr. Zioulas Collection is a printed census form entitled 'Βιομηχανικά καταστήματα' (i.e. industrial premises), filled in with details on the Durutti factory; it seems from the entries that this is for the year 1874 and must come from the census attempted by Alexandros Mansolas; henceforth: Industrial premises 1874.

47. In a letter of 21.2/5.3.1857, addressed to the queen, L. Roeck refers to '300 poor families of Athens'; the number, perhaps somewhat inflated, must include all the personnel of the silkmill (GSA, Otto Archive, Ministry of the Interior, file 252).

48. See on this subject, Μαρία Κορασίδου, Οι φιλάνθρωποι μιλούν για τους φτωχούς και τη φτώχεια στην Αθήνα του 19ου αιώνα [Maria Korasidou, The philanthropists speak on the poor and the poverty in 19th-century Athens], *Τα Ιστορικά*, iss. 17, December 1992, 385-404. On the relief distributed to the paupers of Athens see also Christiana Luth, op. cit., 188 and 264 editor's n. 299.

49. Hints on the domestic production in Attica of silk 'in the French manner', after the founding of the new state, in *Ελληνικός Ταχυδρόμος*, year III, iss. 26 (27 April/9 May 1839), 102.

50. Temporary closure of the silkmills during the winter months was usual because reeling could not take place at low temperatures. However, the Athens silkmill had a heating system in the workroom, see article by Aristea Papanicolaou-Christensen in this volume).

When the silkmill was operating normally the working day was 10 hours long,[51] while working conditions must have been fatiguing, with heat and steam rising from the 'cauldrons' during the reeling process.

Apart from the female reelers, the silkmill of course employed a certain number of men, for the machinery and various other tasks. It was not easy to find specialist workers (stokers etc.) for the machines: according to a subsequent testimony of Durutti, during the first two years 'because of lack of work hands, not all the factory's boilers had been put in action'.[52] In 1874 there were three male workers, only one of whom was literate, earning daily wages of 2.50 to 3 drs. During the first decade, and always according to the firm's balance sheets, some 12-15 permanent (that is salaried) workers and clerks were employed. The presence of French women silkworkers was particularly important during the first couple of years, after which it seems to have diminished though never ceased completely.[53] French engineers and mechanics also worked in the silkmill, though only one of them is known by name, Desgeorges. He was the factory engineer in 1856, when he was summoned by the palace to install the new pump in the royal garden,[54] an episode that attests the silkmill's role in promulgating new technologies generally. Lastly, during the early years some men earned wages, probably as labourers, in the silkmill's orchard (opposite Kerameikou street), where mulberry trees had been planted. The business does not seem to have been involved in systematic production of its own cocoons: it must have limited itself to experimenting with varieties and producing eggs, which it indeed sold. So the upper storey of the reeling room was only used for storing and preparing cocoons.

'The surplus power...': expansion

Diversification into new branches of industry was decided on at the first general meeting of shareholders in June 1855, after Athanasios Durutti's timely diagnosis that an investment of this size could not bear satisfactory yields from one, basically seasonal, activity. Durutti expressed himself as follows: '...with regard to the surplus power generated by the steam engine, it would be most beneficial to the company to set up a flour mill and an oil press'.[55] The choice of the flour industry, which in the developing capital was still in the stage of horse-driven mills and watermills, is indicative of the turn towards the home market, and indeed towards a staple product that was to be the basic mainstay of later Greek industry. However, the concept overall recalls the model of the diversified 'self-sufficient' productive unit of the large estate, the country 'farm': in other words, it brings to mind Antonios Pappadakis. This hypothesis is strengthened by the fact that purchase of land accompanied the new installations.

With the authorization of that first general meeting and in view of

51. This is also the estimated length of the working day in the Rallis silkmill (Μεταξουργείον Λ. Ράλλη, op. cit.), while in the Athens silkmill it is referred to in the 'Valuers' report' compiled by I. Metaxas, I. Komninos and K. Nikolaou concerning the installation's water supply (see below) on 18.12.1860 (Chr. Zioulas Collection, henceforth: Valuers' report 1860).

52. Chr. Zioulas Collection, Decision no. 534/29.6.1865 of the Appeal Court, Nauplion.

53. In November 1855 A. Durutti mentions that 'five Frenchwomen were hired from France in order to teach the... reelers', as well as a French 'factory manager', see [A. Durutti], *Καθ'ην στιγμήν πρόκειται να συζητηθή το τελωνειακόν δασμολόγιον...* [When the tariff of custom's duties is going to be discussed], Athens n.d. [1856] (collection of memoranda without title). The article in Αθήνα, 24.1.1856, mentions the same number.

54. Ch. Zioulas Collection, letter from the Lord High Chamberlain's office to the 'management of the Société Séricicole', dated 26.6.1856. Roeck had brought the pump and Desgeorges was summoned to the palace on his recommendation.

55. Chr. Zioulas Collection, Minutes of the Meeting 24.6.1855.

diversifying its activities, between September 1855 and late 1856 the Société Séricicole bought five plots of land adjacent to the east and south sides of the factory premises, of total area some 14,000 square cubits.[56] However, the correlating of these purchases with the new installations raises questions. Whereas the factory plot more than doubled in size (from 9,400 t0 23,300 square cubits), the new buildings only occupied a very small part (about 1,000 square cubits) of the first plot bought, on the north side.[57] The location of the new complex essentially on the boundary of the old plot, was dictated by the position of the steam engine, 'the surplus power' from which would be exploited (see fig. 2). In the end this proved to no advantage. Consequently the purchases of land did not serve the needs of the new installations only. The spatial expansion of the unit and its final formation perhaps conceal models of autonomous productive complexes that combine agricultural production and processing, such as those encountered in the context of large estates or monasteries and mainly intended to secure the self-sufficiency of their own population. Such models must have been familiar to Antonios Pappadakis from his experience in eastern Europe, and it was Pappadakis who, as Durutti's assignee, went ahead with all the purchases. They fitted in with Durutti's plans for developing sericulture, as well as with actual needs for further sources of water (some plots had wells). The rest of the shareholders evidently had no objections to increasing the firm's real estate property, particularly in view of the rising price of land.[58] Nevertheless, these moves, the result of diverse intentions, do not bear witness to a clear strategy on the course of a newly-formed urban industry.

The new buildings and the equipment of the mill and press must have been completed by the end of 1856, when the flour mill was tested.[59] The two installations were located next to each other on the axis of the steam engine, with which they had been connected.[60] The flour mill had three pairs of millstones, brought from Belgium together with the responsible technician, and was fully equipped with grain cleaners, sifters and mechanical systems for feeding in the wheat.[61] But, in the words of Durutti himself, 'the silkmill engine did not have sufficient power to set even two stones of the flour mill in motion'.[62] Roeck was blamed for the erroneous calculation, for he had evidently been in charge of the technical side. However, the problem did not lie only in the insufficiency of horse-power. The whole improvised linking –largely by pot-luck– with an engine and boilers intended for other functions,almost certainly caused losses and malfunctioning. In any case, the order for a new engine, exclusively for the flour mill, which was decided on in early 1857 together with the increase in its capacity from three to six pairs of millstones, was again placed with Roeck's firm in Lyons, which shows that in this first phase at least the fault was not his alone.

In the second phase, however, Roeck, who was evidently not *au fait* with the workings of flour mills, was entirely to blame. According to Durutti, the

56. Chr. Zioulas Collection, contracts 1226/10.9.1855, 848/1.7.1856, 874/23.7.1856, 1373/26.10.1856 and 1526/29.11.1856, all of P. Poulos.

57. The first plot purchased was also the largest (approximately 8,000 sq. cubits); it belonged to Konstantinos Boras, 'chef at the palace', who had bought it from Prokesch Osten and the Merkourakis brothers (Chr. Zioulas Collection, contract 1226/10.9.1855 of P. Poulos); the price was 6,000 drs (or 0.75 dr. a cubit).

58. About one year elapsed between the first purchase and the next ones, during which the new installations had been completed. The first plot was bought, as we have said, at less than 1 dr. per cubit. The prices for the other plots ranged from 1.50 to 2.00 drs a square cubit.

59. First described in *Αθηνά* 24.1.1857.

60. The connection must have been made via an underground conduit and not overhead. This view is reinforced by the fact that in 1865 the then new engine was in the ground floor of the building, 'slightly sunk below the surface' (Notification of auction 1865), that is in the semi-basement space that had been created at the end of the transmission shaft.

61. The mechanization of mills had essentially been completed by the early nineteenth century, with Oliver Evans's perfection of the vertical flow.

62. Chr. Zioulas Collection, Minutes of Meeting 21.1.1862.

new engine from Lyons 'failed totally and for the opposite reason to the first failure, since [...] the steam-mill [...] failed because of the excess power of the steam engine, disproportionate to the needs of the new premises, [which] rendered this useless, on account of the large quantity of fuel it required'.[63] In the end Durutti sued Roeck in the Lyons courts, winning his case in August 1858.[64] The whole of 1857 was taken up with fruitless efforts 'to cure the steam-mill as far as possible'. In the end, in February 1858, Durutti went to Lyons, where, with the help of the Souchon brothers, who were also shareholders, he ordered a new engine and new boilers, and found another engineer, Paul Flechier, who undertook to install them in Athens.

The steam-mill was completed in March 1859, almost four years after the original decision to install it. Its problems did not end there, however: there is at least one testimony that in late 1860 it was being repaired once again.[65] According to Durutti it had cost 270,000 drs. Its trials and tribulations were to a large extent due to the operators' 'lack of technical know-how', a lack which was not easily compensated for by inviting foreign 'experts', and certainly one that significantly burdened the company's finances during the critical early years.

The final form of the flour mill and oil press is known from a description of 1865.[66] The flour mill had three-storeys (levels) above the semi-basement in which the steam-engine was installed. On the top floor there were two cereal cleaners and three separating machines (burata). The wheat was fed in pipes and funnels to the middle floor, where there were six pairs of millstones and the rotation system with the iron cog wheels. In this same space, at a lower level, there were two sieving machines, to which the ground wheat was transferred 'along small containers of tin linked to others...', that is the characteristic chain of little troughs; the same system most probably brought the wheat from the silo, located in the storey above the adjacent oil press, to the grain cleaners.[67]

On the east side of the same complex, there was the oil press on the ground floor and the silo in the upper storey. Inside the oil press there were the traditional circular tank with the pair of vertical stones, here rotated mechanically, and four oil presses, three of wood and hand-powered, and one of iron and steam-powered, as well as a tank of hot water that was linked to the boilers. Durutti later claimed that he was the first to introduce the oil-pressing industry (that is mechanized oil presses) to Greece.[68] The actual innovation here was the hydraulic press (shortly afterwards another two were added), because in all other respects the equipment was no different from that in water-powered oil presses.

The 'forge' and 'carpenter's shop' must have originally been a double hand-powered workshop, installed in a makeshift single-storey building at the southeast edge of the courtyard; it was essentially a repairs workshop, 'equipped with all the necessary tools'.[69] However, even in 1865 the machine-

63. Ibidem.

64. Ibidem. The court awarded 15,000 francs damages, possibly the price of the steam engine in France, which Durutti considered insufficient.

65. 'We found [...] the flour mill repaired and two single stones of it moving..., Chr. Zioulas Collection, Valuers' report December 1860.

66. Notification of auction 1865, op. cit.

67. Hint on the entire mechanism in an earlier description in the newspaper *Αθηνά* 24.1.1857: 'But this machine does not just grind the wheat; it cleans it too [...] and t*ransfers the cleaned grain to the upper level*, where it passes again through a sifter, and then [...] is poured into the mill' (my italics).

68. Chr. Zioulas Collection, circular from A.G. Durutti, dated 6.7.1873 (a proposal by Durutti concerning the founding of a new company, that would be addressed to various recipients; it includes an extensive description of the factory, henceforth: Durutti letter July 1873). There is also a copy of the same letter in this archive (facsimile), with the note 'August 1874'.

tools, a mechanical saw and a lathe for turning metal objects, were housed on the first floor of the flour mill. It is obvious that all the machinery of the new installations was literally 'crammed' around the steam engine, possibly to avoid transferring the driving force over greater distances, after the failed attempt to link up with the silkmill engine. When the workshops at the southeast edge were eventually completed, they were made independent by placing a third steam engine (donkey engine) there, that also functioned as a pump for the adjacent well.

The steam engine of the flour mill was 40 horse-power, most probably horizontal, with a large driving wheel weighing 4,000 okas (5.1 tonnes). By 1865, four other boilers had been added to the three of 1854; they were all located at the same point in the courtyard and beside them were three chimneystacks, one built right to the top and the other two built half way up with an iron flue above. Their position, near the boiler complex can be seen in the drawing made in 1868 (fig. 2).

The water problem

Water was vital for operating the silkmill and the constant efforts to ensure a sufficiency of it were yet another source of additional expense and fatigue. They bear witness to the undoubted advantage of places endowed with rich water resources. When the silkmill began operating, the system of supply and circulation of water was as follows: there were three stone-lined wells in the courtyard, from which water was conveyed along pipes into two water tanks, one stone-lined at the centre of the courtyard[70] and the other a free-standing metal tank which must have been near the boiler complex and the steam-engine. Water was drawn by two steam-powered pumps, also located near the steam-engine.[71] The water was conveyed from the tanks to the boilers and into the network supplying the basins.

It soon became clear that the water supply was inadequate. Two of the three wells in the courtyard ran dry; the third was widened and deepened, and the two pumps brought closer to it. Next, the water tank was linked to the well in the orchard opposite, via an underground conduit with lead pipes. Last, three new wells were sunk, one at the northeast edge of the courtyard, one outside the complex, in the adjacent plot on the same side, and another on the south side of the courtyard, which were also connected to water tanks. The overall expenditure was 14,500 drs.[72]

The water shortage must have been particularly noticeable from the moment the flour mill was founded. However, within the climate of conflict with Roeck, Durutti, who surely had a weakness for litigation, sued him in court, in February 1859, maintaining that from the outset there was not enough water even for the silkmill; he claimed compensation from Roeck on the grounds that the latter had transferred the silkmill to the Société Séricicole

69. The excerpt is from *Spectateur d'Orient*, op. cit. In the Auction report 1854, only 'an iron lathe' is mentioned.

70. There was some cleaning system in this tank: 'une bassine à jet d'eau servant a préparer l'eau pour le dévidage des cocons', see *Spectateur d'Orient*.

71. Chr. Zioulas Collection, Auction report 1854: 'two bronze pumps with all the necessaries, built near the entrance to the reeling room' –that is near the steam engine– and one 'iron tank' that was 'upon the pumps'; according the Valuers' report of December 1860, the tank was of lead.

72. All the information from the 'Valuers' report' prepared by G.V. Metaxas, K.E. Xanthis and K. Nikolaou, dated 29 March 1860 (in which the estimate of costs is given), the second Valuers' report of December 1860, already referred to, and judgment 534/29.6.1865 of the Appeal Court, Nauplion: all documents in the Chr. Zioulas Collection. It seems from this last verdict that other Valuers' reports had been made in 1863 and 1864; in the end the court only acknowledged an outlay of about 9,000 drs, whereas Durutti claimed that during the first year he brought water from elsewhere, although he had no proof of the cost (650 drs).

'under the express guarantee of the existence of the necessary [...] water there'.[73] Of course, after adding the steam-powered mill, the increased consumption of water and the new works that had taken place, it was not easy to prove whether there had been sufficient water for the initial phase of the factory. The case dragged on for six years, appraisers prepared a series of reports and it is possible that the relatively favourable decision for Durutti by the Court of Appeal in June 1865, when the Société Séricicole was being dissolved, facilitated the final expulsion of L. Roeck from the business, without compensation.[74] What is certain is that the rift with the main foreign shareholder, which was mainly caused by technical matters and the expected difficulties of getting off the ground, created an unpleasant atmosphere and decided the fate of the company form.

With these successive additions, rearrangements and continuous transformations in its early years, the Athens silkmill developed into a factory complex of multiple uses, a composite cell of production and housing at the very gateway to the capital. Its courtyard, with workshops, warehouses, stable and residences of the director and some employees, its wells and pumps, its boilers and engines, must have been a hive of activity, with constant movement and, of course, deafening noise.[75] The technical parameter, that is the technical difficulties of installation on the site, which are usual for every industry, were here burdened by effort, time and expense resulting from lack of any prior experience.

Towards the demise of silk reeling: silk or cocoons?

The silkmill began operating at the beginning of 1855, producing mainly fine silk and smaller amounts of coarse silk. The quality of the product was improved continually, while all the filatories were in operation by September 1855.[76] At that time the mean daily output per basin with the *à la Chambon* reeling system was estimated at 200 to 300 grammes, depending on the nature of the silk yarn and the number of filaments of which it was composed (its title).[77] With a corresponding yield per basin, the overall production of the Athens silkmill must have fluctuated between 48 and 72 kilos, and the annual output, for 225 working days,[78] ranged from 10,800 to 16,200 kilos.[79]

Our information on the actual production of the silkmill during the first decade concern its annual value and is taken from the Société Séricicole's book of 'Balance Sheets' (Table 4).[80] From the value we can calculate the volume of the output on the basis of the mean annual price of silk. Direct and reliable information on the price of fine silk is only available from the balance sheets for the first two years, 1855-1856 (71.52 and 96.77 drs/kilo respectively).[81] For the succeeding years we shall use indirect but quite reliable information: the prices quoted by Alexandros Mansolas (1867), which, as he

73. Chr. Zioulas Collection, judgment 534/29.6.1865 of the Appeal Court, Nauplion.

74. It is not known whether judgment 534/2.9.1865 of the Appeal Court, Nauplion, the only extant one, was also an ultimatum (by then the case had passed through the Court of the First Instance, the Appeal Court at Athens and the Supreme Court); this decision judged Roeck responsible for the lack of part of the extra water required, and consequently ordered him to pay part of the costs of the new works (4,198 drs plus 12% interest from 1859); it seems that Roeck's 19 shares had already been provisionally seized and the Appeal Court ratified this, also authorizing their sale in order to pay off the debts.

75. By 1865 a large clock had been erected in the courtyard, on a stone-built base 4 metres high, essential symbol of the new relationship with time brought in with the industrial age.

76. See. A. Δουρούτη, *Καθ'ήν...*, op. cit., 7 (memorandum 15.11.1855); the silkmill in fact participated in the Paris World Exhibition in 1855.

77. In this same period the productive capacity per basin in the Loukas Rallis silkmill was estimated at 125 drams (for 10 working hours) or 400 grammes, and the actual mean daily output as 75 drams or 240 grammes; in other words it was within the above averages ('Μεταξουργείον Λ. Ράλλη', op. cit. 449). If the yield of 180 drams (577 grammes) (see the article by Maria Christina Chatziioannou, in this volume), is not exaggerated, it must refer to a completely different system, with less wastage and of course much coarser thread. It should be noted that in none of the documents of the Société Séricicole is the exact title of its silk mentioned (see in connection n. 105 below).

78. We stick to this annual work period here, albeit less favourable to our arguments, even though the silkmill had no *a priori* reason to cease operating for three months, like the Rallis factory at Piraeus.

79. In 1873 Durutti calculated an overall capacity of 15,000 kilos for 250 basins, and 7-8,000 kilos for the 132 basins then available in the silkmill, see Chr. Zioulas Archive, Durutti letter July 1873.

80. The 'balance sheets' are presented in greater detail below. Here it is simply noted that the indications for silk production are included in the accounts headed 'Fine silks' and 'Coarse silks'. In the first two years they appear in the assets from 'Operating Results', while in the following ones they are included in the liabilities of the 'balance sheets', each time as the sum of all the preceding years, beginning from the balance sheet of 1858. So the value of output for each balance year that appears in Table 4 was obtained after the necessary subtractions.

81. In 'Operating Results' for these years the volume of production is noted precisely, in okas and kilos, the number of bales and the price.

TABLE 4
VALUE OF PRODUCTION (SILKS FINE AND COARSE), 1855-1864

Date of balance sheets	*Production period*	*Fine silks (drs)*	*Coarse silks (drs)*
31.12 1855	1855	258.009,34	9.970,23
31.12.1856	1856	718.182,7	26.888,25
30.6.1858	1857/1858α	491.666,65	28.526,18
30.6.1859	1858β/1859α	308.504,37	12.194,72
30.6.1860	1859β/1860α	253.772,80	10.179,72
30.6.1861	1860β/1861α	269.104,50	10.975,45
30.6.1862	1861β/1862α	181.487	15.953,58
30.6.1863	1862β/1863α	5.699,05	7.202,58
30.6.1864	1863β/1864α	43.241,2*	1.736,58
31.12.1864	1864β	43.343,45	4.460,85

* Of these 3,724.95 drs in a separate account headed 'Organsins et trames'.

TABLE 5
PRICES OF FINE AND COARSE SILK, 1855-1964

Year	*Prices according to Mansolas (average, drs/kilo).*	*Index 1855=100*	*Prices of fine silk (drs/kilo)*	*Prices of coarse silk (drs/kilo)*
1855	70,78	100,00	71,52*	25,65
1856	95,16	134,44	96,15 [96,77*]	34,49
1857	102,5	144,81	103,57	37,15
1858	86,72	122,52	87,63	31,43*
1859	100,5	141,99	101,55	36,42
1860	109,37	154,52	110,5	39,64
1861	81,82	115,6	82,68	29,65
1862	88,72	125,35	89,65	32,15
1863	–	[125,15]	89,5	32,10
1864	88,45	124,96	89,37	32,05

* The prices are from the Societe's books.

says, come from 'information that Mr Ath. Durutti was kind enough to give me from his books'.[82] From the average of Mansolas's prices an index was constructed, on the basis of the year 1855=100, and the prices then derived from this (see Table 5).[83] The same was done for the prices of coarse silk, for which the balance sheets only give the mean price in 1858: 31.43 drs/kilo,[84] on the assumption that these will have followed more or less those of superior quality silk. Mansolas has no price for the year 1863 and consequently the average for the indices of the years 1862 and 1864 is obligatorily used here.[85]

82. See. A. Μανσόλας, *Πολιτειακαί πληροφορίαι περί Ελλάδος* [A. Mansolas, State information about Greece], Athens 1867, 111. The prices in Mansolas's work are per oka and have been converted here on the basis of the ratio 1 oka = 1.282 kilos. The average derived from Mansolas's data deviates very little from the prices available for the first two years from the company's ledgers; e.g. for 1855 Mansolas gives 84.70-96.80 drs/oka, that is on average 90.75 drs/oka = 70.78 drs/kilo, while in the ledger of balance sheets 71.52 drs is noted. Therefore we can assume that Mansolas's evidence is reliable.

83. As the Table shows, the price reckoned in this way for 1856 hardly deviates at all from that in the ledger of balance sheets (96.15 instead of 96.77); we shall of course keep the second figure for our calculations here.

84. From various analytical entries in the assets of the balance sheet for 30.6.1858 (coarse silks to various agents), a mean price of 31.43 drs/kilo emerges, which corresponds to about 25,000 kilos, that is it covers the greater part of coarse silk production in that year (see Table 4).

85. Our estimates are verified by certain snippets of information in the balance sheets, concerning the price of fine silk in 1858.

TABLE 6
VOLUME OF PRODUCTION (SILKS FINE AND COARSE), 1855-1864

*Production period**	*Fine silks'*			*Coarse silks'*			*Total Volume (kilos)*
	Value (drs)	*Mean price drs/kilo*	*Volume (kilos)*	*Value (drs)*	*Mean price drs/kilo*	*Volume (kilos)*	
1855	258.009,34	71.52	3.607,462	9.970.23	25,65	388,7	3.996,162
1856	718.182,70	96,77	7.421,465	26.888,25	34,79	779,59	8.210,055
1857/58α	491.666,65	95,6	5.142,95	28.526,18	34,29	831,91	5.974,86
1858β/59α	308.504,37	94,59	3.261,49	12.194,72	33,92	359,51	3.621,00
1859β/60α	253.772,80	106,02	2.393,63	10.179,72	38,03	267,68	2.661,31
1860β/61α	269.104,50	96,59	2.786,05	10.975,45	34,64	316,84	3.102,89
1861β/62α	181.487	86,16	2.106,39	15.953,58	30,9	516,3	2.622,69
1862β/63α	5.699,05	89,57	63,63	7.202,58	32,12	224,24	287,87
1863β/64α	43.241,2	89,43	483,52	1.736,58	32,07	54,15	537,67
1864β	43.343,45	89,37	484,989	4.460,85	32,05	139,184	624,173

* The output noted on 30.6.1858 corresponds to the whole of 1857 and the first semester of 1858, and is consequently larger than the annual one.

As can be seen in Table 5, the short-term cyclical fluctuation in silk prices was three-yearly (two years rise, one year fall), while the long-term upward trend, that had begun some time before the period being examined here, seems to reach its peak around 1860/61; in the last years (1862/64), the prices were stabilized at a reasonably satisfactory level, but which in no case corresponded to the crisis conditions created in Greece by the drop in cocoon production, as had happened during the 1850s with the collapse of French sericulture: the value of the output of small countries does not of course affect prices at an international level.

We can now calculate approximately the volume of production (Table 6), on the basis of the mean annual prices for silk.[86] It is obvious that the Athens silkmill never operated at maximum capacity.[87] Only in 1856 did the output of about 8,200 kilos approach the lower of the limits mentioned above. From the following year it began to fall steadily, to complete its cycle in 1859/60, that is before the cocoon disease became widespread, at the level of 2,660 kilos. The brief recovery in 1860/61 proved short-lived, and in the following year output decreased once again. It was virtually nil in the period 1862-1864, when pébrine destroyed the greater part of the cocoon production. If we exclude the year 1856 and the period of crop failure 1863-1864, the annual output ranged roughly from 2,700 to 4,000 kilos, that is it corresponded to 47 to 70 working days of 10 hours (or 2-3 months), according to the averages mentioned. In other words, large as the factory was, it was essentially operating below capacity.

86. For 1855 and 1856 the prices in Table 5 are taken unaltered. After that, the accounting year no longer coincides with the calendar year; furthermore, it seems that the agents in Lyons did not pre-purchase the output at predetermined prices. On the contrary, there are convincing indications that the selling prices followed the fluctuations of the market: In September 1856 Durutti mentions 'the last price-list from Lyons of the 10th inst.', see *Καθ'ήν στιγμήν...*, op. cit., 16. Since any other method of levelling would be arbitrary, I have decided to take the mean of the prices of the pair of calendar years corresponding to each fiscal year.

87. I wish to make it clear that I avoid 'rounding off' the numbers because this introduces an additional arbitrary factor that makes the verifications more difficult. However, in no case does this mean an analogous degree of accuracy at a level of decimals.

TABLE 7
PRICE OF COCOONS, 1855-1864

Production period	*Silk (kilos)*	*Cocoons required (kilos)*	*Value of cocoons consumed*[1] *(drs)*	*Mean price (drs/kilo)*	*Year of harvest*
1855	3.996,162	17.155,54	220.241,96	12,8	1854/55
1856	8.201,055	35.227,09	561.679,96	15,9	1855/56
1857/58α	5.974,86	25.374,28	684.133,09	27	1856/57
1858β/59α	3.621	15.536,94	209.068,55	13,5	1858
1859β/60α	2.661,31	11.415,32	201.210,11	17,6	1859
1860β/61α	3.102,89	13.304,92	242.093,17	18,2	1860
1861β/62α	2.622,69	10.971,9	186.141,54	15,5/17[2]	1861
1862β/63α	287,87	1.019,96	–	–	1862
1863β/64α	537,67	2.306,18	29.120,39	12,6	1863
1864β	624,173	2.593,26	47.124,35	18,2	1864

1 In 1855 and 1856 the value of consumed cocoons appears in the 'Operating results' (sum of the two harvest 1854/55 and 1855/56 respectively). For the following years, I considered that the harvest of the year corresponds to the silk production of the same accounting year (e.g. the 1859 harvest corresponds to the 1859/60 silk production).
2 The lower price is arrived at if we reckon in the 1862/63 output, given that the purchase of cocoons from the 1862 harvest does not appear in the balance sheets.

The fundamental problem of the Athens silkmill was cocoons. I have spoken elsewhere of this basic contradiction faced by the first branch of industry in Greece.[88] The cottage-industrial production of silk initially impeded attempts to set up factories. It later gave way, when demand abroad made it more profitable to export cocoons than silk, as happened in the 1850s on account of the protracted crisis in French sericulture. At the same moment, the now mass commercialization of the cocoon, together with the general rise in prices of all silk products that came in the wake of the crisis, made the creation of factories a feasible and attractive prospect. But these factories had to deal with an almost insoluble problem: the high price, or otherwise the rarity, of their raw material, on account of exports. The Athens silkmill offers us a rare opportunity to examine in depth these problems and their confrontation.

One basic parameter in this investigation is the price of the cocoon, for which the company balance sheets unfortunately offer hardly any indication. They do however give the value of the cocoons purchased from each harvest.[89] So we shall endeavour to gauge their mean price, by calculating first the volume of cocoons that corresponds to the output of each accounting year, on the basis of the datum that the volume ratio of cocoons/silk was 4:1 (Table 7).[90]

The course of cocoon prices shown in Table 7 renders quite satisfactorily the developments in this market, as known from other sources:[91] from 1855 to

88. Χρ. Αγριαντώνη, *Οι απαρχές της εκβιομηχάνισης στην Ελλάδα τον 19ο αιώνα* [Chr. Agriantoni, The beginnings of industrialization in 19th-century Greece], Historical Archive - Commercial Bank, Athens 1986, 37-40, 72-73.

89. In the assets accounts headed: 'Allowance for cocoons for... [year of harvest]'. In 1855 and 1856 the amount consumed is distinguished (in 'Operating Results') from the stocks (in the assets of the balance sheet). In the following years, since there are no longer 'Operating results', all the accounts for cocoons, always separate for each harvest, are transferred from one balance to the other.

90. This ratio was applicable to fine silk. For coarse silk a ratio of 3:1 was estimated, while a further 10% was added to the total for noils. In the 1855 balance sheet the volume of 'perforated' cocoons is noted (1,000 okas), which does indeed represent about 10% of the volume calculated here.

91. The fluctuations coincide with those given by the data on cocoon exports in the period 1857-1866, despite the doubtfulness of these data, see Λ. Δόσιος, *Περί βιομηχανίας εν Ελλάδι* [L. Dosios, On industry in Greece], Athens 1871, 65. Of course the prices estimated here correspond to payments by the silkmill and not to prices in the places of purchase. In a despatch invoice for cocoons, now in the Chr. Zioulas Collection, dated 11.7.1871 (of D.A. Leontaritis), it seems that there was a surcharge of 2.3% on the buying price from the local supplier, for selection, packing and transportation, and a further 2% commission was added to the total.

1857 prices increased dramatically on account of the great demand caused by the disaster in French sericulture. After the 1857/58 recession, that accompanied the commercial crisis of the period,[92] prices recovered, to remain at relatively high levels from then onwards, while from 1860 the disease spread, destroying the greater part of the production in 1861-63.[93] (Our prices for the harvests 1862-1864 are hardly representative since they correspond to now negligible quantities). Even so, our calculated mean price for the 1856 and 1857 harvests (27 drs/kilo) gives the impression of a serious anomaly within an otherwise 'normal' fluctuation;[94] the situation is here complicated by the fact that the productive period (1857/1858a) corresponds to a year and a half, and coincides with the change in the accounting system, while we also have a serious accounting irregularity.[95]

Of all the hypotheses that can be made about these anomalies, the most plausible is that part of the 1856, and the 1857, harvest was not processed into silk but exported as cocoons. This does not appear explicitly in the balance sheets, but is inferred by other indirect evidence.[96] On the basis of this evidence, the volume of the export is estimated at approximately 19,500 kilos, and consequently the mean price of the 1856/57 harvest can be 'adjusted' accordingly: it will have been about 20 drs/kilo, again a high price which, since it is an average, was even higher seasonally. The fact that the income from these exports does not appear in the balance sheets does not necessarily mean intentional concealment; as we shall see, the balance sheets are not particularly accurate and systematic. In any case Louis Roeck had clearly stated the relevant 'threat' in a memorandum to Queen Amalia in February 1857: 'The Athens Company', as he wrote then, 'with its powers exhausted is forced to deprive the poor girls of Athens of work, to send all its cocoons to France and to shut down the silkmill, until it pleaseth the government to settle this serious issue [i.e. increase the export duty on cocoons]. Demoted to the profession of merchant, the Société will earn more money, and perhaps then the gentlemen deputies will realize that through their indifference they took away the bread from 300 poor families in Athens in order to increase the profits of a few merchants'.[97]

The silkmill did not close down, but the industrial firm was indeed transformed, albeit temporarily, into a commercial one, when the cost of its raw material rose beyond a tolerable level. It is this ascertainment that interests us here. What was that tolerable level? Table 7 indicates a 'ceiling' of around 20 drs/kilo. Obviously the limit depended on the prices of silk. Until 1860 at least, the prices of cocoons followed the prices of silk, that is the demand abroad, whereas at the end of the period the singular home circumstances of the reduced production seem to have disengaged the two values (although our evidence for this period is very limited and unreliable); on the other hand their difference (calculating quadruple the price of cocoons) shows fluctuations critical for the profit margins of the silkmill, from 16 to 32

92. Durutti referred to this 'crisis' at the 1862 general meeting, see Chr. Zioulas Collection, Minutes of meeting 21.1.1862.

93. See on all these subjects, M. Ρηγίνος, Η οικονομική ιστορία του μεταξιού. Από την περιφέρεια της Ευρώπης στη περιφέρεια της Ελλάδας [M. Riginos, The economic history of silk. From the provinces of Europe to the provinces of Greece], in *Η σηροτροφία στο Σουφλί* [Sericulture in Soufli], Cultural Foundation, ETBA, Athens 1992, 15-69.

94. The highest price located in the sources is that mentioned by Durutti himself in his memorandum of September 1856, and he had reasons for exaggerating: the price of cocoons had then risen to 30 drs/oka or 23.4 drs/kilo, while the prices in Marseilles ranged between 26 and 28 francs/kilo (*Καθ'ήν στιγμήν...*, op. cit., 33).

95. In the balance sheet for 31.12.1856 the sum of 254,606.1 drs appears as a balance (stock) of the 1856 harvest, whereas the same account in the balance sheet of 30.6.1858 records only 75,868.51 drs. In other words part of the 1856 harvest which had not been consumed by the end of the year and which does not appear anywhere hence forth, is missing.

96. From 1858 the account 'cocoons to Souchon' (i.e. to Lyons) appears, but this includes small sums that do not justify export of cocoons on such a scale; the indirect evidence for this is in the liabilities for 1858 and 1859, where the debts to the Customs at Piraeus are entered analytically: the company evidently owed sums for 655 packages of cocoons (*in toto* and for two years). An average weight of about 30 kilos per package is deduced from all the entries, which means that duty was paid on an overall volume of 19,650 kilos of cocoons. It is thus clear that these were exported, because for transport in Greece only municipal taxes were paid and not customs duties.

97. GSA, Otto Archive, Ministry of Interior, file 252, L. Roeck to the queen, Athens 21.2/5.3.1857 (in French).

TABLE 8
ANALYSIS OF PRODUCTION COSTS, 1855-1856

Accounts	*1855*		*1856*	
	Total (drs)	*per unit (drs/kilo)*	*Total (drs)*	*per unit (drs/kilo)*
Labour[1]	17.408,5		31.157,2	
Fuel[2]	6.309,64		14.193,30	
Maintenance and running[3]	5.910,37		12.026,08	
Postal charges[4]	5.017,58		9.785,69	
Total production cost (a)	34.646,09	8,67	67.162,27	8,19
Salaries of factory staff	9.349,97		12.831,64	
Manager's salary	6.000		6.000	
Office expenses and miscellanea[5]	1.077,12		5.224,76	
Total of general expenditure (b)	16.427,09	4,11	23.898,25	2,91
Taxes and duties[6] (c)	2.684,31	0,67	2.288	0,28
Interest (d)	8.501,77	2,13	12.376,45	1,5
TOTAL (a+b+c+d)	62.259,26	15,58	105.724,97	12,88
Depreciation[7]	12.160	3,04	12.160	1,48
Mixed cost	72.419,26	18,62	118.884,97	14,36
Cocoons	220.241,96	55,11	561.670,96	68,41
COST PRICE	282.501,22	78,31	668.395,93	89,93

1. The accounts 'Reelers wages' and 'Expenditure on reeling coarse silks'.
2. The account 'Coal from Kymi'.
3. The accounts 'Expenditure on maintaining the factory', 'Expenditure on the steam engine', 'Cocoon selection', 'Burlap, ropes and string' and 'Smithy'.
4. The accounts 'Expenditure on despatching silks', 'Expenditure on despatching coarse noils' and 'Postal dues'.
5. The accounts 'Office expenses', 'Miscellaneous expenses of the factory' and 'Expenditure of the Silkmill'.
6. During the first two years, 'Athens Hospital tax' and 'Fire insurance dues'.
7. 8% of the fixed capital.

drs, if we limit ourselves to the period up until 1861.

Analysis of the cost of production in the first two years (Table 8) indicates that the contribution of cocoons to the cost price was over 70%, while the net production cost (8.2-8.7 drs/kilo), together with the general expenses, taxes and interest, reached 13-14 drs.[98] If we add the depreciation (which was not taken into account in the balance sheets), we reach a mixed cost of 14.4-18.6 drs, without reckoning any profit. Consequently, Durutti rightly considered the purchase of cocoons unprofitable when their price exceeded 15 to 20 drs, given that the prices of silk usually ranged between 80 and 100 drs/kilo. This is the reason why he had already begun his struggle to have the export duty on cocoons increased, in February 1855, when their price was over 15 drs.[99]

98. This analysis is not possible for the following years because the accounts correspond to the mixed productive activity of the business. In Table 8 the reduction to unit is based on the total output (fine and coarse silk), because it is not possible to break down the various bills and expenses. The deviations from the cost of fine silk are negligible because in both cases coarse silk represents less than 10% of the total. It should be remembered that the participation of the cocoon in the value of the product was estimated at around 80% in traditional reeling too, see R. Tolaini, An Italian silk firm on the international market: the Scotis of Pescia (1815-1860), *Textile History*, 25 (1994), iss. 1, 80.

99. We should remember that the price of 12.8 drs/kilo, cited in Table 7, is the average for the 1854 and 1855 harvests.

Faced with this tug-of-war, Durutti had two options. He applied the first in 1857, when, having bought cocoons at high prices, perhaps above 20 drs/kilo for some batches, he chose to export them, since silk prices were not moving correspondingly. The second option, which seems to have been of longer duration, was not to buy cocoons when their price went beyond the critical limit: 'I have an order from Mr Ath. Durutti to procure for him cocoons that will cost him dry, with all the expenses, 20 drs an oka [=15.6 drs/kilo]', wrote Sp. Alexandrakis from Kalamata to M. Iatros, in June 1860, when the current prices were 27-28 drs,[100] and for this reason '... I till this day have not made any purchase for your silkmill in Athens...'.[101] It seems that in the end Durutti did buy at higher prices that year: 18.2 drs/kilo, on average, according to our calculations, perhaps because the price of silk reached 110 drs. Early in September, however, when Alexandrakis assured Iatros that he had agreed with Poulakos from Sparta to buy a batch of 579 okas, on behalf of Durutti, 'the current price of cocoons is 24 drs [=18.7 drs/kilo]...'.[102]

Evidently Durutti finally made marginal purchases, either in places with lower prices (Andros, for example) or at the end of the season, when cocoon prices were falling or silk prices forming at reasonable levels. But this brought him up against a new problem: he could not find enough cocoons, which explains the drop in the silkmill's output and the consequent rise in the cost of production per unit (see the comparative cost for the years 1855 and 1856 in Table 8).

A large industrial unit that does not make economies of scale is bound to have problems. In general, with such marginal potential, silk-reeling was not viable as a self-sufficient industrial enterprise. It was only viable as a supplementary activity of basically commercial enterprises involved in diverse transactions with the rural world, in close proximity to it and using alternatively its casual and seasonal workforce. Such was the case of the Fels & Co. silkmill and of other businesses in Kalamata, Sparta and even Patras: 'In our days cocoons are bought for the present by the German house of Fels, by the Frenchman Alex. Fournaire, Aristides Pantazopoulos, Ioannis Stoumbos and Demetrios Sklaveas...', wrote Spyridon Alexandrakis in June 1860, precisely when he himself could not purchase on Durutti's behalf. We do not know whether Durutti participated personally (or in collaboration with Iatros) in the export trade of cocoons. In any case the Société Séricicole does not seem to have repeated the export experiment of 1857, at least on such a scale.

The equipment of the silkmill itself was also utilized in another way. The company balance sheets show that after 1859 the factory undertook the reeling of silk for third parties.[103] We reckon from the related income that this work employed the silkmill (at full capacity) for one month at the most. This was not enough either and after 1865, when Durutti was sole proprietor of the silkmill, he drastically reduced its equipment, which remained out of action

100. MIA, vol. IX, file 1048, 14.6.1860, Alexandrakis (Kalamata) to Iatros (Nauplion). The fact that the cocoons were bought dry was not without consequences. Correct dessication was important for the quality of the cocoon, therefore lack of control (mainly through timely pre-purchasing) of producers or intermediaries who carried out this process also meant an inability to monitor quality. For this reason the reelers of Tuscany, for instance, bought fresh cocoons as early as possible, and dried them themselves, see R. Tolaini, op. cit., 81.

101. MIA, op. cit., file 1050, 19.6.1860, Alexandrakis to Iatros.

102. Ibidem, file 1074, 2.9.1860, Alexandrakis to Iatros.

103. In the balance sheet of 30.6.1860 the account 'Reeling of silks' appears in the liabilities (income). That it concerns this kind of work is confirmed also by comparing daily wages with the volume of production, which do not develop in parallel after 1860. This account (cumulative) develops as follows (after the necessary subtractions):

Year	'Reeling of silks'
30.6.1860	10,660.79
30.6.1861	8,398.95
30.6.1862	12,843.55
30.6.1863	20,689.15
30.6.1864	420.4
31.12.1864	-

for years. In 1873 there were only 132 of the original 240 basins in the silkmill; part of the rest was perhaps sold to provincial silkmills or dissolved, while 16 basins were transferred to the silkmill at Sparta which re-operated for an interval.[104] So Durutti was led where silkmills in other countries had been led much earlier, that is out of the urban area into the silk-rearing countryside.

Improving the product, restructuring production and 'verticalization' were another possible way out. Although Athens silk was significantly better than cottage-industrial silk, it did not command the highest prices for its class ('*soie grège*', that is untwisted thread) in the Lyons market, and naturally was not to compare with the ready yarn of the French and Italian spinning mills. At an early stage Durutti seems to have tried to produce lightly twisted silk, with some 'twisting machines', [105] while the production of yarns ('*organsins et trames*') appears in the 1864 balance sheets, in a separate account, as a small part of the whole. This attempt, especially difficult and with very little chance of immediate success, at least, must have been further exacerbated by the conditions of Greek sericulture, which did not offer choice and, more important, clearly distinguished qualities; these conditions deteriorated once the disease broke out:[106] it is characteristic that in the period 1862-64 the ratio of coarse silk in the overall output of the silkmill was appreciably higher, perhaps because of the fall in the quality of the cocoons.

Towards the end of the period examined here, Durutti tried to expand into silk-weaving. By 1863 he had already installed a loom in the upper storey of the large hall, where he 'tried to make velvet, and the outcome surpassed all expectations...' [107] However, the venture does not seem to have progressed beyond the experimental stage.

From exporting cocoons to reeling for third parties and attempting to produce yarns and textiles, the course of the Athens silkmill bears witness to an effort to come to grips with a purely industrial task, despite the adversities. Silk-reeling, now on the wane, was essentially replaced by flour milling, which gave a significant reprieve to the factory's life, until the crystallization of the economic traits of the new sector, with its concentration in the major ports, also expelled this industrial activity from the capital.

'Greece has a greater need of production than of industry...'

The appearance of the silk-reeling industry in Greece in the 1850s brought to the fore the issue of what economic policy should be followed regarding industrialization, until then largely a theoretical question. The Athens silkmill, and Athanasios Durutti in particular, played a central role in the associated discussion, which is of seminal interest since it was the die in which all

104. See Chr. Zioulas Collection, Durutti letter July 1873. Reduction in the number of basins must have begun in 1865 and was completed in 1867, see Chr. Zioulas Collection, untitled, undated and unsigned description of the factory, with the indication '1869' on the first page (henceforth: Description 1869), which mentions 136 basins in the silkmill at the time.

105. They appear in the balance sheets (assets, equipment) from 1856. In the Lyons market 'Eastern silk' was titled 11/13, while the finer Italian silk, 10/11 (3-4 filaments in the thread) and top quality French silk, 8/12. It is possible that the silk of the Société Séricicole was closer to the traditional Eastern type, although it was certainly finer and more even.

106. On the chaotic situation in the egg market and the varieties at the time, see Φωκιωνός Β., Σκωληκοτροφία [Fokionos V., Rearing silkworms], *Πανδώρα*, iss. 12 (1861-62), iss. 268-271. The author of this series of articles reveals that the Kalamata silkmills (had made similar attempts to produce *soie filée* (silk yarn), but without success.

107. Μ.Π. Βρετού, *Εθνικόν Ημερολόγιον... 1864* [M.P. Vretou, National Diary... 1864], op. cit. The loom is not mentioned in the Notification of auction 1865, while in the Description 1869 we read: '... above the storeroom of the bakery [at the southwest edge of the complex] is the weaving shed for silk and various weaving tools which are at present out of use'.

subsequent views on industry were cast, and which to a considerable degree determined its fate.

Confronted with the aforementioned difficulties in the cocoon market, A. Durutti wrote three successive memoranda on this matter: the first was addressed to the Ministers of the Interior and Finance, in February 1855, while the second and the third to the Ministerial Council, in November 1855 and September 1856 respectively.[108] In essence he made three requests: to increase the export duty on cocoons, to allow free import of cocoons from abroad, and to exempt silk exports from taxes. At that time the export duties were 0.60 drs/oka on cocoons and 1.5 drs/oka on silk.[109] However, cocoons were naturally his prime concern. He based his argument on the premiss that 'in a newly-founded state every industrial enterprise [...] requires the support and protection of those who govern'. This view, systematized theoretically by Frederick List, was fundamental to economic thinking and policy in the nineteenth century. Citing examples from a host of European countries, Durutti directly linked the success of the 'new-born industry' with these measures, yet making it quite clear that he was not seeking 'privileges or exceptional orders' but 'simply the application of the laws': he claimed that after the large increase in the price of cocoons their export duty no longer represented 6% of their value, which was the usual basis for calculating export duty on all commodities.

It is obvious from the content of these memoranda that Durutti was following closely the discussions held at government level and was informed on the proposals being circulated: as we have seen, the Société Séricicole had contacts with politicians, the palace and influential persons. So, in his second and third memoranda Durutti was obliged to develop arguments in support of his claim 'that the interest of the Société Séricicole was identified completely with the well-intended interest of our entire society', expressed axiomatically as 'self-evident' in his first memorandum: this axiom was in reality a moot point for Greek society, which was already facing –and would continue to face for many years– the dilemma: agricultural or industrial development, without managing to give a clear-cut answer.

The issue was eventually discussed in Parliament, in October 1856, when Alexandros Koumoundouros, Minister of Finance from July of that year, introduced an emergency bill increasing the export duty on cocoons from 0.60 to 0.70 drs/oka and exempting from tax the export of silk reeled 'in the Italian and the French manner'.[110] Koumoundouros acknowledged that the proposed increase was insignificant (16.7%): 'the addition of 10 lepta could not possibly harm the producers, because today the cocoon is priced at 40 drachmas an oka, whereas the duty is determined at 60 lepta, estimated on a price of only 12 drachmas. But although the increase in tax is so insignificant, it contributes at the same time to supporting the factories...'.

The Minister of Finance's proposal was in fact contrary to his deeper

108. All three were published in the pamphlet *Καθ'ήν στιγμήν...*, op. cit.

109. *Καθ'ήν στιγμήν...*, op. cit., 8. On the development of taxation and export duty until the early 1850s, see Γ. Μητροφάνης, *Η φορολογία της αγροτικής παραγωγής στην Ελλάδα, 1828-1862* [G. Mitrofanis, The taxation of agrricultural production in Greece 1828-1862], PhD thesis, University of Athens (Department of Political Science), Athens 1992, 184-198.

110. The bill was submitted to parliament on 16 October 1856; it was discussed and voted on two days later, 18 October; see *Πρακτικά των Συνεδριάσεων της Βουλής* [Proceedings of the Sessions of Parliament], Third Session, Fourth Parliamentary Period, vol. 3, Athens 1856, 1313-1314 and 1332-1342, from where all the excerpts are taken.

philosophy. Koumoundouros was an advocate of free trade, and indeed in the most archetypical *laissez-faire* version of Adam Smith's liberal theory, that considered the 'invisible hand' automatically beneficial to all. For him there were no conflicting interests: 'What benefits the primary producers [...] is the over-pricing of cocoons and silk [...] the factories, by provoking competition, contribute to the over-pricing...'. This legitimized a priori the support of the factories. Neverthless, Koumoundouros was not dogmatic; moreover, in his heart of hearts industry meant a higher stage of development: 'Why should Greece produce only unfinished and primary products? Until when shall we be in that archaic state [...]? [I] on the contrary embrace the new era, in which nations should process and perfect their products, not only for reasons of prestige but also of interest...'. So, despite his convictions, he agreed to make a small concession in the direction of protectionism, because industry had to face hard European competition: 'In Europe [the industrialist] pays 4% [interest...] In Europe they have available machines [...] In Europe there are mechanics [...] In Europe the daily wages are much lower [...] So how do you expect the factories in Greece to compete with those of Europe?'.

Here Koumoundouros followed A. Durutti's arguments, with which he was conversant not only from the memoranda. His relations with Constantine Durutti, which are documented at least from the 1870's, probably date from much earlier.[111] When asked in parliament why he was rushing through measures on silk and cocoons although he had introduced the customs bill not long before, he was characteristically evasive; whereas he had mentioned specifically 'two industrial factories, of K.K. Rallis and Durutti' in his opening speech, Koumoundouros hedged the issue in his second one, referring only to the proposals of some merchant from Andros.[112] But personal relations and mutual services could overcome neither the dominant currents in political thinking nor the constraints placed on the politician by the balance of power – the overwhelming weight of the agricultural sector, and indeed in a period in which the great currant crisis was still imminent.

The objections raised in parliament to Koumoundouros's proposal did not concern so much the issue of 'liberalism or protectionism', as the dilemma 'agricultural production or industry'. Though limited, they certainly echoed more widely held views. Objections were mainly raised by certain deputies from Lacedaemonia, as was to be expected, and by the University deputy, Spyridon Pilikas. This conservative lawyer expressed archaic views –even for Greece at that time– of a physiocratic hue, declaring that 'Hellas will flourish only through [agricultural] production and not through industrial factories'.[113] But the basic argument of all who spoke, that the protection of agricultural production had priority, as well as the general doubting of the expediency of industry, which was again expressed by Pilikas,[114] were views repeatedly supported by the press:[115] the conviction that Greece was 'naturally' an agricultural and nautical country, was to show great resilience to time.[116]

111. In 1872 C. Durutti had received a loan from the National Bank, with surety from Koumoundouros and registration of a mortgage on land-holdings of the latter, which fact bears witness to very close relations. During the period 1879-1881, Spyridon and George Durutti, sons of Athanasios and heirs of their uncle Constantine, who had died without issue, still kept a book account with Koumoundouros (they discounted bills of exchange of his acceptance in the General Credit Bank). In other words, it seems that Constantine Durutti was somehow the private banker of Koumoundouros, who in any case died up to his eyes in debt: 'The Bank is aware of the great debts we inherited from our father', wrote Koumoundouros's sons to the National Bank of Greece after their father's death. The relevant documents are in the ΙΑ/ΕΤΑ, Χ/ΙΔ ('Bonds'), file 41; the excerpt is from a letter from Koumoundouros's sons to the National Bank of Greece, dated 1 November 1884.

112. 'A merchant from Andros [...] intends to set up a silk-spinning factory on Andros, but is prevented [...] as long as such advantages are not given to the factories in Greece [...]. So this is the reason why [I] am obliged to hurry [...] since it concerns the acquisition of a new industrial factory.'

113. Koumoundouros answered: 'I really wonder how the University deputy wants to separate [agricultural] production from industrial factories'.

114. 'Progress and prosperity of the industrial factories does not mean progress and prosperity of society', Pilikas said; this phrase perhaps echoes the ideas of Sismondi, whom Pilikas must have heard when studying at the University of Geneva, see *Απομνημονεύματα...* [Memoirs...], op. cit., 5 (Editor's preface).

115. The newspaper *Φιλόπατρις* had already replied to Durutti's memoranda on 6.10.1856, supporting the export of cocoons. Similar views in Β. Φωκίωνος, op. cit.

116. See in connection Χρ. Χατζηιωσήφ, Απόψεις γύρω από τη βιωσιμότητα της Ελλάδας και το ρόλο της βιομηχανίας, *Αφιέρωμα στον Νίκο Σβορώνο* [Chr. Chatziosif, Views concerning the viability of Greece and the role of industry, Festschrift for Nikos Svoronos], University of Crete, vol. 2, Rethymnon 1986, 330-368.

So, even though the bill was passed in principle by 73 votes for to three against, with one abstention,[117] in the clause by clause debate, Koumoundouros, willing to temper impressions, at once accepted the amendment to remove the specification that only silk reeled 'in the French and Italian manner' be exempted from export duty, so that the measure would also benefit cottage-industrial silk-reeling. Such balancing acts could not lead to measures particularly favourable to the industry.[118] Moreover, even these deficient measures were temporary. The customs tariff voted on a little later in 1857, oriented toward the full liberation of exports, adopted the gradual decrease of all export duties by 20% every two years, so that they would be abolished completely within ten years (article 5).[119] According to this regulation, in 1861 the duty on cocoons had dropped to 0.42 drs/oka.[120]

Not long after, in 1863, on the pretext of another discussion in the IInd National Assembly concerning the change in the system of collecting the land tax on cocoons,[121] Pavlos Kalligas, then deputy for Attica, expressed more clearly the conflict of interests that Koumoundouros did not want to accept: 'I know that two opposed interests have been clashing for many years, the interest of sericulture and the interest of the silk-reeling factories...'. Kalligas wished to be conciliatory: '...I think that we must compromise the interests on both sides...', yet at the same time stating his preference for the norm of the majority: 'Considering the large numbers involved with sericulture, I say that the interest of the silk-rearers is greater'. Koumoundouros, once again Minister of Finance, insisted in his ideas: 'Mr Kalligas is misled [...] No, Gentlemen, sericulture is developed [...] since the cocoon[122] is priced [...] at 15 and 20 drachmas per oka [...] and the rise in price of the cocoon begins more or less from the period that factories also began to be set up in Greece, because the competition of purchasers thus increased. Consequently, the existence of the factories and in general the interests of the factories are not contrary to the interests of the silk-rearers...'. The small detail Koumoundouros forgot to mention, and that no one reminded him of, was that the 'rise in price' was not caused by the demand from factories at home, but abroad. On this front, however, he expressed himself more explicitly on this occasion: 'If this tax[123] is imposed in order to reinforce the industrial factories... then a protectionist system will be established and... I am not in favour of such a system'. Indeed he put forward the argument that was to support later all analogous anti-protectionist views: 'Of course [...] these factories have survived without this protection, and this is due to the genius of the managers, the thrift with which this work is executed. Because truly, Gentlemen, in Europe the expenses are much less, but a kind of waste unknown in Greece takes place there, as a result of which all the European factories that were to be built in Greece failed...'. The 'thrift', that is the limited percentage of profit and the low rates of accumulation, was precisely the mechanism that prevented industry from becoming the leading, dynamic sector of the Greek economy.

117. S. Pilikas, Stamatios Dokos, deputy for Hydra, and S. Kopanitsas, deputy for Lacedaemonia, voted against, while one other deputy from the latter province, E. Meletopoulos, abstained.

118. Already in his second memorandum, Durutti had made clear that he did not consider the increase in duty to 0.80 drs, then being discussed, sufficient and requested a generous increase to 1.50 drs, if not a total ban on exports.

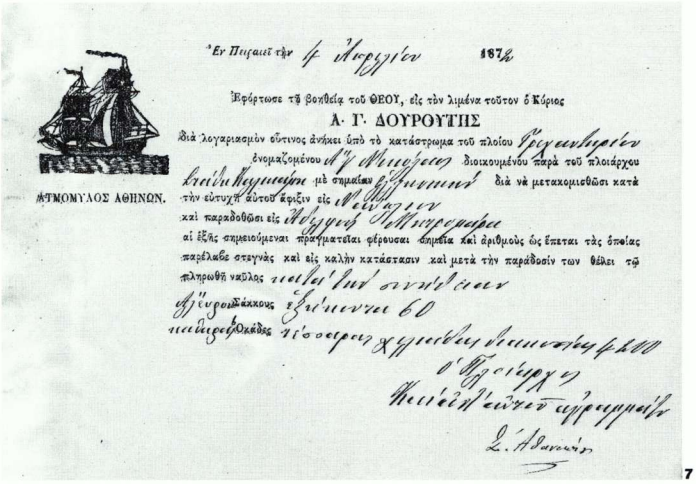
119. Law of 10 June 1857, Official Gazette (*Εφημερίς της Κυβερνήσεως*), iss.19/5.7.1857.

120. Relevant circular in the Official Gazette (*Εφημερίς της Κυβερνήσεως*), iss. 63/13.10.1861.

121. This tax (7%) was still collected by the system of renting (since 1851, see G. Mitrofanis, op. cit.). The proposal for changing the system and levying a fixed monetary tax, collected by the Customs Authority at the time of export, was submitted to the IInd General Assembly by the deputy for Kalamata, Konstantinos Dagres. See *Επίσημος Εφημερίς της Συνελεύσεως*, iss. 77-78, Session 95 on 6 May 1863, 613-621, from where the excerpts are taken.

122. In the original the word 'βάμβαξ' (cotton) is repeated, obviously a misreading from the shorthand minutes of the session, of the word 'βομβυξ' (= cocoon).

123. At that time the levying of a land tax of 1.4 drs/oka, to be collected by the Customs Authority, had been proposed; together with the export duty (0.42 drs), the total would have reached 1.80 drs. which sum Koumoundouros considered excessive. On the specific issue before the session, Koumoundouros was against changing the system of collecting the tax, arguing that every tax on exports constituted a restrictive measure for trade; he agreed, of course, that the system of renters was archaic, but maintained that the only solution was to establish a tax on acreage. In the end the issue was referred to the drafting of the taxation law.



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7. Bill of lading of the 'Athens Flour mill', 4 April 1872. 60 sacks of flour (4200 okas) were loaded at Piraeus onto the sailing ship (*trechantiri*) the *Aghios Nikolaos*, skipper Stathis Kalikamis, destined for Nauplion; recipients the Mitromaras brothers, freightage 'the usual'. 15.5 x 20 cm. (Chr. Zioulas Collection).

Dominant Liberalism on the one hand, pro-agriculturalism on the other: the battle for social prestige (with which the 'waste' that Koumoundouros censured was articulated) was already lost for the industry, and perhaps this was more important than the lack of protection through export duties. It is in any case dubitable to what extent the Athens silkmill would have benefited from this protection, even though the crisis in the cocoon market was decisive for the first years of its life. Later, after 1866, with the recovery in sericulture and in more normal market conditions, the silkmills developed once again, but this time in the provinces and not in the capital.

The 'Athens Steam Mill'

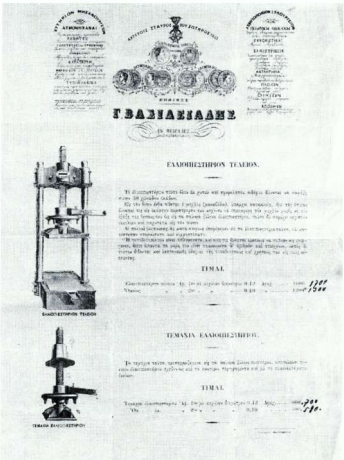
From 1860 the flour industry constituted the basic activity of the Athens 'silkmill'.[124] The company's 'balance sheets' yield information only on the level of the flour mill's net income, after the deduction of raw material and wages.[125] The development of the relevant accounts can be seen in Table 9.

As the Table shows, the flour mill began operating normally from 1860; the temporary fall in production in 1861/62 was perhaps due to new technical problems arising then, that demanded new repairs, as we have seen. A significant part of the income came from grinding on behalf of third parties: this began in the first year of trial operation and its share of the whole continued to increase. A long tradition of milling was continued in the factories, and indeed continues to this day.

The volume of the mill's output can only be estimated on the basis of scant and indirect evidence. All we know is that from February to December 1859

124. From a loose document in the Chr. Zioulas Collection (bill of lading dated 4.4.1872) it seems that the flour mill had acquired its own name, 'Athens Steam mill', and trademark, 'a sailing ship' (see fig. 7).

125. In the debit accounts under the heading 'Sale of flour', which from 1860 was renamed 'Profits of the steam mill' and 'Grinding costs'. On the movement in the 'Wheat forecast' account of the credit, it is clear that the same system was not followed here as in the silkmill, but that only the stocks (assets) and the net income (liabilities) were entered in the balance sheets.



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8. Advertisement sheet of the Vasileiadis machine shop (Piraeus), from the period 1871-1875. It advertises the illustrated oil press of cast iron, as well as iron parts that can be fitted to wooden presses. Bottom right: 'Ekatoncheiros Printers'. 40 x 30 cm. (Chr. Zioulas Collection).

the company bought a total of 1,227,102.352 okas of wheat, mainly from Russia (Taigani), but also from Turkey and Syria.[126] The mean price for these purchases was 35.8 lepta/oka. We also know that the gross income for the first year (4,894.02 drs) corresponded to a purchase of grain worth 4,198.19 drs.[127] Lastly, we know that in 1873 Durutti reckoned the operating costs of the mill as 3 lepta/oka of wheat and the net profits (milling fees) as 4 lepta/oka. After processing this information in various ways we arrived at the numbers shown in the last column of Table 9, which indicate the minimum and maximum limits of consumption of raw material.[128] The steam mill evidently consumed some 1-2 million okas of wheat, which means that up until 1864 at least it was not working to full capacity, which Durutti reckoned in 1873 as 3-4 million okas.[129]

We have no indications on the way in which the business moved in the grain market. In the 1859 purchases 27 suppliers are mentioned, among them 4 sea captains and some of the leading grain merchants in Piraeus (N. Meletopoulos, Moutsopoulos Brothers, Mavros & Lambrou et al.), while brokers' fees representing 0.5% of the total value were paid. Nevertheless, none of these suppliers appears in the personal accounts of the company's balance sheets. The following analysis of the balance sheets suggests that Constantine Durutti mediated in the grain market: he was the best known merchant with the strongest financial credentials, who would have been allowed credit easily by the Piraeus grain merchants. On the other hand, the credit extended by the company to the buyers of flour –among them Athenian bakers and provincial merchants–[130] displays a pronounced upward trend, that bears witness to the widening of operations and clients, a widening which was, however, as we shall see, insufficient.

Vertical integration was also endeavoured in the flour mill. In 1866, after the dissolution of the Société Séricicole, a bakery with two ovens and a mechanical kneader was installed on the southwest side of the factory (see fig. 2). But the installation did not operate systematically and continuously: the bakery is known to have been closed at least twice, in 1869 and 1874.[131] Still on the outskirts of the capital, it is doubtful whether it could compete with the traditional bakeries of the city, while the mill too was burdened with costs for transporting the grain from the port.

Lastly, during this first decade of the Société Séricicole's existence, which mainly concerns us here, the oil press was set up too. Its activity was, however, marginal and irregular, judging from the company's balance sheets (see below, Table 16). Presumably it worked exclusively for third parties, keeping 'a percentage of oil as recompense for the work', according to a subsequent testimony of Durutti,[132] another long tradition that was continued into the factory system. The capacity of the oil press was doubled in the second half of the 1860s, with the addition of a further pair of stones and two new hydraulic presses, at least one of which might have been constructed by

126. Chr. Zioulas Collection, loose document with indication 'Purchase of wheat for the steam mill from February to December 1859'; it gives the date (of the purchase or order), the volume and the price, the provenance and name of the merchant-seller.

127. From the 'Operating results' for 1856.

128. The possible combinations are given by applying wheat prices of 35 to 36 drs/oka and income of 4 to 7 lepta/oka.

129. Chr. Zioulas Collection, Durutti letter July 1873. At that time the mill still had six pairs of millstones, but the steam engine had been changed in 1869, with considerable savings on fuel.

130. These amounts appear in the assets of the 'balance sheets' from 1859 in a single account headed 'Debtors to the steam mill', without other clarifications (see here below, Table 10). Preserved in the Chr. Zioulas Collection are traces of the confiscation of a bakery, demanded jointly by A. Durutti and Amvrosios Vaphiadakis, as creditors, in 1866 (see decision 595/19.3.1866 of the Court of the First Instance, Athens). In the same archive there are counterfoils of invoices for the despatch and receipt of flour in 1865, from which it appears that the company sent flour to Kalamata.

131. Chr. Zioulas Collection, Description 1869: '... 2 bread ovens, not working at present, which are being used for storage'. Industrial factories 1874: the bakery 'is closed'.

132. Chr. Zioulas Collection, Durutti letter July 1873.

TABLE 9
INCOME OF THE STEAM MILL, 1856-1865

Date of balance sheet	*Net income*	*Grinding fees (drs)*	*Total (drs)*	*Consumption of grain (million okas)*
31.12.1856			108,86	
30.6.1858	2.003,19	–	2.003,19	
30.6.1859	5.153,35	13.983,49	19.138,84	
30.6.1860	68.593,72	14.196,73	82.790,45	1,2–2,07
30.6.1861	47.750,86	29.536,34	77.287,2	1,1–1,93
30.6.1862	26.842,14	12.363,06	39.205,2	0,56–0,98
30.6.1863	53.328,39	18.398,52	71.726,91	1,02–1,79
30.6.1864	43.885,35	51.551,3	95.436,65	1,36–2,38

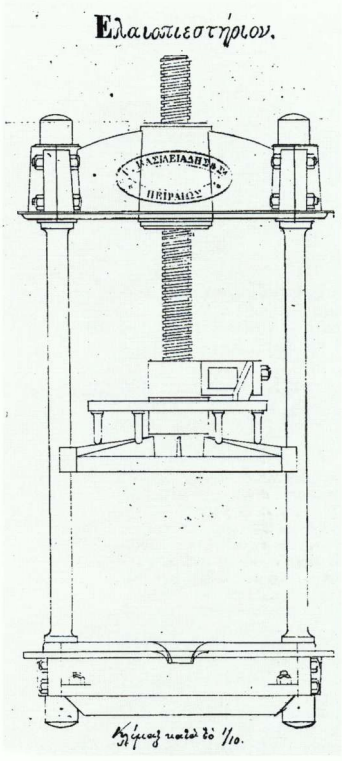
the Vasileiadis machine shop.[133] In the same testimony Durutti states that the mechanical installation and the improved presses ensured better returns but not better quality oil, which in any case also depended on the quality of the olives, and consequently produced 'oils of little value'. In other words, both units –the flour mill and the oil press– result of the firm's reorientation towards the home market and staple products, did not leave significant margins of profit.

The 'Balance Sheets' of the Société Séricicole

The sole accounting evidence, intact and continuous, that has survived from the archive of the Société Séricicole is a book of account with the label on the cover 'Balance Sheets of the Société Séricicole de la Grèce/From the year 1855 owards'. It includes annual 'balance sheets' from 1855 until 1864.[134] The 'balance sheets' for the first two years (1855 and 1856) are dated 31 December, while the following ones, beginning from 1858, close on 30 June (consequently the 'balance sheet' of 30.6.1858 covers a year and a half). These are not of course true balance sheets in today's sense, but a kind of recapitulation of accounts that do not obey strict rules and which mix up the annual balance sheet of a traditional trading firm with the inventory of property and the expense and revenue accounts of an industrial unit. More specifically, the 'balance sheets' include:

a)Accounts that follow the logic of modern balance sheets, that is they record the balance, credit or debit, of the corresponding accounts in the (nominal) Ledger,[135] at the end of the accounting year. These are mainly the individual accounts of customers, of capital and fixed assets, and some of stocks.

b)Accounts of expense and revenue, which normally belong to the Operating Results: purchases of raw materials, wages, running costs etc. in the assets, income from sales in the liabilities; in the first two years these said accounts are presented in a separate abstract, entitled 'Operating Results of the Société



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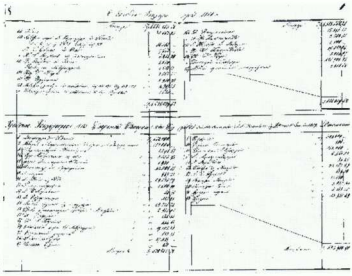
9. Drawing (elevation) of the oil press in fig. 8, that accompanied a letter from the Vasileiadis machine shop to Athanasios Durutti, 19.1.1867. At the bottom: 'Scale 1/10'. 22 x 10.5 cm. (Chr. Zioulas Collection).

133. Chr. Zioulas Collection, letter from N.G. Vergos (p.p. G.Vasileiadis) to A. Durutti, 19.1.1867, with information on the prices of oil presses: 1,200 drs for the small, weight 800 okas, and 1,600 for the large, weight 1,000 okas.

134. Chr. Zioulas gave me photocopies of these 'balance sheets' and so I do not have a direct picture of the original. It was however a bound book in which the balance sheets are written in the classic manner (on the left assets - 'Debtors' -, right liabilities - 'Creditors'), in continual flow and probably in the same hand, 'calligraphic' in the first two years, more hurried and untidy in the following ones.

135. All the accounts bear a number which must correspond to the page in the ledger. Indeed in one case ('Results' 1855) there is a relevant reference: p. 78 of ledger'. It should also be noted that the statutes of the company (article 21) stipulate the obligation to keep the company's books with the double-entry system.



10. Two pages from the accounts book of the 'Société Séricicole'. Dimensions of book 36 x 26 cm. (Photocopy, Chr. Zioulas Collection).

Séricicole de la Grèce for the year 1855 and 1856', and are balanced for both years together. In the following years they are mixed in with the other accounts and are cumulative (that is sums of the previous balance sheet are carried over to the next). It should be further added that there is a difference in the entry system used for the silkmill and the flour mill: for the first the total expenditure for buying cocoons and income from selling silk pass into the balance sheet, while for the second only the stocks of wheat and the net income from the sale of flour are entered.

c)Accounts that are today included in the 'Profit and Loss' account: taxes, interest, share profits etc. These accounts are also cumulative after 1858, while in the first two years the majority have been included in the 'Operating Results'.

So it seems that in the beginning the managers of the Société Séricicole attempted, however imperfectly, that basic step which constituted the most important innovation in industrial accounting: calculating the cost price. We do not know why this practice was abandoned after 1858 – perhaps it was originally attempted on the recommendation of the French shareholders but the related 'know-how' was not assimilated. Nor do we know how the accounts office of the business was run; certainly one of the employees will have held the post of cashier and perhaps another executed the duties of the traditional secretary or clerk. What is most likely, however, is that Durutti himself played a dual role, of businessman and manager, a common practice among nineteenth-century industrialists everywhere.

Awareness of the need for accounting documents to render a new type of information, such as the cost price, its analysis for every kind of operation and the different sources of profit, was undoubtedly slow in coming, and only towards the end of the nineteenth century was the modern accounting system established and generalized in industry. In the middle of the century commercial logic still prevailed in the accounting of all businesses, even in the most advanced countries,[136] while in the most recent Greek commercial manual of the day (1855), the singularity of the industrial firm had seemingly not been realized.[137]

So there is nothing strange in the fact that in the mid-nineteenth century the Athens silkmill did not apply the latest accounting system of an industrial firm. What is striking, however, is that the know-how of compiling a classical balance sheet is absent, even though this was taught by all the commercial manuals of the day.[138] The overall picture presented by the 'balance sheets' of the Société Séricicole is one of nonconformity and disarray. The accounts are not arranged in logical sequence, their titles change, sometimes they are presented analytically and other times they are gathered in a single account, while it is obvious that these 'balance sheets' give absolutely no information on the company's financial situation. The overall level of assets and liabilities is overburdened with a double entry of the capital accounts,[139] there is no

136. 'The accounts show clearly that these factories were run by merchants for merchants', observes Alfred Chandler, *The Visible Hand. The managerial revolution in American business*, Cambridge Mass., 1977, 69-70, speaking about America in 1830.

137. Στεφάνου Αποστ. Παππά, *Σύντομος πραγματεία περί καταστιχογραφίας και εμπορικής λογιστικής* [Stephanos Apost. Pappas, Brief treatise on book-keeping and commercial accounting], Athens 1855: improved and updated edition of the same work, *Εγχειρίδιον διπλογραφίας ή Σύντομος διδασκαλία...* [Handbook on double-entry book-keeping or brief teaching...], Aegina 1831. The improvements concern the clarification of certain concepts (e.g. systematization of the inconsistent reference in the first edition to bills of exchange, bonds and 'acceptances' with the introduction of the generalizing concept 'monetary bills' - debit and credit), the introduction of new categories of accounts (e.g. arrears) and whatsoever clearer description of the balance and the inventory, with reference to the corresponding French terms (*bilan* and *inventaire*). On Greek commercial handbooks see Τζ. Σκλαβενίτης, *Τα εμπορικά εγχειρίδια της βενετοκρατίας και της τουρκοκρατίας και η εμπορική εγκυκλοπαιδεία του Νικόλαου Παπαδόπουλου* [Tr. Sklavenitis, The commercial handbooks of the Venetian Occupation and the Turkish Occupation, and Nikolaos Papadopoulos's Commercial Encyclopaedia], EMNE, Athens 1991, 9-65. The assistance of Triantaphyllos Sklavenitis during my excursion into the commercial handbooks was of course invaluable, for which I thank him warmly.

138. Athanasios Psallidas calls the the balance sheet 'ζυγοσταθμία' see in connection Γ. Παπαγεωργίου, *Ο εκσυγχρονισμός του Έλληνα πραγματευτή σύμφωνα με τα ευρωπαϊκά πρότυπα (τέλος 18ου-αρχές 19ου αι.)* [G. Papageorgiou, The modernization of the Greek merchant in accordance with European models (late 18th - early 19th century)], Athens 1990, 83, 127, 150ff. and ibidem 176-177, with an example of a monthly '"ζυγοσταθμία'. See also S.A. Papa, *Εγχειρίδιον...*, op. cit., 62-66, and ibidem, *Σύντομος πραγματεία...* (improved and updated edition) op. cit. 81ff.

distinction of the kind of assets or liabilities (short-term - long-term), no separate account is kept for arrears and, as we have seen, different practices were adopted for the company's various activities.

Aside from the personal weaknesses or, possibly, expediencies, we assume that this situation reflects the business customs of an age in which the necessity and practice of the annual balance sheet were not yet widespread, despite the instigations of the manuals. In any case, in the manuals themselves, at least the earlier ones, the 'bilan' is defined as 'a closing of all the accounts', mainly for the purpose of checking them,[140] and little emphasis is placed on its periodicity.[141] The commercial archives known and studied to date raise serious doubts about the extent to which Greek merchants of the period were applying the double-entry book-keeping method systematically.[142] Those who kept books of account would know empirically whether they were winning or losing by following their individual transactions, the cash-book and consequently the development of the 'profit and loss' account, provided they kept one.[143] Overall estimates of the financial situation of the business must have been made at intervals, mainly on the pretext of changes in the company format, that is each time it was required to calculate and to allocate the overall profit.[144]

A few random sheets from some book of account concerning the orchard of the silkmill convince us that Durutti kept detailed notes on each category of expenses.[145] All the accounts of the second category (expense and revenue) most probably come from corresponding analytical account books now missing. In the case of cocoons, for example, it is apparent that a separate account was kept for each harvest. Certainly the individual current accounts of those doing business with the Société Séricicole will have been kept meticulously –this was the most necessary tried and tested commercial practice–, while we have no indication of how the 'Profit and Loss' account was fed.[146] Both the manner of compiling the 'balance sheets' and Durutti's unwillingness to display them, as we shall see below, bear witness to the lack of system and strict periodicity: it is very possible that after 1858 *post hoc* 'balance sheets' were compiled. Lastly, the management seemed to rely more on carefully following individual transactions and business sectors, than on a comparative analysis of the input and output of a single enterprise, with estimation of the real (economic) cost of all its operations.

All this does not of course mean that Durutti was not aware of the state of the business. His awareness was, however, empirical and, more important, he had neither the general culture nor the technical background to enable him to 'objectify' certain relations and to handle concepts and sums with greater accuracy. This was also one of the reasons, and perhaps not the least significant, why the corporate scheme of the firm was ineffectual.

Despite their shortcomings, the 'balance sheets' of the Société Séricicole, after appropriate processing, do give us some picture of the business's

139. 'Capital' (304,000 drs) and 'Privately owned silkmill' (152,000 drs) in the liabilities, 'Athens Silkmill' (152,000 drs) and 'Shares representing the value of the factory no.1/152' (152,000 drs) in the assets.

140. See *Εμπορική Οδηγία ήτοι Ακριβής και σαφεστάτη διδασκαλία...*' Trieste 1793, 53; the periodicity is not clearly specified here, although there is the sense that 'the balance indicates the state of all the merchant's transactions [...] what they will take in the future [...] what they have to give' (56).

141. In the handbook by Thomas Dimitriou, *Σχριττούρα Δόππια ήτοι Η τάξις των πραγματευτάδικων καταστίχων*, Vienna 1794, 16, the 'Monthly Balance' is distinguished, the main aim of which is to check the analytical 'accounts' from the 'annual', which is 'a little difficult and only done once a year or *when a company wants to be accounted perfectly*' (my italics).

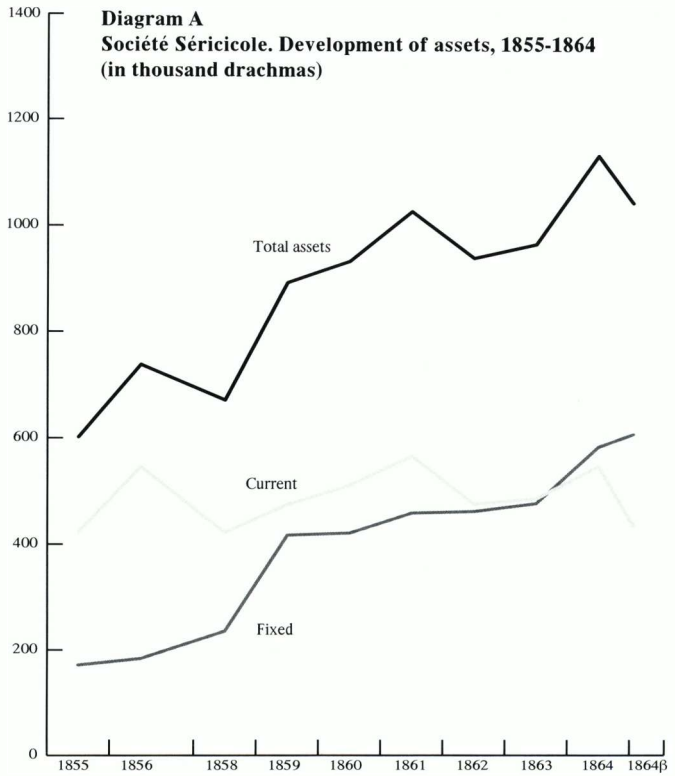
142. These archives usually include rough or 'Everyday' books, books of copies of letters and books of personal accounts with double entry, 'Give' and 'Take'. Such is the case of the Michael Iatros Archive, for example, in which no kind of 'balance' is found. In the archive of the Batis family, studied by B. Κρεμμυδάς, *Εμπορικές πρακτικές στο τέλος της Τουρκοκρατίας, Μυκονιάτες έμποροι και πλοιοκτήτες* [V. Kremmydas, Commercial practices at the end of the Turkish Occupation, Mykonian merchants and shipowners], Athens 1993, which has not survived intact, there is of course mention of the '*libro maistro dare-avere*' (16), though it seems that the 'clearances' or the 'balances' concerned specific transactions (such as a ship's voyage) or personal accounts, or the renewals of the company (see e.g. pp. 31, 55, 181-182). See also B. Κρεμμυδάς, *Αρχείο Χατζηπαναγιώτη* [V. Kremmydas, Chatzipanayotis Archive], vol. I, *Χατζηπαναγιώτης-Πολίτης* [Chatzipanayotis-Politis], Athens 1973: this archive contains only journals for everyday transactions.

143. Account from the Ledger (Maestro), to which were transferred, theoretically at least, all the individual 'accounts', the profits (or losses) from commercial transactions, interest, 'provisions', from exchanges and monetary fluctuations ('profit of monies from the turnover of bills of credit', 'profit from the account of agio' etc.).

144. These are called 'Incomplete balance sheets' by Μαρία Χριστίνα Χατζηϊωάννου, *Ο εμπορικός οίκος Γερούση από την οθωμανική αυτοκρατορία στο ελληνικό κράτος 1823-1870* [Maria Christina Chatziioannou, The Gerousis trading house from the ottoman empire to the Greek state 1823-1870] (typescript PhD thesis), Athens 1989, 205.

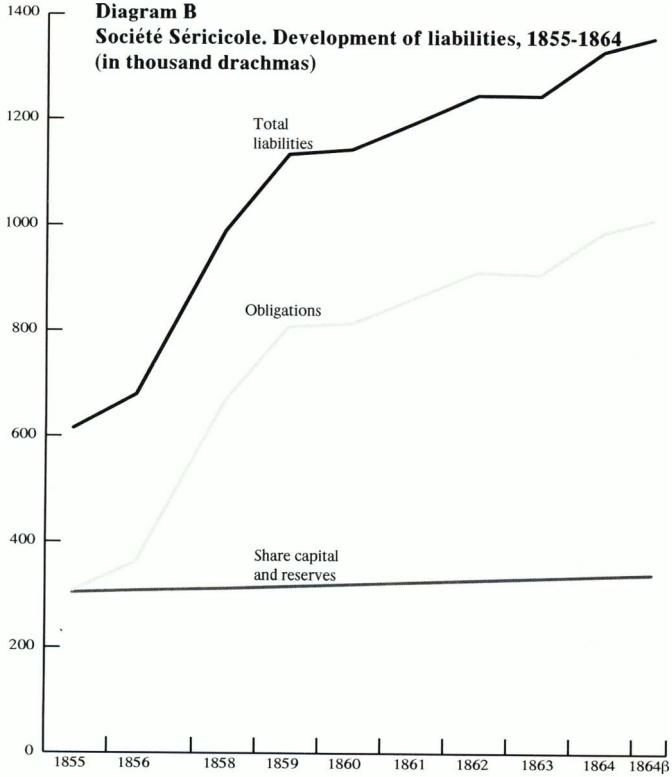
145. These are leaves from an exercise book, in two copies, covering the period 1855-1863. The entries are dated and include a description of the task together with the sum of the corresponding outlay. From 1860 the entries are briefer: the only indication is 'for [number] daily wages'. The sum totals at the end of each year (cumulative) have been transferred *in toto* to the 'balance sheets', in the assets account 'Orchard of the silkmill'.

146. The account also appears under a different heading in the 'Results' and in the assets of the 1855 balance sheet. In the following years, for which, as we have said, there are no separate 'Operating Results', it appears in the assets (loss) of a 'Profits and Losses' account - with cumulative result.



development. In Table 10 the various accounts of the 'balance sheets' have been grouped together according to modern accounting principles. That is the accounts that truly belong to a balance sheet have been separated out from those of expense and revenue, and from the profit and loss account.

Table 10 and diagrams A and B clearly register the seminal problem of the Société Séricicole: the increase in assets was due almost exclusively to the increase in fixed assets and was not accompanied by an analogous expansion of operations (current assets). Correspondingly, the increase in liabilities derived exclusively from the increase in borrowed resources. In other words, the new investments were made exclusively with borrowed capital and did not stimulate a corresponding growth in the company's activities. Its permanent state of deficit was the logical consequence of the above. The only balance sheet showing a positive balance of trade is that of 31.12.1856 –the only year in which the company showed a profit and paid its shareholders a dividend. All subsequent years show a negative balance ranging from 170,000 to 320,000 drs.



In reality, of course, the company's 'accounting' situation was markedly better, and this for the very simple reason that its fixed capital was undervalued in its 'balance sheets'. As we have seen, the silkmill was bought at a bargain price. For the new plots of land, the 'balance sheets' record their purchase price in 1855-56: but since then their value had increased. The 1860 'Valuers' Report' of Metaxas, Manitakis and Aravantinos assessed the overall value of the real estate property together with its machinery as 611,628 drs, while in the same period the balance sheet (30.6.1860) shows fixed capital of 421,000 drs. It seems that subsequently the value of the fixed capital was gradually adapted to these evaluations.[147]

However, the high real value of the fixed assets that enabled the Société Séricicole to survive, mainly because it ensured a high credit rating, did not alter the essence of the problem: the business was permanently loss-making, however insecure our numbers and however incomplete the various assets accounts (especially the stocks). The high and steadily rising participation of

TABLE 10
BALANCE SHEETS OF THE SOCIÉTÉ SÉRICICOLE: DEVELOPMENT OF BASIC ACCOUNTS IN THOUSAND DRACHMAS*

Accounts	*12.55*	*12.56*	*6.58*	*6.59*	*6.60*	*6.61*	*6.62*	*6.63*	*6.64*	*12.64*
A. ASSETS										
1. Fixed assets										
Buildings and machinery[1]	168	181	232	410	410	442	444	460	565	588
Tools and furniture[2]	2	2	2	4	7	12	12	12	12	2
Orchard and Hatchery	2	1	2	4	4	5	5	5	5	6
Total (1)	*172*	*184*	*236*	*417*	*421*	*459*	*462*	*477*	*583*	*607*
2. Expenditure on installation	8	8	12	–	–	–	–	–	–	–
3. Current assets										
3.1 Stocks										
Silks, cocoons and eggs[3]	348	441	228	28	61	139	80	1	41	[53;]
Flour, grain[4]	–	–	–	94	75	72	90	188	258	118
Olives, oil[5]	0,2	2	0,1	–	0,1	–	2	4	1	5
Fuel[6]	–	1	3	15	8	27	26	18	15	13
Materials[7]	4	3	5	13	15	28	28	37	44	46
Total (3.1)	351	447	236	149	159	265	227	249	361	236
3.2 Others' liabilities										
Debit accounts	70	100	184	271	223	189	133	60	47	53
Debtors to steam mill	–	–	–	21	74	86	98	158	119	124
Other[8]	–	–	–	17	17	17	17	17	17	17
Total (3.2)	70	100	184	310	315	292	237	235	183	194
3.3 Liquid assets										
Cashier and bills receivable	2	–	1	16	38	9	12	2	4	5
Total of current assets (3)	*423*	*546*	*422*	*475*	*511*	*566*	*476*	*486*	*547*	*435*
TOTAL OF ASSETS	*602*	*738*	*671*	*892*	*932*	*1026*	*938*	*964*	*1131*	*1042*
B. LIABILITIES										
1. Capital										
Share capital	304	304	304	304	304	304	304	304	304	304

TABLE 10

Accounts	*12.55*	*12.56*	*6.58*	*6.59*	*6.60*	*6.61*	*6.62*	*6.63*	*6.64*	*12.64*
Reserves[9]	3	14	18	21	24	27	30	33	36	38
Total (1)	*307*	*318*	*322*	*325*	*328*	*331*	*334*	*337*	*340*	*342*
2. Obligations										
2.1 Medium-term (?)										
National Bank of Greece	43	22	48	20	47	202	234	229	228	301
Various Creditors[10]	22	57	127	166	250	5	81	49	58	57
Individual current accounts	135	190	407	413	287	445	413	419	415	386
Total (2.1)	200	268	581	599	585	653	728	697	701	745
2.2 Short-term										
Bills payable	108	93	80	199	205	196	169	167	270	258
Misc. short term debts[11]	3	4	9	12	26	1	15	45	17	10
Total (2.2)	111	96	89	211	232	211	185	212	287	267
Total (2)	*311*	*365*	*670*	*810*	*816*	*864*	*913*	*909*	*988*	*1012*
TOTAL OF LIABILITIES	*618*	*682*	*992*	*1136*	*1145*	*1195*	*247*	*246*	*1329*	*1354*
Balance	*–16*	*56*	*–321*	*–244*	*–213*	*–169*	*–309*	*–282*	*–198*	*–312*

* 'Rounded off' to the nearest thousand. The sums correspond to the actual amounts and not the 'rounded off' ones in the table.

1. The accounts: 'Athens Silkmill', 'Repair of silkmill', 'Buildings of flour mill and oil press', 'Flour mill engine', 'Oil press engine', 'Increase of steam mill and oil press', 'Plots of land to the silkmill' and 'Expenses on wells'.
2. The accounts: 'Tools for factory', 'Spinning machines', 'Oil vats', 'Material of steam mill', 'Furniture and miscellanea'.
3. The accounts: 'Silks to...' or 'Noils to...' and the name of some agent. For the cocoons, the accounts: 'Cocoons in the warehouse', 'Cocoons to...' (agents) and 'Perforated cocoons', as well as: 'Purchase of cocoons...' of the next harvest, which theoretically have not yet been consumed. Lastly, the accounts: 'Cocoon eggs', 'Cocoon eggs in the provinces' etc.
4. The accounts 'Grain purchase', 'Flour in store' and, from 1860, 'Flour sales'.
5. The accounts 'Oil in store', 'Oil to pay for purchasing olives', 'Oil to...' (agents), 'Olive purchase' and 'Fats in store'.

6. The 'balance sheets' include two accounts for wood, one cumulative and one with the clear indication that it is the stock for future use. The second has been calculated here.
7. The accounts 'Sacks of cocoons', 'Sacks of flour', 'Burlap, ropes and string'.
8. The account 'Lawsuit against Roeck about water'.
9. The account 'Reserve capital' and 'Owners of shares representing the value of the factory', that is the contingency and ordinary reserves respectively (the second account accumulates 2% of the 152 shares imposed by the statutes).
10. No other clarification.
11. The liabilities accounts 'Piraeus municipal tax', 'Quay dues', 'Athens municipal tax' and 'Piraeus Customs'.

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fixed capital in its assets (Table 11), even with its undervalued accounting value, simply presaged the company's future: that is its transformation into high value real estate in the centre of the expanding capital.

The firm's difficult financial position is apparent from comparison of its current assets with its obligations. Incomplete knowlege of the kind of liabilities (current or deferred) prevents us from making precise calculations of the liquidity ratios. Nevertheless, all possible approaches give negative results. The ratio of current assets to current liabilities (current ratio) is only at acceptable levels (over 2) when all the individual current accounts, including that of the National Bank of Greece,[148] and 'miscellaneous' credits, can be considered as long-term credits (with payment term of over a year). The same applies to the liquidity ratio. But this version is rather improbable: the distinction in Table 10 between short-term and 'medium-term' credits, which only aims at separating the credits with various –or unknown– deadlines from overdue promissory notes, is abusive. If in the credits characterized there as 'short-term' we include just one of the categories of other accounts, all the liquidity ratios move within the 'red zone'.

This permanent crisis of liquidity was possibly the most direct way in which Durutti understood the difficulties his company was facing, and which led him to request, already from 1857, the increase of its capital. At the 1862 meeting he declared that 'the position in which I find myself at this very time is insecure', and 'if we do not regulate the affairs of our Company, I am no longer capable of following the operation...'. The capital was never increased and as a result the participation of the same capital in the total liabilities decreased steadily (Table 12 and Diagram B).

All the accounts of the Société Séricicole bear witness to the existence of an extra-banking credit system that was not supported only by commercial transactions, but was certainly articulated directly with personal relations. Up until 1860, and particularly after the losses of 1857/58, the company drew significant credits from various lenders (not all named in the 'balance sheets'). Durutti named some of them at the 1862 general meeting: 'In the period of the commercial crisis [he means the period 1857-58]... in the dire

147. In 1865 the silkmill was valued by the municipal assessor Panagis Antoniadis, at 550,000 drs and the orchard at 40,000 drs (Notification of auction 1865).

148. I did not manage to find any trace of the Société Séricicole in the Historical Archive of the National Bank, despite the considerable efforts of the archive's researchers, Zisi Synodinos and Zizi Salimba, whom I thank here. It is possible that because of the long-term pendency between the National Bank of Greece and the Durutti family (on account of the mortgaged real estate property), all the related file is in some other service of the bank, rather than the archive.

TABLE 11
BREAK DOWN OF NET ASSETS IN PERCENTAGES (%)

Categories of assets	*1855*	*1856*	*1858*	*1859*	*1860*	*1861*	*1862*	*1863*	*1864**
Fixed	28,6	24,9	35,2	46,7	45,2	44,8	59,3	49,5	51,5
Stocks	58,3	60,6	35,2	16,7	17,1	25,9	24,2	25,9	31,9
Others' liabilities	11,6	13,5	27,4	34,6	33,7	28,5	25,3	24,3	16,2
Liquid	0,3	–	0,1	1,8	4,1	0,9	1,3	0,2	0,4

* 1864: balance sheet 30 June.

circumstances in which [the company] found itself... thanks to the contribution on the one hand of our partner A. Pappadakis and our relatives M. Iatros and C.G. Durutti, and on the other hand our partners and agents the Souchon brothers, it was possible to avoid the threatening... dangers'. Constantine Durutti and the Suchon brothers had the largest share of individual current accounts; consequently the bulk of the remaining credit that is not specified ('Miscellaneous lenders') must have come from Antonios Pappadakis and Michael Iatros, and perhaps from third parties too. As can be seen in Table 10, the raising of the credit limit in the account of the National Bank of Greece in 1861 (from 50,000 to 250,000 and 300,000 drs) was used to pay off these 'miscellaneous lenders', whose share henceforth did not exceed 60,000 drs, while the participation of current accounts remained at very high levels. Moreover, it is apparent from the 1859 balance sheet that C. Durutti, M. Iatros and A. Pappadakis also lent to the company with short-term promissory notes (totalling around 150,000 drs for that year).

The distribution of credit (Table 13) shows that the basic shareholders kept open accounts with the Société, either through commercial transactions or without such dealings (Mavrokordatos and Chatzipetros were such cases), which had steady credit balance after 1858 (see for comparison Table 14) and constituted an important part of its borrowed income. These accounts cannot be equated with the practice common in European companies (as well as Greek ones later), of shareholders leaving their profits in the business, in interest-bearing accounts, in order to reinforce its liquid assets, because the Société Séricicole did not make profits, or at least not on such a scale. In other words, the shareholders, who failed to agree on increasing the company's capital, in fact made it loans. This was the case until 1858: it seems that during the 1857-58 crisis there was a wider mobilization of resources from the family (Durutti brothers, M.Iatros), among which Durutti's son-in-law, Ioannis Spiliotakis, can be reasonably included, as well as from other Athenian shareholders. Henceforth, support with individual current accounts became a close family concern, and indeed more and more the concern of just

TABLE 12
BREAK DOWN OF NET LIABILITIES IN PERCENTAGES (%)

Categories of liabilities	*1855*	*1856*	*1858*	*1859*	*1860*	*1861*	*1862*	*1863*	*1864*
Share capital and reserves	49,7	46,6	32,5	28,6	28,6	27,3	26,8	27,0	25,6
Debts	51,3	53,4	68,5	71,4	71,4	72,7	73,2	73,0	74,4

one man, Constantine Durutti. Here the elder brother was enhanced as the central figure for the fate of the Société Séricicole: he was perhaps the most loyal stalwart of the vision of establishing industry in Greece.

It is very possible that Constantine Durutti's credits after 1859 concerned the purchase of wheat, in which he is known to have been involved,[149] since there is no account in the category of foreign creditors that could be connected, at least overtly, with the wheat trade. The lion's share of the foreign credit lay with the Souchon brothers in Lyons (represented by Degrand & Pignatel in the first year). The remaining credits (from Marseilles, Paris, London, Ancona and Tunis) are related to silk – in any case the decline of the Société's silk-reeling activity also explains the progressive shrinking of this category of accounts.

Comparison of Tables 13 and 14 reveals a mechanism of transferring credit from abroad (mainly from France) to provincial Greece –as well as to the wider sector of Greek merchants–, at least until 1861/62, via the Société Séricicole, which would benefit from the difference in interest rates. It should be made clear that, with the exception of Roeck, the Société's debtors abroad (Table 15) were almost exclusively Greek merchants based in eastern Mediterranean ports (Thessaloniki, Volos, Chios and Rethymnon). The Société's debtors in provincial Greece were mainly its suppliers of raw materials, to whom it is assumed it granted advance payments. The geography of these debit accounts covers a network of 45 persons (while only 26 appear in the credit accounts of this category) in virtually all parts of the country: the Peloponnese, Euboea, Chalkida, Amphissa, as well as Karpenisi, Andros, Tinos and Syros. The densest transactions were with Kalamata, Sparta and Andros, the main markets supplying the company with cocoons, as well as with Syros where it sent part of its output of silk. In brief, the Société Séricicole took down payments from its customers in Lyons (i.e. the Suchon brothers) and granted advance payments to its suppliers and customers at home.[150]

If the Société significantly widened its credits towards its suppliers, and indeed in the difficult period 1857-60 (the inflation of the credit accounts in this period probably belies the difficulties in the provinces, a consequence of the 1857-58 crisis, rather than the Société Séricicole's expansion of operations), it nevertheless seems that these credits were handled carefully: the personal

149. As far back as in the period of residence on Corfu, see the article by Maria Christina Chatziioannou in this volume.

150. Similar deposits were paid by the Bontoux firm in Lyons to the Italian company Scotis, see R. Tolaini, op. cit., 96.

TABLE 13
DISTRIBUTION OF CURRENT CREDIT ACCOUNTS (IN THOUSAND DRACHMAS)*

Categories of creditors	*1855*	*1856*	*1858*	*1859*	*1860*	*1861*	*1862*	*1863*	*1864α*	*1864β*
Provincial agents	3	16	14	12	11	7	11	28	18	21
Athenian shareholders and relatives[1],	26	34	158	177	210	19	252	312	360	280
of whom:										
C. Durutti	*26*	*20*	*53*	*105*	*161*	*139*	*204*	*260*	*310*	*215*
A. Durutti M. Iatros & I. Spiliotakis	–	–	*75*	*57*	*47*	*58*	*46*	*47*	*50*	*63*
Accounts of creditors abroad,	105	139	236	224	66	240	150	79	38	85
of whom:										
Freres Souchon	–	*118*	*226*	*218*	*8*	*237*	*150*	*10*	*34*	*81*
TOTAL	135	190	407	413	287	445	413	419	415	386

* Rounded off to the nearest thousand.

1. C. Durutti, A. Durutti, M. Iatros, I. Tsatsos, D. Mavrokordatos, Chr. Paramythiotis and I. Chatzipetros. The only non-shareholder we included in this category, because he must not have had dealings with the Societe Sericicole, is I. Spiliotakis.

TABLE 14
DISTRIBUTION OF CURRENT DEBIT ACCOUNTS (IN THOUSAND DRACHMAS)*

Categories of debtors	*1855*	*1856*	*1858*	*1859*	*1860*	*1861*	*1862*	*1863*	*1864α*	*1864β*
Provincial agents	5	51	94	150	148	161	110	48	35	51
Athenian shareholders[1]	51	8	–	8	1	17	12	10	10	1
Debtors abroad,	14	41	90	113	73	11	0,1	1	0,6	0,6
of whom:										
L. Roeck	*13*	*36*	*70*	*70*	*70*	–	–	–	–	–
TOTAL	70	100	184	271	223	189	122	60	47	53

* Rounded off to the nearest thousand.

1 I. Tsatsos, ('Tsatso and Ginakas' in 1855), M. Iatros and A. Durutti.

debit balances are usually very small, under 10,000 drs and rarely exceeding 20,000 drs, while only the account of the regular supplier –and long-standing collaborator of Iatros– from Gytheion, P. Poulakos, approaches 50,000 drs on one occasion (in 1861). To return to the initial imbalance observed in the balance sheets of the Société Séricicole, the question posed is to what extent this is due to the primary deficit, that is to the negative results of the productive unit itself. In Table 15 the reconstruction of these results is attempted, with the two available 'Operating Results', of 1855 and 1856, as basic guide.[151]

According to our calculations, over the ten-year period the Athens silkmill disengaged about 25,000 drs of net profits. This sum represents just 8.2% of the paid up capital (304,000 drs), or a percentage of 0.8% per annum, a minimal percentage given that any other placement of capital could have yielded at least ten times as much a year. The deficiencies that surely exist in our calculations (in particular the level of the damage in 1857/58 should be lowered since it does not include the 'undeclared' income from the export of cocoons) does not essentially alter this conclusion. It should, moreover, be noted that the above figures, after 1858, do not include A. Durutti's salary (6000 drs a year according to the statutes),[152] and the dividends (that were not given) have not been calculated either. In other words, the Athens silkmill only just covered its expenses for the whole of the period under consideration, and although it does not show a primary deficit in its productive activity, it certainly did not permit any accumulation (that is any self-financing), beyond the insignificant regular reserve that the statutes stipulated. That is, all new investment was made with borrowed capital and the accounting deficits our calculations expose are not far from the truth.

The limited, almost zero, efficiency of the factory was essentially due to its size –given the steady reduction in its main productive activity–, to technical difficulties and to bad management. Notable profits from silk-reeling were only gained in 1856 and 1858/59, two years in which the price of cocoons was relatively low (Table 7), while in the following years the new activity, flour-milling, although yielding a larger income, failed to solve the problem of the silkmill's under-operation, since the income from the steam mill was mainly absorbed by running costs and general expenses. These expenses included the salaries of the permanent staff and the wages of the other workers (excepting the female silk-reelers), full-time or temporary (the relevant sum ranging from 18,000 to 30,000 drs per annum); the business employed at least 10 permanent personnel (clerks, janitors, overseers, boiler stokers etc.) and together with the temporary labour, some 12-15 persons (porters, builders and other casual labourers) in all. In some years the total running and maintenance costs were huge (around 84,000 drs in 1861/62): in that year the 'costs of the steam engine' (36,500 drs), the outlay for the carpenter's shop and the smithy, as well as maintenance were extremely high;

151. More specifically, all the accounts that were included in the 'Results' for 1855 and 1856 were isolated from the 'balance sheets' after 1858. These accounts are all cumulative after 1858, and the necessary subtractions have been made here. However, some other accounts which are in the assets of the company's 'balance sheets' have been included here too, such as those concerning taxes, duties, fire insurance and judicial rights etc.

152. Durutti's salary appears as a separate account only in the first two years (in 'Results'). It is not clear whether it was afterwards calculated in his open account (as debt of the company), which always had a credit balance.

TABLE 15
OPERATING RESULTS OF THE SOCIÉTÉ SÉRICICOLE, 1855-1864

Accounts	*1855*	*1856*	*1858*	*1859*	*1860*	*1861*	*1862*	*1863*	*1864*
A. NET INCOME[1]									
1. Silkmill	31	160	[6][2]	110	58	32	10	25	12
2. Steam mill	–	0,2	2	19	83	77	39	72	95
3. Oil press	–	0,8	–	–	0,1	–	0,7	3,4	1
Total A (1+2+3)	31	161	[8] 130	141	110	50	100	108	
B. GENERAL EXPENDITURE									
4. Operating and maintenance[3]	11	29	59	27	57	45	84	54	41
5. General expenses[4]	5	12	5	4	4	2	11	4	2
6. Durutti's salary	6	6	–	–	–	–	–	–	–
7. Extras	–	–	–	–	26[5]	–	–	–	–
B. Total B (4+5+6+7)	22,5	47	64	31	62	47	95	58	43
C. GROSS PROFITS/LOSSES									
(A–B)	8,3	115	[–57]	98	63	62	–45	42	66
D. TAXES, INTEREST ETC.									
8. Taxes, duties etc.[6]	–	0,5	3	1	6	2	1	3	2
9. Interest	8,5	12	35	12	44	32	66	28	[;][7]
10. Depreciation of expenses of previous use[8]	–	22							
E. NET PROFITS/LOSSES									
(Γ–Δ)	–0,2	80	[–94]	85	13	29	–113	11	[63]
11. Statutory sreserve	–	3	3	3	3	3	3	3	3
12. Non-calculated expenditures[9]	16	8,3							
F. ACTUAL NET PROFITS FOR DISPOSAL/LOSSES FOR DEPRECIATION									
	–16	68	[–97]	82	10	26	–116	8	[60]

1. Silkmill: From the sum of all the liabilities accounts of income ('Fine silks', 'Coarse silks', 'Silk noils', 'Perforated cocoons', 'Cocoons to Souchon', 'Silk reeling') have been subtracted all the assets accounts of production costs: 'Purchase of cocoons of [the year of the harvest associated with each productive cycle], 'Selection of cocoons', 'Wages of silk-reelers', 'Purchase of timber' and 'Expenses of silkmill'. Steam mill: the liabilities accounts 'Sale of flour' (from 1860 'Profits of steam mill') and 'Grinding fees'. Oil press: the liabilities accounts 'Oil sales' or 'Operating results of oil press'.
2. The numbers for 1857/58 are particularly dubitable (see chapter on production).
3. All the assets accounts related to wages/salaries ('Wages of workers and staff', which was replaced after 1859 by two separate accounts: 'Staff of the silkmill' and 'Staff of the premises') as well as the account 'Expenses and wages of French persons for the silkmill', which mainly burdens the years

1855-58. Also the accounts 'Carpenter's workshop', 'Smithy', 'Maintenance expenses for premises' and 'Steam engine expenses'.
4. The accounts (always in the assets) 'Miscellaneous expenses of premises' and 'Office expenses', the accounts of transport expenses ('Expense of despatching silks', '... noils' etc.) and of rents ('Rent of warehouse in Sparta', '... in Piraeus').
5. Liabilities accounts 'Kokkalis court case' (arrears for depreciation).
6. Assets accounts 'Athens hospital tax', 'Athens municipal tax', 'Piraeus Customs', 'Fire insurance dues', 'Legal duties' etc.
7. Anomaly in the movement of 1864 account.
8. Part of the expenditure that had not been included in the 'Results' of 1855.
9. These are the expenditure accounts that have not been included in the 'Results' but in the assets of the balance sheet, see n. 147.

though we cannot be certain about the 'sincerity' of these accounts, they obviously belie technical problems and expensive repair works.

Lastly, thanks to the 'Operating Results', glaring irregularities in management are revealed in the first two years. As can be seen in Table 15, the 'Results' do not include all the actual expenses of each year, but carry over a part of them –and not always clearly– for depreciation in the next year. So the 'Results of 1856', for example, show net disposable profits of about 80,000 drs, whereas they were in reality 68,000 drs. Once more it becomes obvious that Durutti had no clear picture of the real overall cost of running the factory. Furthermore, the profits of 1856 essentially vanished into thin air. Either because Durutti wished to convince the shareholders of the efficiency of the business or because he was pressurized by them, in that year he allocated 63,840 drs in dividends (210 drs per share for the two years, that is 10.5% per annum), kept 4,560 drs for himself as an additional remuneration of 6% on the net profits, and left only 7,600 drs as extra capital reserves (this was in any case the only year in which so much capital reserve remained). So it is hardly surprising that the cash account shows a zero balance in that year (see Table 10). Of course in the following years, after the bitter setback of 1857/58, the Société had no dividends to share out; as Table 15 shows, the profits of some years simply wrote off the losses of the others. There was no serious possibility of self-financing and the now standard practice of operating, and indeed investing, on borrowed capital seriously overburdened the management with interest, which permanently absorbed over 50% of the gross profits.

Here lies one of the most important problems of the company's strategy: the fact that the new investment was estimated as profitable, without calculating correctly its actual cost. To the already expensive installation was added a costly investment that did not offset the deficits: this was a bold and quite imaginative business strategy, but it was not accompanied by the necessary managerial prudence or 'good housekeeping'. The credentials of

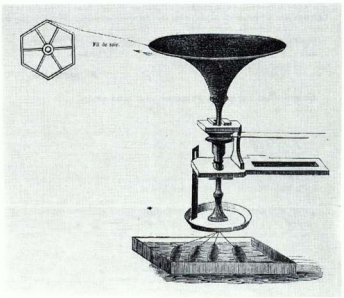
the Société Séricicole were not particularly attractive; its liquidation was inevitable.

The abortive efforts to increase capital: the end of the Société Séricicole

Increasing the capital of the Société Séricicole was an issue on the agenda at all the general meetings of its shareholders from August 1857 onwards and yet it was never in fact achieved. The relevant discussions and decisions attest that managerial short-comings and woolly ideas on the needs of an industrial firm were by no means exclusive to the silkmill's manager, Athanasios Durutti, and that the relations of most of the limited liability shareholders to this enterprise were ambivalent, to say the least.

At the first meeting, of 24 June 1855, when the decision to build the flour mill was taken, Durutti, still optimistic about the firm's future, did not propose a corresponding increase in capital. But the decision of that meeting concerning the manner of financing and the regime of the new investment contains so many vaguaries that it raises questions about the shareholders' awareness of the nature of their relationship with the company. Specifically, it was decided that 'the costs of setting up the steam mill would be paid by the company'; it was also decided 'to keep a separate account and accurate note' of these costs and, when the company expired, that is ten years hence, that '[the shareholders] be obliged to pay to the company these expenditures [...] and in this manner to acquire [...] the ownership' of the steam mill.[153] What money would the company use to make the 'advance'? From its own capital and/or its profits, in other words the shareholders' money? If so, then why would the shareholders pay during the expiry? Or perhaps from borrowed capital?[154] But who would grant the loan, how would it be paid back, and what would become of the net profits (after deduction of the interest)? There is no clarification in the related minutes. It is, moreover, characteristic that whereas 'an accurate note' was kept on the costs of the new investment, nothing of the like seems to have been kept on either the source of money or the manner of servicing the related loans. In reality, as we have seen, the new investment was made with borrowed capital of diverse provenance, mainly short-term, including loans from shareholders; these last were repaid in 1860 by increasing the loan from the National Bank of Greece. What is of interest here is that from this first decision of the shareholders, unorthodox interventions in the institution of the limited partnership company are obvious.[155]

Two years later the prospects for the business had been completely reversed, and at the meeting of 8 August 1857 Durutti declared that 'it is absolutely necessary to issue new shares', since some 120,000 drs had been spent on the steam mill 'and therefore the monetary capital of the Société has been reduced appreciably'.[156] The proposal was accepted by all those



11

11. Design for a reeling basin with its parts and wheel. Annotated in French, no other indication. 12 x 22 cm. (Chr. Zioulas Collection).

153. Chr. Zioulas Collection, Minutes of the Meeting 24.6.1856.

154. The decision implies something like this, stating that 'instead of the interest on the deposits [the company] will enjoy the fruits of these factories throughout its existence', an equally vague statement, however.

155. It is known that in these companies the manager, who was solely responsible with the whole of his property, was absolutely free to manage the company's capital as he thought fit, to borrow in its name etc., provided he gave account to the shareholders and of course secured profits; this last was the only thing that interested the shareholders, who were only responsible according to the level of their participation. The above decision ushered in a truly new model, essentially combining personal and partnership business, in a way a business within the business, which the shareholders were committed to buying afterwards.

156. Chr. Zioulas Collection, Minutes of the Meeting 8.8.1857. It is perhaps redundant to note that this ascertainment essentially confesses that the investments were made with the shareholders' capital...

present,[157] but without specifying details on the issue of new shares; it was simply decided that their quantity 'will be equal to the exactly calculated expenditure [...] by the time full equipping [of the flour mill] is completed' and a deadline of 30 September was set for the owners of shares in the property to commit themselves to buying the new shares.

Two years of inertia passed, since, as we have seen, the 'full equipping' of the steam mill was delayed. After an unofficial 'council' of the Athenian shareholders in April 1859,[158] which renewed the decision to issue new shares and determined their number as 696 of nominal value 1,000 drs, and after a futile trip by Durutti to France, the general meeting of 31 July 1859 discussed the matter once again. Although agreement had been reached on the nominal value (1,000 drs) and the type of the new shares (they would be personal and equivalent to ownership shares), a problem arose with regard to defining their actual value; Pavlos Kalligas, who represented L. Roeck, declared that 'it is not possible to express this before seeing the company's balance sheets...'. As a result, the final decision was deferred until the balance sheet of the year (of 30 June) was presented to the shareholders.

This small detail of the actual value of the new shares emerged as a crucial problem that finally overthrew plans to issue shares on the classical terms of the capital market. And this because it brought to the surface the true state of the company. A balance sheet was not presented, except perhaps to a limited circle of shareholders (C. Durutti, A. Pappadakis and I. Tsatsos). Together with A. Durutti, they held a new unofficial meeting in October 1859 and 'thinking maturely' came to the conclusion that 'the issue of new shares according to what had been decided will not bring any result, since it will be impossible, because of the losses the Company has suffered, to sell the new shares to third parties...'.[159] Consequently the shareholders were left with no option but to cover the necessary increase of the capital themselves.

Between then and early 1862,[160] Durutti convened a further four general meetings and made another two trips to France, in his efforts to persuade all the shareholders to contribute to increasing the capital. He does not seem to have realized, despite his penchant for legal matters, that they were under no legal obligation to do so. He presented a succession of plans, first under the threat that 'the shareholders must agree to the particular plan [...] otherwise the Société will be liquidated' (meeting of 24.1.1860), then by saying that 'a writ will be taken out' against the shareholders who did not agree (meeting of 29.4.1861) and lastly, after deciding that to sue 'takes a great deal of time not compatible with the needs of the company',[161] by proposing that 'the Société pay [the share of the shareholders who did not accept the plan] on their behalf and calculate the legal interest'(!) (meeting of 15.5.1861). Needless to say, when this last recommendation was announced to the French shareholders they refused to acknowledge it outright.[162] In the meantime, the amount proposed for coverage had been reduced from 696,000 drs ('council' of April

157. Almost all the shareholders were represented at this meeting, among them Roeck and other French shareholders, see Table 1.

158. Present were: the Durutti brothers, M. Iatros, A. Pappadakis, I. Tsatsos and D. Mavrokordatos. The relevant testimony in the Minutes of the Meeting 21.1.1862.

159. Minutes of Meeting 21.1.1862.

160. The last related document to survive is the Minutes of Meeting 21.1.1862: although, as we have said (see n. 22), all the minutes were subsequently submitted to the Court of the First Instance, we do not know how they were used.

161. Minutes of Meeting 21.1.1862.

162. Ibidem, where the letters in reply from L. Roeck and A.Thiebaud are attached.

1859) to 304,000 drs ('council' of October 1859), to end up at 270,000 drs, the estimated final cost of the new investments (meeting of 29.4.1861)

The more insistent Durutti appeared, the more hesitant the shareholders became. The minutes of the meetings give the impression that the continual postponements and suspensions were due to some kind of group psychology, a silent consensus of the type 'all or none'. In all the meetings known of, Durutti's proposals at first secured the agreement of the clear majority of shareholders. Some of the basic shareholders (Tsatsos, Pappadakis) had in any case already deposited the money sought, in the form of current accounts to the company,[163] while Constantine Durutti handled *carte blanche* the 18 shares he represented. So at the critical meeting of 21.1.1860 the proposal for compulsory increase of capital (by 304,000 drs) was approved by 227 shares of the total of 265 represented. Strangely enough, however, the same meeting finally decided that 'this number is not sufficient for executing the plan'.

Either all or none: more correctly, either together with the French or not at all. The 39 shares of the minority at that meeting corresponded to the French participation and it seems that the negative attitude of the French was in fact the catalytic factor that paralyzed the group dynamic. Both L. Roeck, at loggerheads with the company, and A. Thiebaud[164] refused to participate in increasing the capital. It seems that even more influential were the reservations of the Souchon brothers, who had 33 shares in their hands and were the firm's basic creditors abroad. The Souchon brothers were presumably aware of the business's difficult economic situation and they were even more insistent on seeing the balance sheets. On his last trip to France, in May 1860 (after the order of the meeting of 13 March), as the ultimate effort to prevent the company's dissolution, Durutti showed the balance sheet of 30.6.1859 to all the French shareholders. He failed, however, to secure their assent.[165]

One point on which the disagreement of the French shareholders focused reveals significant divergences in the conceptions of the two sides. Basic element of Durutti's proposals from October 1859 onwards was the equating of all the shares to the original 'ownership' shares, a move that ensured rights in the real estate property and obligatory capital reserve of 2% annually for all the shares. This element was most probably the attraction that secured the initial assent of the Greek shareholders, and particularly the most important of them, A. Pappadakis, but it evidently made little impression on the Souchon brothers. They were presumably more interested in the efficacy of the enterprise, and arguing that the losses of the steam mill ought not to burden all the shares but only the nominal ones they rejected the equating. At their last meeting with Durutti they requested that new statutes be drawn up before any other move was made, obviously so that some order be brought into the chaotic situation that Greek side's novel interpretations of the institutions had created.

163. Also taken for granted was the consent of Mavrokordatos, who did not attend the meetings from January 1860 onwards. However, when his representative G. Zochios stated that he did not have the relevant authorization from his assignor, A Durutti sped to declare that he would take Mavrokordatos's share in his name (see Minutes of Meetings 24.1.1860 and 21.1.1862).

164. Thiebaud had bought half Roeck's personal shares.

165. Indeed it seems that at this meeting the Frères Souchon, who on Durutti's previous trip had agreed to take only 17 new shares, rescinded on this point too.

The refusal of the French must have affected Durutti himself, for he never suggested that the Greek shareholders go ahead without French participation, and indeed he offered repeatedly to take in his name the shares proportionate to the Souchon holdings, perhaps hoping that sometime he would convince them. It affected the other shareholders even more; at the last known meeting (21.1.1862) I. Tsatsos and A. Pappadakis sided openly with the Souchon brothers' request for new statutes. At that meeting Durutti's final proposal, that all the shareholders deposit obligatorily the expenses of the steam mill (270,000 drs or about 890 drs a share), under the vague threat of legal action against those who did not agree, only received 177 votes.

What happened in the interim between the January 1862 meeting and the decision to liquidate the company we do not know. What we do know is that by 1865 the Société Séricicole was already being dissolved (in any case a decade had passed since its founding) and A. Durutti and I. Tsatsos had been appointed its liquidators.[166] In the same period, obviously in an endeavour to secure the Durutti family's control of the premises, Constantine Durutti resorted to the courts for the 'debt owed [him by the company], drachmas 215,069.61 and the interest on this from 31 December 1864'. Decision no. 516 of 12 June 1865, of the Court of the First Instance at Athens, ordered compulsory sequestration of the factory. Its auction was originally fixed for 19 September of the same year, at least according to the first related notification, published on 7 August. C. Durutti himself offered as opening price 280,000 drs for the silkmill and 40,000 drs for the orchard, while the two properties had been valued at 550,000 and 40,000 drs respectively.

We have not managed to track down anything pertaining to this auction. It may well have been postponed, because at that time two cases were pending between the Société Séricicole and G. Sarris and Chr. Siegel, who claimed part of the property. However, in one way or another, ownership of the premises finally ended up in the hands of the Durutti family.

From the Société Séricicole to 'Athanasios Durutti & Co.'

After the liquidation of the Société Séricicole the business continued operating for a further ten years, under the name 'Athanasios Durutti & Co.', a simple company about which, unfortunately, we have no information. We do not know if and how the rest of the shareholders were compensated, or whether any of them participated in the new scheme.[167]

The family business pressed ahead with restructuring the productive activities and adapting the premises. It reduced the capacity of the silkmill to about half, doubled that of the oil press and created the bakery. These operations were accompanied by a renovation and rearrangement of the machinery. In 1869 a new steam engine was purchased for the silkmill, of less horse-power but with a more efficient and economical system (variable

166. All the information that follows is from the Notification of Auction 1865.

167. Many years later, on Athanasios Durutti's death (1901), there were still pendencies with French banks, which were presumably the echo of accounts with the French shareholders. According to a note by Chr. Zioulas, dated 7.1.1993, Durutti 'left behind outstanding bills and court cases [...] with the National Bank of Greece and with some French bankers [...] [but] he paid off virtually [...] all his creditors except the French bankers, whose demands in the majority were doubted. They received what was owed from his children after irrevocable decisions of the Greek courts'.

expansion), while the steam engine of the flour mill was modified. The old engine of the silkmill, also modified, was installed in the oil press, while the donkey engine was added to the well on the south side, that also served the smithy. All these changes bear witness to the effort to cut down on fuel costs and energy loss caused by the old engines and the transfer of power.[168]

Although the transformation of the business from a corporate to a family one was fatefully accompanied by its shrinking, Durutti does not seem to have abandoned his ambitious plans for reviving an industrial unit. In 1873-74 he attempted to set up a new company, this time a *société anonyme*, a proposal for which he asked the help of the Governor of the National Bank, Markos Renieris, in 1876.[169]

However, by this time that rival to industrial development, the exploitation of real estate, was already in the ascendancy. The potential profits from the flour mill and the oil press, two traditional industries that now existed in most of the Greek ports and had given margins and models of operation, could not compete with the high values of urban land. By 1875 part of the factory was already being exploited as urban real estate through renting.[170] Not long afterwards the factory stopped working; the final withdrawal of the Durutti family from industrial enterprises should perhaps be associated with the death of the elder brother, Constantine, in 1878.

Conclusions: the limits of business activity

Notwithstanding its eventual failure, the Athens silkmill operated for twenty years. Though marginal for the capital, both to the site and the economy of the city, it was nonetheless a laboratory of new experiences and a bearer of change. It was one of those precursory experiments that try out, palpably, the new forms of economic and social organization. Its failure in any case should not be considered a Greek singularity; there was a high mortality rate for businesses everywhere in the first steps to establish industry.

The silkmill's 'misfortune' was that it was founded at the end of the period characterized with hindsight as a 'golden age' in the silkworking sector (1820-1850),[171] during which the rapid rise in the demand for silks, in Europe and America, gave it tremendous impetus, especially in the Mediterranean. Two trends that dominated silkworking at that time led to the founding of the Athens silkmill. The first was the mechanization of reeling, which enabled this activity to be disengaged from the rural household and concentrated in factories, in the hands of businessmen, and the second was the tendency of European businessmen to set up silkmills near areas engaged in sericulture, in order to cut down on transport costs and to ensure the supply of the European spinning and weaving mills with raw material of standardized and controlled quality.

168. It should be noted that from the mid-19th century the technology of the steam engine improved considerably, as a consequence of which fuel consumption was reduced by a ratio of 4:1 by the end of the century; variable expansion was invented by the American Corliss in 1849, but was not implemented generally until the 1870s, see M. Daumas, op. cit., vol. 4, 57-84.

169. According to a note by Chr. Zioulas (7.1.1993), referring to the Durutti's letter to Renieris of 26.1.1876, in which Durutti maintains that he has secured the participation of Baron Emilios Erlnager and K. Zappas in his plan. I have not seen this letter.

170. The National Bank, to which the property was always mortgaged, at that time asked Durutti 'to cede to the bank instead of interest the rents of the fields and to proceed also to selling off plots from the mortgages'. Zioulas's note (7.1.1993) is attached to the relevant letter of the Governor of the National Bank of Greece, dated 9.10.1875.

171. A good summary of the developments in this sector in Cl.Zanier, *Alla ricerca del seme perduto*, Milano 1993.

What was destined to happen when the 'golden age' ended, with the pébrine crisis, the great upheaval in the market, the massive import of products from the Far East and finally the decline of silkworking throughout the Mediterranean, could not possibly have been foreseen when the Greek entrepreneurs bought the factory of the bankrupt English company. Their action should be correlated to the propitious prospects and if they inherited a project that corresponded to markets of another size and other entrepreneurial and economic scales –something which of itself constituted a serious entailment for the silkmill's future–, this was offset by the fact that they acquired it at 'half price'. Nevertheless, it is very likely that for most of the Greek shareholders the motives for involvement in the business transcended cold, economic calculations. It would be remiss of us to overlook the personality of the individuals who constituted the Société Séricicole. Silk, a precious commodity, had old titles of nobility. The role it had played in past centuries in the economic as well as cultural floruit of the neighbouring Italian peninsula was well known, just as the glory of historic Mystras, centre of silkworking in the Byzantine Age, must have been keenly appreciated.[172] With the renewed demand in the nineteenth century it was inevitable that silk, a national resource, should be identified with the vision of the country's (economic) 'renaissance', in the wake of its liberation from the Ottoman Empire.

Even so, business is business, and the Société Séricicole had to face from the outset the problem of the rapid rise in the price of cocoons; a similar problem would be faced by most Greek industries involved with processing domestic agricultural products, since they had to deal with a mercantile economy open to the currents of the international markets, as the Greek economy was. The model of the protected home market, that had been applied *inter alia* in the Duchy of Tuscany –with which Durutti was familiar– at the beginning of the century (but was abandoned from as early as 1819), had no place in Greece in the 1850s. The access to political power proved inadequate for stemming the tide of developments that set their seal on the Greek economy from the nineteenth century onwards, not least because Durutti's views did not have the consensus of the political leadership.

We could say that from a macroscopic viewpoint the Athens silkmill was doomed. The same reasons that had led the British company to Greece, impelled the final linking of silk-reeling to the silk-rearing provinces of Greece, despite the changes concentration in factories had brought. Whereas the silkmills in Athens and Piraeus closed down, those in Kalamata and Sparta kept going for many years to come, until reeling was concentrated almost exclusively in one region even more intensely rural in character, Soufli (in Thrace).

Changes in the economic milieu are, however, extraneous parameters to the business, to which it reacts; they do not predetermine its course.

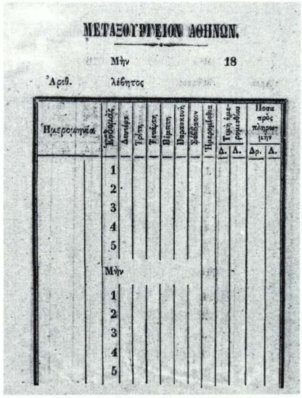
172. Mystras during the 14th century has recently been characterized as: 'Centre of the Greek renaissance, in the footsteps of the Italian...', see V. Panayotopoulos, La culture du mûrier en Grèce. L'exemple de Mistra (XIIIe-XIXe siècles, *Culture and commercial exchanges between the Orient and the Greek world*, I.N.R./N.H.R.F., Athens 1991, 35. On the contribution of another important person in the Greek national pantheon, Andreas Calvos, founder member of the Corfiote Societa serica in 1846-47, in the promotion of silk-reeling, see Σπ. Ασδραχάς, Ανδρέας Κάλβος, Ανέκδοτα και αθησαύριστα κείμενα [Sp. Asdrachas, Andreas Calvos, Unpublished and miscellaneous texts], *Ερανιστής*, year II (1964), iss. 9/10, 104.

Moreover, entrepreneurial praxis is determined more by circumstantial transformations and less by long-term trends. These latter seem to have been understood by Athanasios Durutti in the end, but only after the demise of the Société Séricicole and a protracted period of the factory under-operating. The strategy he mapped out in the early years endeavoured to solve the problems of under-operating and upheavals in the market in two ways: by diversifying production and by turning towards the home market.

The specific way in which a business faces the changing external conditions (and on which in the end its survival depends) is not interpreted by economic theory alone. It alludes to those issues that make business activity exclusively an historical phenomenon and for this reason 'spatially uneven'.[173] From the viewpoint of business strategy theory, in the case of excess capacity one of the possible answers is diversification of production.[174] However, the new investment made in view of diversification is much more lucrative (that is the cost is less in relation to the expected benefits) when it utilizes the excess capacity and the know-how available within the business. This was not the case with the Athens silkmill: the company bought new land and put up new buildings, and in the end it used neither the 'surplus' power of the steam engine, nor the available know-how, since the new activity had only the faintest connection to the original one: the most that can be claimed is that they exploited in part the existing mercantile networks.

The historical parameters that determined the choices of the Société Séricicole are connected with the qualifications of the businessmen who managed it, as well as with the nature of the economy to which it belonged. By way of parenthesis, it should be emphasized here that the Durutti brothers can be considered true entrepreneurs, in the sense of men who introduce innovations, are bearers of change and operate more with intuition and boldness, while the rest of shareholders rather belong to the type of *hommes d'affaires* (which is in no way unusual).[175] Neither of them, however, was a true manager, and this was perhaps the element notably lacking from the Athens silkmill.

It is nevertheless obvious that the company did not have the necessary resources to turn towards more compatible activities, such as spinning and weaving the silk, that is the vertical integration of production. The few indications we have attest that something of the sort was attempted, but without success. The company did not have the possibilities of penetrating the highly competitive international market of processed silk products and the home market did not have the required absorption capacity. Securing quotas in the international yarns and textiles market entailed taking a major risk as well as additional expense, but mainly it demanded excellent networking in order to obtain essential information on the kind of demand in each market and changes in consumer preferences.[176] At this level the Société Séricicole presented a static picture overall, with a fairly unilateral dependence on one


ΜΕΤΑΞΟΥΡΓΕΙΟΝ ΑΘΗΝΩΝ.

Μὴν 18

Ἀριθ. λέβητος

12

12. Blank pay sheet from the silkmill, with no other indication. It is not clear whether it is a page from a book or a separate form. 11 x 14.5 cm. (Chr. Zioulas Collection).

173. On the formulation, see R. Burrows (ed.), *Deciphering the enterprise culture. Entrepreneurship, petty capitalism and the restructuring of Britain*, Routledge, London 1991, 3.

174. See in connection Scott Moss, *An economic theory of business strategy: an essay in dynamics without equilibrium*, Wile, New York, 1981.

175. See in connection: P. Temin, Entrepreneurs and managers, P. Higgonet, D. Landes, H. Rosovsky (eds), *Favorites of fortune: technology, growth and economic development since the industrial revolution*, Harvard University Press, 1991, 339-355.

176. Through strategic penetration of the international market, through ongoing reorientations and adaptations to the kind of products, through repeated swings from one market to another and through successive alliances with foreign companies, the Scotis firm in Pescia managed to come of age and survive many crises, see R. Tolaini, op, cit.

customer for its silk, the Frères Souchon firm, and it made no attempt to widen its network abroad beyond the circle of Greek merchants, whose position in the silk market was far from strong. Moreover, it managed to wreck its most critical relationship with Lyons, through its litigation against Louis Roeck.

Instead of the risky opening to foreign markets, the Société Séricicole preferred the security of the domestic demand for staple products, with which its managers also felt more at home, and especially Constantine Durutti, who certainly knew the markets and the networks of the related trade. So the Athens silkmill spread even more in space. In the end it was transformed into a complex for processing various agricultural products, like those being set up in provincial towns or on great estates (such as Nikolaos Kokoslis's silkmill at Lechonia) during this period. In a sense it 'was ruralized' even more. But in the meanwhile the expansion of Athens had begun.

The specific site, the opposing propensities for its appropriation, and all that nexus of actions that intermediate between the decision to the realization of business activity are enhanced as basic parameters for the final fate of the silkmill. The decision to found it was taken at a time when the city of Athens was merely a geographical node, a dot on the map, that satisfied certain specifications on the temporal-spatial scale. As the scale was focused and implementation of the decision began, the specific place imposed its own parameters: from the technical standpoint that of available resources (water) and proximity to means of transport; as an economic space, the nature of its own demand (staple products); and as an urban space, its own character (capital of the state, place of housing and workshops).

Gregoris Poulimenos, Maria Daniil, Alexandros Pouloudis

CHRONICLE OF THE BUILDING COMPLEX OF THE SILKMILL

Testimonies

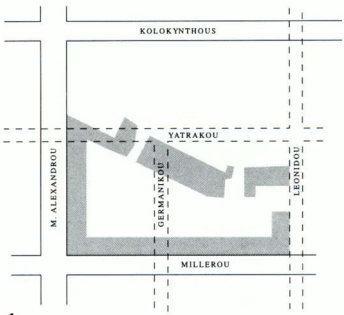
On L. von Klenze's plan of Athens, approved in 1834,[1] the outline of a building is indicated by dotted line on exactly the spot where the silkmill later developed. Located on a trapezoidal plot, the building develops along the length of its two vertically intersecting sides, with its front onto the adjacent streets, and a section surrounds the remaining sides. The outline of this building, with some modifications, appears on all subsequent plans of the city.[2]

This fact attests on the one hand the continuous existence of a building of appreciable size in this position throughout the nineteenth century, and on the other the importance of this building in relation to others in the city, since it is marked on the maps in a special way. Evidence concerning this building and its association with the well-known architect Christian Hansen, has been published elsewhere by Aristea Papanicolaou-Christensen.[3]

The history of the building complex and the enterprises installed in it is presented in other chapters in this volume. Here we should add that though A. Durutti persisted in his efforts to get the factory re-operating, until 1886, these proved fruitless. In the end he began to convert the industrial complex into a housing complex, to cover the city's pressing needs. It was also used circumstantially as a shelter for refugees from Piraeus and as a garrison commander's headquarters of ELAS (National Popular Liberation Army) in 1944.

During the course of the final conversion of the silkmill complex into a housing complex, it form was altered because of interventions in the street plan (fig. 1). The opening of Yatrakou street led to the demolition of the northernmost end of the building facing onto Megalou Alexandrou street, while the opening of Germanikou street led to the demolition of a large section of the building facing onto Millerou street. The consequent division of the complex into two separate blocks resulted in the formation of fronts of ancillary buildings along these two streets. So the courtyard area of the complex disappeared and the buildings of the east side of the silkmill were pulled down.

The 'Metaxourgeion' or 'Durutti' buildings, as they have come to be known of late, embody other building phases that correspond to their



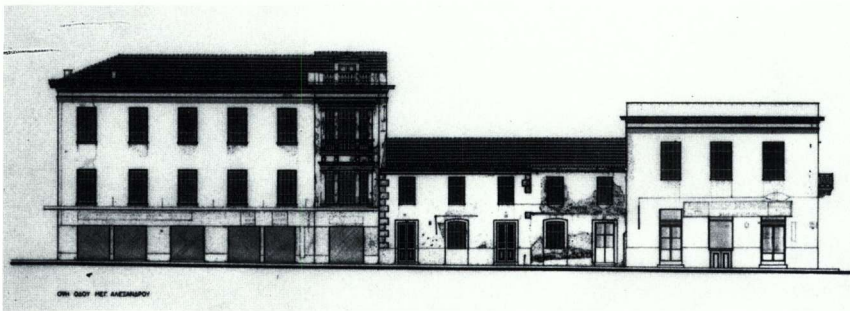
1

1. The original plot of land for the silkmill with the building as it was in 1868; the later street layout is indicated by a broken line.

1. RD 18/30 September 1834.

2. On Klenze's map of Athens, as published in Munich (fig. 7), on Aldenhoven's map of 1837, on the 1834 Street-Plan of Athens (Chenavard), on the 1847 commission's plan of Athens, on the 1854 Map of the Geographical Service of the French Army Staff, on Emm. Kalergis's 1860 map of the city and environs of Athens, etc. The 1837 and 1854 maps are reproduced in other articles in this volume (pp. 47, 159).

3. Αριστέα Παπανικολάου-Κρίστενσεν, Ο Χριστιανός Χάνσεν και το κτίριο του Μεταξουργείου [Aristea Papanicolaou-Christensen, Christian Hansen and the Silkmill building], reprint from *Αρχαιολογικά Ανάλεκτα εξ Αθηνών* vol. XIX (1986), 139-152.



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2. Face of the silkmill onto Megalou Alexandrou street, as seen today; the west section, preserved in its original form, is on the right of the picture. Recorded March 1993. (Municipality of Athens, drawing no. 12, scale 1:100).

different functions at various times. In order to detect these phases, in addition to the surviving constructional data and the depictions in topographical diagrams, important information is contained in sundry drawings and sketches, some published others not. These are:

a)An engraving by Fr. Stademann (1841) showing the half-finished building by Hansen (fig. 6).[4]

b)A depiction of the complex on a share of 'A. Wrampe & Co.', *circa* 1852-53, showing the fronts of the building onto Millerou and Megalou Alexandrou streets (fig. 8).[5]

c)A depiction of the complex on a copy of an old drawing, now lost, which was attached to an unknown contract. The copy was made by Ch. Zioulas.[6]

d)A depiction of the complex on a share of the Société Séricicole de la Grèce, of 1855, with the fronts of the building onto Millerou and Megalou Alexandrou streets.[7]

e)A plan of the silkmill complex as it was in 1868 (fig. 10).[8]

f)A drawing with the fronts of the above building onto Millerou and Megalou Alexandrou streets (figs 3, 5).[9]

g)A depiction of the interior of the 'Silk-reeling mill at Athens', published in 1864 (fig. 9).

The shopping centre designed by Hansen

The ground plan of the extant side of the complex onto Megalou Alexandrou street presents a symmetrical arrangement. Its axis coincides with that of the morphologically independent unit that rises at the west edge of the present-day Durutti residence (fig. 2, measured drawing of the front onto M. Alexandrou street).[10] On either side of this axis are two complexes, comprising a central narrow hallway with staircase, opening into a room on each side. Each room has two windows onto the street and the hallway one. The morphology of the east section of this arrangement has been altered

4. Fr. Stademann, *Panorama von Athen*, Munich 1841, pl. 8.

5. Aristea Papanicolaou-Christensen, op. cit., 145 (from the Chr. Zioulas Collection).

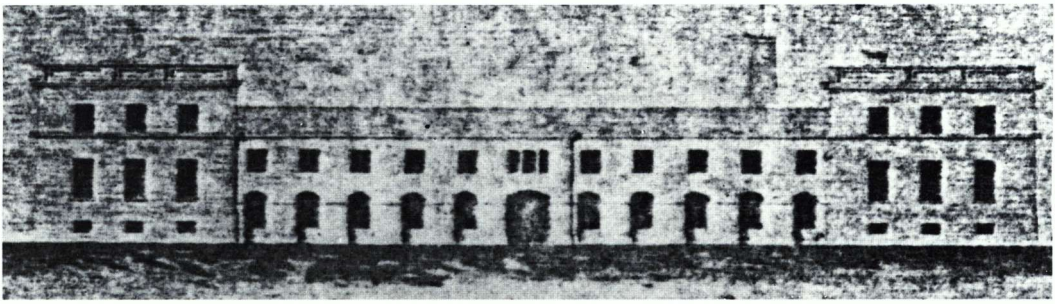
6. Op. cit., 144; at the time the diagram was made, the building still belonged to A Wrampe & Co. See also here p. 62.

7. Op. cit., 146. See also here p. 67.

8. Op. cit., 149, fig. 8.

9. Op. cit., 148, fig. 7, possibly of the same period as the ground plan.

10. For all recent drawings of the silkmill published here, see: Municipality of Athens, Architectural Directorate, Department of Traditional Buildings and Monuments (head: G. Poulimenos), Project: Redevelopment of the old silkmill (architects: Maria Daniil, A. Poulodis, draughtspersons: Evangelia Kaklamani, I. Charikopoulos).



3

3. Face of the silkmill onto Megalou Alexandrou street, according to a drawing made in 1868; the west section, right of the central entrance, still exists (drawn by G. Katsaros, 27.8.1868, copied by D. Mavridopoulos, 18.3.1873. Chr. Zioulas Collection).

significantly and obscured by the later arrangement of the Durutti residence. In contrast, the west section is preserved virtually untouched, just as it appears in the 1868 ground plan (fig. 10) and is described in the 1854 auction report.[11] It should be noted that the dimensions of the 1868 drawing coincide with the present state as this emerges from the measured drawings made. It is obvious that this section, in the ground floor and part of the upper storey between the Durutti residence and the corner 'tower', has survived as it was before 1854.

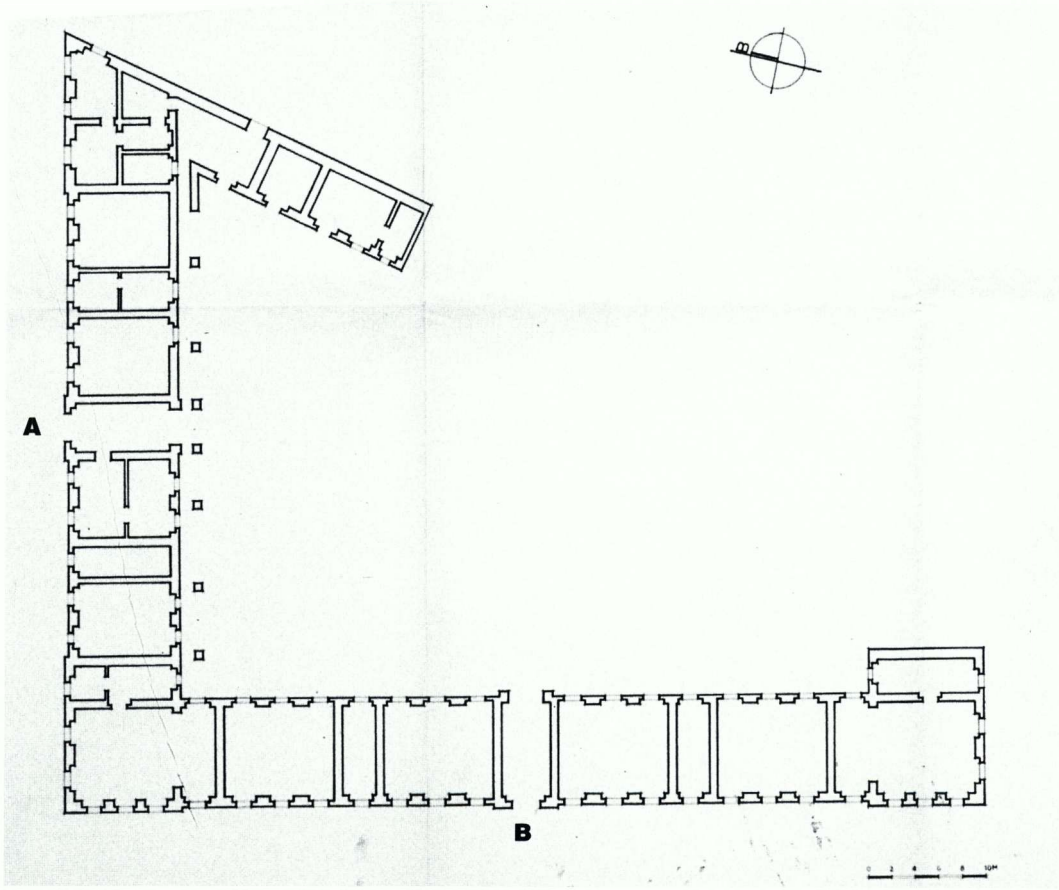
The 1868 drawing of the façades confirms this view. The height levels of the surviving section coincide exactly with those on the drawing.[12] The same 1868 drawing of the façade also gives a full picture of the building onto Megalou Alexandrou street, as it appeared in 1854 (fig. 3). The synthesis is completed at both ends by two tower-like structures each with three openings. The west one, still standing today, consists of a square corner space and a narrow space towards the north. In this complex too the external dimensions in the drawings are identical to those observed today. The interior has, however, been arranged as a residence. The east 'tower' was demolished when Yatrakou street was opened.

Thus it is possible to restore the wing onto Megalou Alexandrou street as it was before 1854. We note that its length along Megalou Alexandrou street is identical to the length of the Hansen building in the earlier topographical diagrams of Athens[13] (fig. 4, documentation: plan of the Hansen building). It is a complex with a wide central portal, surmounted by a low archivolt and a row of three narrow windows in the upper storey. The portal projects a little to the fore of the two flanking symmetrical wings, which have five windows formed by a small recess within wider relieving arches. The low upper storey has four square openings. The whole synthesis is flanked at each end by a tower-like structure, slightly projecting and significantly elevated. This elevation is due mainly to the creation of basement areas and the consequent raising of the ground floor, as well as to the fact that the new floor of the upper storey was formed at the level of the old cornices of the roof, while the

11. On p. 20ff.; this is the section designated as the north entrance.

12. The levels on the drawing were ascertained graphically, after the scale-drawing had been adapted to the existing dimensions.

13. We cite in particular L. von Klenze's map, Aldenhoven's map (1837), Chenavard's Street-Plan (1834) etc.

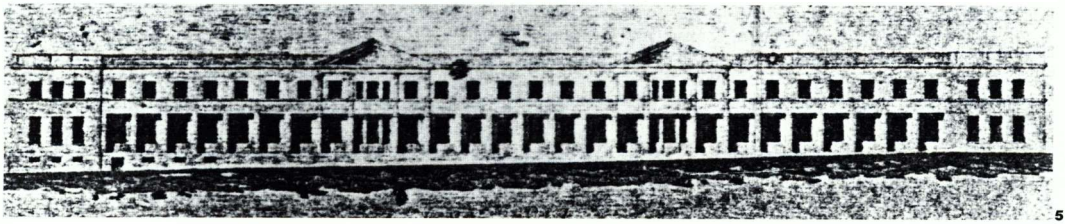


4

4. Reconstruction of the plan of Hansen's shopping centre. A: north entrance, B: west entrance (Municipality of Athens, scale 1:200).

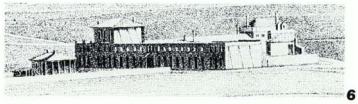
upper storey of the 'towers' was built above the cornices of the rest of the complex. This was the original building of Christian Hansen, a wing of which is depicted somewhat modified in the 1868 drawing (fig. 3). This wing onto Megalou Alexandrou street was preserved in its original form until the late nineteenth century, when it was converted into houses and its east end pulled down.

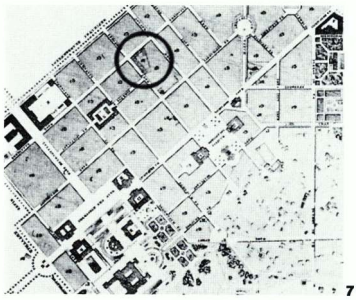
The form of the wing onto Millerou street is completely different. It differs typologically and morphologically from the wing onto Megalou Alexandrou street, and does not accord with Stademann's engraving, which



presents the building from the Millerou street side as it survived before 1841, that is as it had been abandoned half-finished by Hansen (fig. 6).[14] It is obvious that the building shown in later depictions of the silkmill has no relation to that seen by Stademann in 1835. Hansen's initial building was two-storeyed and had a central portal with three openings above and eight openings arranged symmetrically on either side. At each end was a 'tower-like' complex with three openings. The addition to the upper storey is certainly due to Cantacuzenos's arbitrary modifications of Hansen's design, which brought about the well-known disagreement and breach.[15] It is basically a repetition, in elongation, of the compositional principle that Hansen applied to the north wing (Megalou Alexandrou street), with symmetrical arrangement about a central portal, and terminal towers.

Also marked on Klenze's topographical plan of 1834 is the axial entrance to the building from Millerou street (fig. 7). This is identified as the central portal on Stademann's engraving. An important observation that emerges from the recent measured drawings made of the complex throws light on the issue. At those points that have not been demolished, it is ascertained that in the lower levels the arrangement of a narrow hallway with a rectangular room either side, still exists exactly as on the north side (fig. 4, A and B). These rooms have three openings instead of two, with the consequent elongation of the section. The distances between the axes of the openings on the north side are the same as those between the axes of the openings on the west side. Nevertheless, the overall length of the west side of Hansen's building, as it would have emerged if the above observations had been applied, is clearly less than that given in the 1868 plan (fig. 10). This difference in length is also ascertained in the surviving topographical plans up until 1854.[16] In the topographical diagram of the northwest, of 9.9.1864 (fig. 11), the length of the silkmill onto Millerou street is significantly greater than it was in the 1854 plan.[17] It is obvious that between 1854 and 1864 the silkmill building was extended to the south. Its final length in 1864 coincided with that on the 1868 plan, as well as with the present length of the buildings. On the contrary, the overall length of the building in 1854 coincides with that of the representation in Stademann's engraving and the measured drawings made of Hansen's building.





5. Face of the silkmill onto Millerou (then Kerameikou) street, according to a drawing made in 1868. (Chr. Zioulas Collection).

6. The Hansen building, half-finished, as depicted in F. Stademann's *Panorama*, 1835. The entrance from Millerou street can be discerned.

7. Sector from Klenze's town plan (1834). Hansen's building, with the entrance on the axis of Millerou (Kerameikou) street, can be discerned.

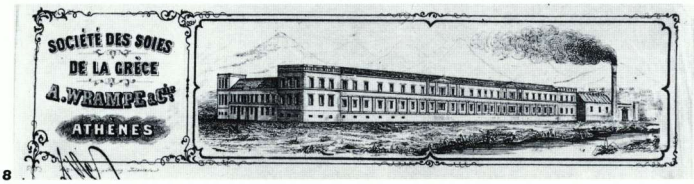
14. It should be noted that this engraving, published in 1841, presents the building as it was in 1835, see also Aristea Papanicolaou-Christensen, op. cit., 142.

15. Ibidem.

16. All measurements start from the corner of Piraeus and Millerou streets.

17. At least as shown on the 1854 Map of the Geographical Service of the French Army Staff; see here the article by Ch. Agriantoni, The Neighbourhood of Metaxourgeion, 160.

8. The silkmill as illustrated on a share of the Wrampe company, *circa* 1853-54. (Chr. Zioulas Collection).



8

So the building that Hansen designed in 1834 can be quite confidently rendered. Hansen conceived an L-shaped building (fig. 4). In the angle of the L and at its ends, he created tower-like structures that are differentiated from the rest of the building, mainly by the use of parapets perimetrically on the walls, since they were initially of the same height.[18] The elevation that exists today should be attributed to modifications made in the decade 1854-1864, in order to resolve the problem of integration with the new, higher wing onto Millerou street, which was built in 1854. The 1868 drawings of the faces onto Megalou Alexandrou street differ from Hansen's building only with regard to these additions. The towers have a longer front onto Megalou Alexandrou street than Millerou, perhaps because Hansen wished to emphasize this façade, since according to Klenze's town plan –which Hansen had in mind when designing the complex– Megalou Alexandrou street (then Polytechneiou or Boulevard) was more important than Millerou street.[19]

In each wing, on the axis of symmetry between the corner tower-like terminals, Hansen placed a portal with a wide entrance, a low archivolt and a triple window in the upper storey. On either side of the portal was a row of shops, and between the shops staircases led to the upper storey, where the tradesmen's residences were accommodated.[20] The shops do not seem to have had direct access to the street, onto which only the windows looked.[21] Hansen's idea was that people would go through the two portals into the internal courtyard, from where they could patronize the shops or visit the shopkeepers' homes in the upper storey. According to the 1868 ground plan, the north wing had an internal portico supported by pillars. No trace of this portico was detected in the west wing. The portico is still preserved today, with some alterations, in the Durutti residence. It certainly facilitated the visitors to the shopping centre. At the same time the internal courtyard may well have been used as an outdoor market-place (bazaar).

The morphology of the Hansen building was very simple. It followed the principles of the Athenian buildings constructed immediately after the Liberation. If absolute austerity dominates its form, stinginess characterizes its construction.[22] This may well be the reason why major interventions were later made to the complex, in the course of its conversion into a silkmill, essentially causing the demolition of its west wing.

Hansen's shopping centre follows a peculiar arrangement. Other shopping

18. Stademann also depicts them like this.

19. This is a more plausible than the view that the narrow rooms next to the square corner apartments in the tower-like arrangement of the ground floor were assimilated in the 1854 modification. In this case Hansen had used perfectly square corner towers. The corner apartment was included in the towers so that the elevation of the north tower, which no longer exists, acquired a staircase. We believe that the ongoing building study of the south tower will clarify the issue fully.

20. Aristea Papanicolaou-Christensen, op. cit., 140.

21. As can be seen in the known representations (Stademann, drawings 1868) and as is ascertained from the building study to date.

22. Hansen himself describes the shoddy way in which the building was constructed, see Aristea Papanicolaou-Christensen, op. cit., 142.

centres built in Greece in the first half of the nineteenth century are developed on the closed perimetric type, with a central atrium surrounded by shops on all sides. The open, L-shaped arrangement chosen by Hansen had no imitators in Greece, as far as we know.[23]

The industrial complex of the silkmill 1

1. The silkmill building

When 'Wrampe & Co.' purchased the Hansen building for conversion into a silkmill, it was unfinished, without roof on its west side at least, and with walls that in part rested on wooden struts and scaffolding.[24] No significant constructional interventions were made to the building for a long period and it is very possible that work was limited to finishing and arranging the interior. Until 1854 the complex appears on the topographical maps exactly as it was in 1834, without additions and extensions. Nevertheless, two drawings are known which document that 'Wrampe & Co.' had programmed significant interventions in the Hansen complex (fig. 8).[25] Essentially, the entire front of the building onto Millerou street was to be altered radically. Several documents from around 1852 indicate the start of considerable building activity in the complex.[26]

In 1853 'Siegel & Sals' signed a contract for the reconstruction of the building, which had in the meanwhile been gutted by fire. From the published sources it emerges that in 1852:

a)there was already a design for the new building which agrees absolutely with later depictions;

b)it was planned to elevate partially the west walls of the building (onto Millerou street) and to reconstruct other places from the foundations to the roof, on the basis of the existing design.

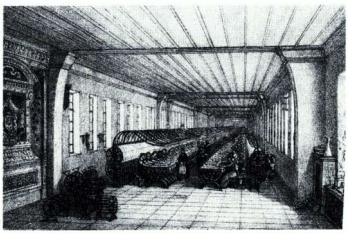
There is no mention anywhere of the architect of the new design. It could be supposed, somewhat arbitrarily, that it was Siegel, who was certainly involved with the building's construction. Whoever the architect was, he designed an entirely new building onto Millerou street, the construction of which entailed demolishing Hansen's building to the foundations. However, because the foundations were kept, the horizontal articulation of Hansen's building was likewise kept in the new synthesis, including its extension to the south, as were the two towers at the ends. Between these towers a very long building was erected, with a pillared front on the ground floor. On the existing plan the pillars project markedly and rest against the wall, where windows are opened in the spaces between them (see fig. 10). The rectilinear architrave of the pillars is so high that it also constitutes the parapet used as the resting base by the windows of the upper storey. The walls of the upper storey are blank and crowned by a rectlinear cornice.

23. The lack of streets on all sides cannot have been the reason for Hansen's choice, since the enclosed system was also applied later in such buildings.

24. Fr. Stademann, op. cit.

25. We refer to the depiction on the company share, 1853 (fig. 8), as well as to Chr. Zioulas's copy of an old drawing, see also n. 6.

26. Aristea Papanicolaou-Christensen, op. cit.



9. Interior of the reeling room (Millerou street wing), from M. Παπαδόπουλος-Βρετός, Εθνικό *Ημερολόγιο 1864*, 73.

The west portal of the Hansen building was abolished and replaced by a decorative ensemble with pediment. On either side of the opening of the old portal a pair of pillars was placed, which extended right up to the cornice of the roof, where there was a frieze and a large decorative pediment. This tetrastyle pedimented porch optimally economized the different width of the old entrance, enhancing it as an axial element of an independent morphological unity. The same unity is repeated in counter-symmetry in the middle of the wing, towards the south, thus creating two strikingly decorative morphological features that enliven the long façade onto Millerou street, with a distinct aesthetic impact (fig. 5).

The decoration on the new front was generally austere, without even decorative window frames. Only on the depiction on the 'Wrampe & Co.' share are horizontal cornices shown above the openings and colonnettes on the parapets of the towers. Later interventions destroyed the decoration of this phase, and consequently no other information on it is available today.

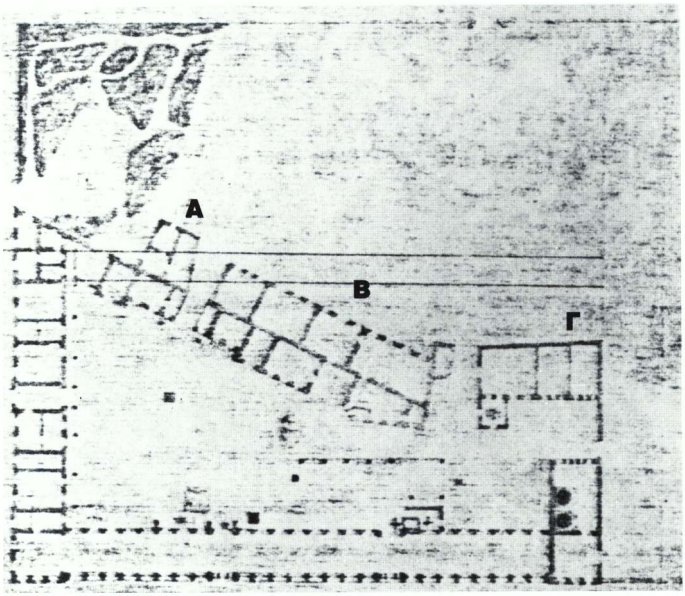
The 1854 design left the whole of the interior on the ground floor free to be used for processing silk. Only the spaces of the towers remained independent. An informative description of the complex is given in the report of the compulsory confiscation in 1854.[27]

In the 1864 picture showing the ground-floor space and machinery of the silkmill, the stone-built transverse arches are a dominant feature. It is characteristic that the springing of the arch is considerably lower than the roof of the ground floor, which solution was chosen so that the arch was completed at a suitable height to support the roof, on account of the relative lowness of the upper storey. There were pairs of arches transverse to each pediment and one at the engagement with the corner tower. In the engagement with the southwest tower there was a wall (fig. 9).[28]

The description of the building in the 1854 auction report attests that the complex was then virtually finished. Nevertheless, it seems that the existing plans had not been strictly implemented, at least with regard to the modelling of the fronts. According to the plans, the west front was supposed to have a row of pillars, 0.80 m deep, on the ground floor, supplemented by a wall 0.60 m thick in contact with the back of the pillars, upon which the windows opened. Although investigation of the building did not confirm the existence of this wall, it did confirm the existence of the row of pillars, built with alternating courses (6-10) of ashlar blocks and corner stones. Characteristic is the different width of the ashlar blocks in the pillars of the extension to the south. This fact probably bears witness to the re-use of material from Hansen's building in a section of the new construction. The pillars ended in a stone trapezoid capital on which rested low stone arches. The walls of the upper storey above were of rubble masonry. The interval between the pillars is nowadays filled in with mixed masonry of corner stones, unworked stones and random ashlar blocks.

27. See the relevant description in the article by Aristea Papanicolaou-Christensen in this volume.

28. The picture is not entirely accurate, since it exaggerates the depth of the hall.



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10. Plan of the silkmill in 1868. A, B, Γ: the three complexes of the east side. Drawn by G. Katsaros, 27.8.1868, copied by D. Mavridopoulos, 18.3.1873. (Chr. Zioulas Collection).

The new openings were formed in this hotch-potch masonry. The use of iron girders of H-shaped section in the construction enables us to date the additions of the last phase to after 1880. We personally believe that for unknown reasons –possibly financial– the second wall, contiguous with the row of pillars, was never built. More probably the openings between the pillars were filled in with masonry of less thickness, so that the pillars projected slightly, as can be seen in all the depictions of the silkmill. During the modification of the complex into a residence the façade acquired a uniform aspect, with the full incorporation of the pillars in the west wall.[29] However, the openings in these spaces were larger than those foreseen in the plans.

In evaluating the solution given in the new silkmill building, a few significant observations can be made. We note that despite the re-use of the earlier infrastructure of Hansen's building and the associated constraints on the articulation of the new building, its form is different and novel. It is, moreover, particularly interesting because it has overt aesthetic aspirations, to a degree not normally encountered in other industrial buildings of the age,[30] yet these did not lead to extravagance in the morphological treatment of the decoration. The building is constructed of simple materials, relying primarily on the aesthetic effect of the schematization of the forms rather than the decoration. Thus it remains within the framework of the reasonable austerity

29. We believe that the ongoing building study will reveal further information on the phases of additions to the west wall.

30. We cite the buildings of the gasworks (Gazi) and the factories that were built all over Greece during the next fifty years.

its industrial purpose prescribes. This austerity is further emphasized by the simplification of the west face, as this was finally constructed. However, careful confrontation is restricted to those sides of the building visible from the surrounding streets. For this reason the pediments have no depth, constituting superficial two-dimensional elements, and the internal faces are plain, with no articulation.

The functional structuring of the complex is simple too. All administrative and like functions of the silkmill were housed in the old north wing of the Hansen building. In the west wing there were facilities for silk-rearing in the upper storey and for reeling on the ground floor. Both operations required large single spaces, created by the solution given to that wing. Remaining administrative functions were accommodated by making simple alterations to the existing wing of the Hansen building onto Megalou Alexandrou street.

2. The additions

The silkmill of 1854 constituted the most important building in a complex of industrial premises that were put up on the available plot. It is attested that a steam-powered mill was installed there in 1855, a bakery in 1859, an oil press in 1855, a forge and bronze foundry in 1857, and a carpentry workshop in that same year.[31] These last two were directly related to the maintenance and operation of the silkmill, while also executing orders from elsewhere. To house these activities a series of buildings was put up on the diagonal back of the plot. None survives today.[32]

From the 1868 plans, the 1865 report and the topographical diagram of Athens in the RD 9.9.1864 (fig. 11), it seems that there were three complexes of additional buildings: A, B and Γ (fig. 10) the last added after 1864. It is worth noting that all three complexes developed with gradual additions of buildings on either side of the compound wall, which was the eastern diagonal limit of the plot. Indeed the front of the additions to the east of the compound wall follows the form of the face of the inside wall of the wing on Millerou street.

The complex had one main entrance from Megalou Alexandrou street, two entrances on the side of present-day Yatrakou street and a narrow entrance on the side of Leonidou street. There was no entrance from Millerou street. This arrangement of the entrances was related to the position of the complex in relation to Athens as a whole, access to it from the existing streets and its functional needs.

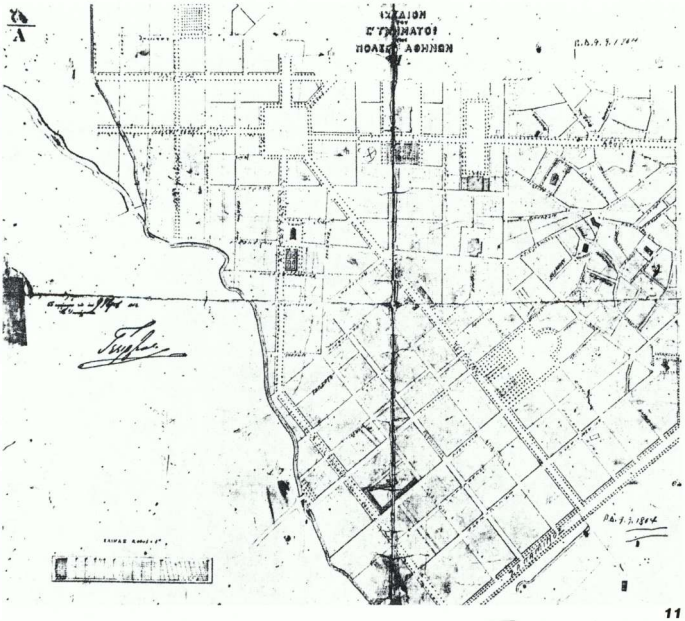
3. Conversion into houses

Up until 1886 the industrial complex of the silkmill was preserved in the state descibed above.[33] After this date A. Durutti was persuaded that industrial

31. The dating is proposed on the basis of the year the machines installed in the complex were produced, as attested in Chr. Zioulas's report of 1 December 1980.

32. It is hoped that when the later buildings have been demolished, it will be possible to locate the foundations of these buildings.

33. At that time A. Durutti was trying to stimulate the Greek government's interest in the closed but intact complex. See A. Durutti's relevant memorandum to the Greek Government, Chr. Zioulas Collection.



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11. Topographical plan of Sector V of the city of Athens, 1864. In the lower part is the silkmill, without the additions to the southeast side.

12

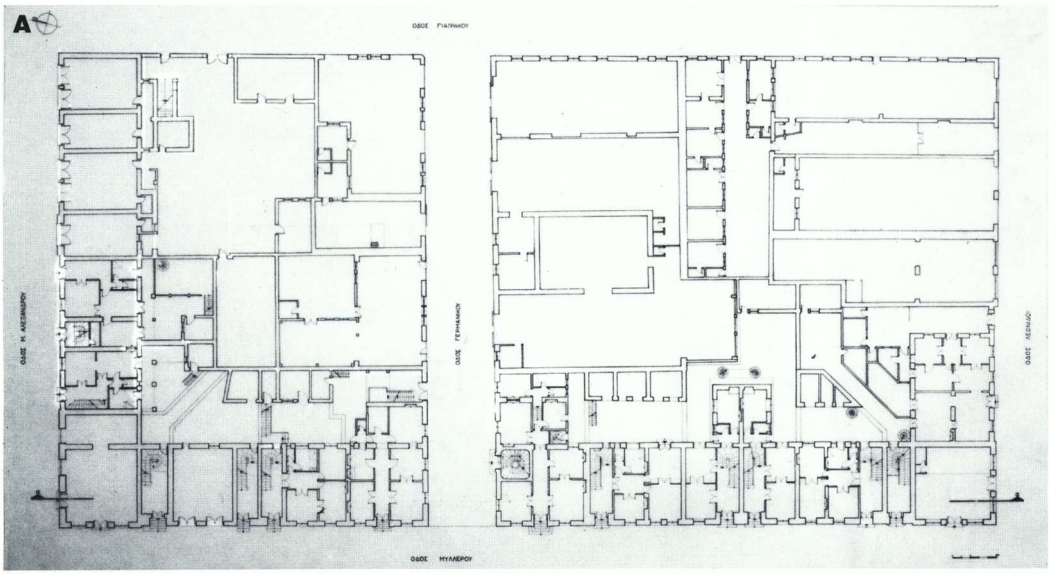
12. The silkmill today, from Millerou street. The section of Germanikou street and the unity of the complex are visible.

exploitation of the building was no longer feasible and so he turned to its commercial exploitation by converting it into houses, since the area was now within the urban fabric of Athens. However, exploitation of the complex for housing presupposed its fragmentation into smaller blocks, something which was not done until 1892.[34] We believe that the conversion of the complex into houses took place after this date, and after Yatrakou and Germanikou streets had been opened, but certainly before 1904.[35]

The opening of the aforementioned streets caused great damage to the complex (fig. 1). Specifically, the opening of Yatrakou street caused the demolition of the northeast tower of the north wing, and so one of the two towers of the Hansen building was lost (fig. 2). It also entailed removing the auxiliary corner complex of that side (fig. 10, A), which seems to have existed since 1835. The opening of Germanikou street caused the demolition of part of the façade of the building onto Millerou street. For reasons unbeknown to us, not only was the section necessary for opening the road pulled down, but also a considerable swathe of buildings on either side of it (fig. 12: the single ensemble the two buildings constitute can be clearly seen in the photograph). In the spaces thus opened, corner buildings were constructed, forming the ends of the two new wings (fig. 13). The opening of Yatrakou street also caused the demolition of the steam-mill complex (fig. 10, B), since a large section of it stood at the intersection of Yatrakou and Germanikou streets.

34. The 1892 map of Athens, published by Pallis and Kotzias, notes the plot of the silkmill complex completely preserved. It is known, however, that Germanikou street was laid in 1885, presumably due to moves by the owner.

35. Research in the archives of the Athens City-Planning Authority show that the house buildings existed prior to this year and henceforth permits were only issued for secondary repairs.



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13. The complex of buildings on the silkmill plot in its final phase. A: plan of ground floor, B: plan of first storey, Γ: plan of second storey and lofts, Δ: plan of roof. Recorded March

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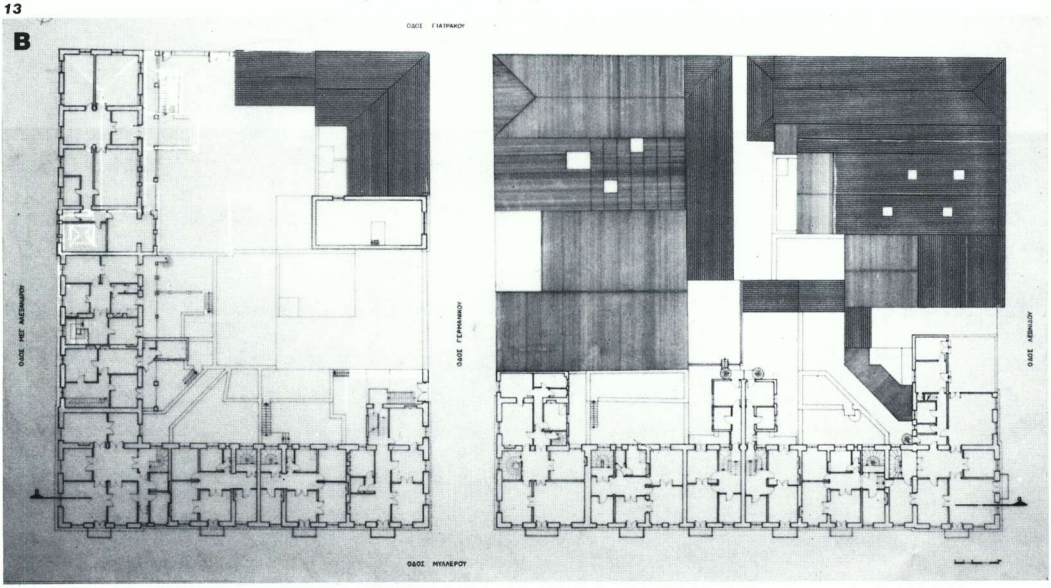

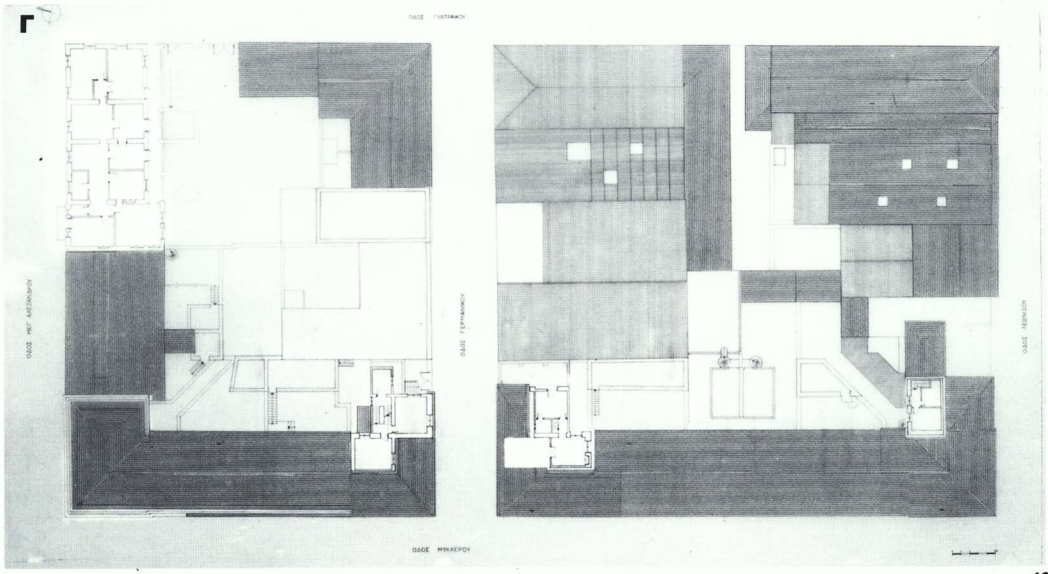

1993. (Municipality of Athens, Department of traditional buildings and monuments, drawings nos 0.2-0.5, scale 1:100).

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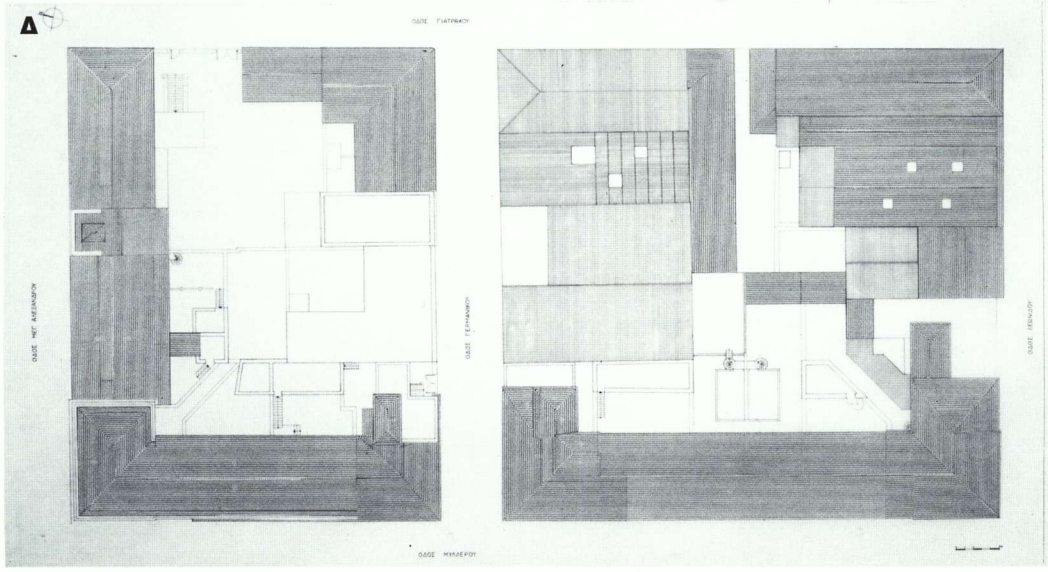

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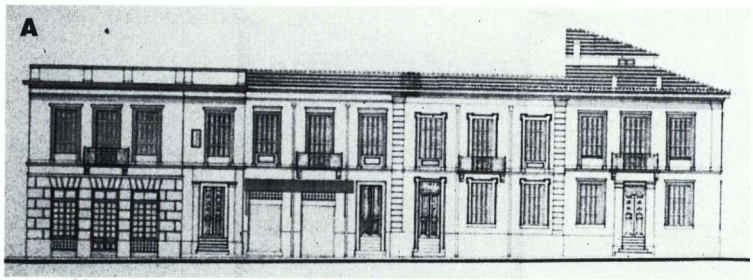

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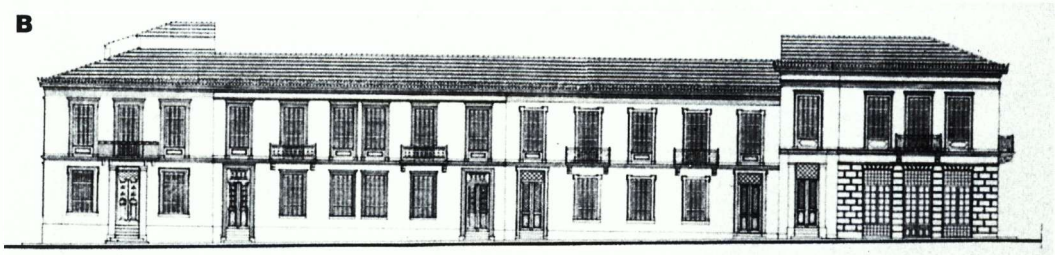
14. Reconstruction of the face onto Millerou street, house phase. A: northern section (towards M. Alexandrou street), B: southern section (towards Leonidou street). (Municipality of Athens, June 1993, drawing scale 1:100).

The rest could not be structurally incorporated in the new fronts onto the streets and was also demolished. Finally, houses were created in the two wings: the north onto Megalou Alexandrou street and the west onto Millerou street.

The arrangement of the west wing as houses was adapted to a rudimentary general plan. Four square buildings with houses on the ground floor and in the upper storey were built at the street corners. The two corner towers of the silkmill were also converted into houses in the upper storey and shops on the ground floor. The intervening space between the existing lengthwise walls of the west wing was arranged as housing on two floors, along the lines of the urban two-storey apartment blocks of the period. Two types of houses were used; in the corner buildings a symmetrical type with central hallway, in the remainder of the complex individual unities with a stairwell at the end, giving access to two apartments, one on the ground floor and one in the upper storey. This arrangement offered the alternative possibility of using each storey independently or both as a single residence (fig. 13, measured drawings of plans: A: ground floor, B: upper storey, Γ: attics, Δ: roof).

The modelling of the fronts was limited. In the two end buildings, the old 'towers' of the silkmill, the tripartite heightwise arrangement of Neoclassicism is clear. The ground-floor base is decorated with the familiar imitation quoins. The zone of the order in the upper storey is developed without pilasters, the windows with plain frame and full entablature. Lastly, the roof is completed by the projecting cornice and the parapets. On the rest of the building there are no imitation quoins on the ground floor. The openings of the houses here had a simple decorative surround, as on the upper storey. No parapet was built above the cornice either, which is decorated with antefixes. The differences in the decoration point to the different phases of conversions (figs 14, 15, reconstruction of fronts of the house phase).

For the foundations of the cross walls that separated the new houses, the old foundations from the original Hansen building were used where these existed. So, even today, a relevant picture of the arrangement of the spaces in the west wing of the initial shopping centre can be formed. The opening of new doors and windows inevitably caused a series of alterations to the façade; the pediments were removed and the row of pillars on the ground floor



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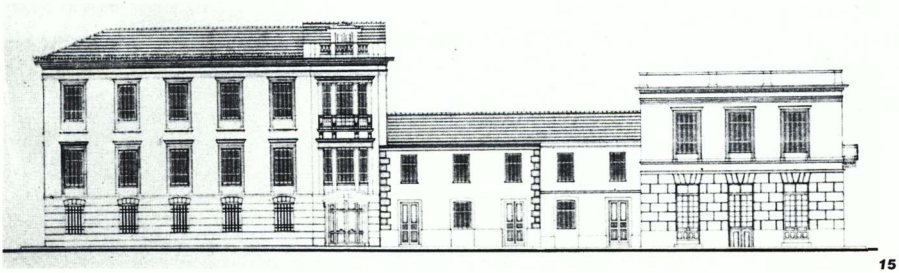

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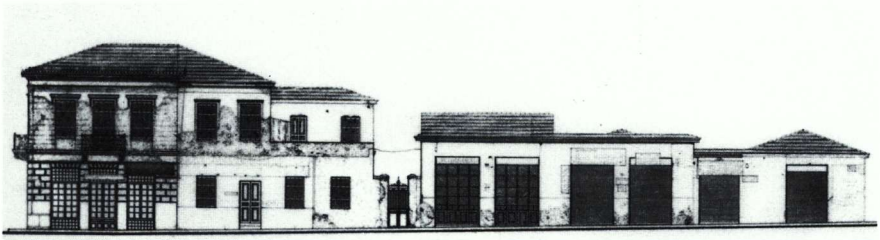

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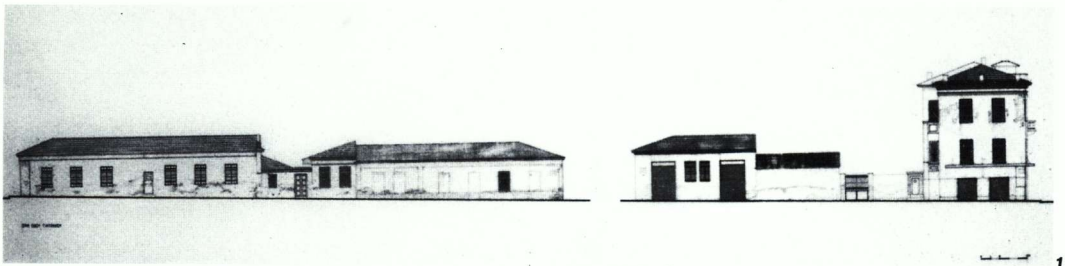

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15. Reconstruction of the face onto Megalou Alexandrou street, house phase. (Municipality of Athens, July 1993, drawing scale 1:100).

16. The face onto Leonidou street today. Recorded March 1993. (Municipality of Athens, drawing no. 0.8, scale 1:100).

17. The face onto Yatrakou street today. Recorded March 1993. (Municipality of Athens, drawing no. 0.9, scale 1:100).

18

18. Recent photograph of the entrance to one of the houses, showing the adaptation of the opening.

disappeared. The size and dimensions of the ground-floor openings changed (fig. 18). In the upper storey the openings were modified by extending them downwards, in some cases necessitating the demolition of sections of the low ashlar-stone apses of the old ground-floor arcade. These arches were also pulled down at the point where balconies were opened. Much of the roof was replaced, on account of interventions made to the cornice of the building. In general the height of the building remained the same, apart from the southeast end onto Millerou street, where the height was increased after its damage by fire.

The different way in which the constructional interventions were made to sections of the building bears witness to its gradual conversion into houses, at different times and presumably by different teams, even though an overall conception of the modelling and volumes clearly existed. The morphological differentiation apparent in sections of the fronts might well attest a different architect in charge of the alterations. These changes contributed to the complex losing its single style; it acquired a fragmentary aspect in which nothing bore witness to the large building from which it derived and which still existed to a large extent, though masked by additions.

The major change on Megalou Alexandrou street was the conversion of the northeast section of the wing into the residence of Athanasios Durutti himself. After the demolition of the terminal tower, all the buildings from the entrance portal eastwards were converted into one house. To this end another storey was added, the portico on the courtyard side was elevated so that this second storey acquired a balcony and the interaxial intervals were altered. The ground floor was arranged as shops with a projecting metal shelter in front, while the space of the former portal was treated as an independent morphological unit. The exterior was enlivened by framing the doors and windows, creating pilasters and elaborating a full frieze below the cornices. The section of the building between the Durutti residence and the corner tower was converted into houses along the same lines as in the rest of the complex and was decorated in the same vein.

On the remaining plot very little has survived of the earlier interventions, since there was a destructive fire in the early 1960s. We mention some façades of typical early twentieth-century shops still standing on Leonidou street and the row of warehouses on Yatrakou street, the most important feature of which is their timber roof-frame, in good condition. One of these warehouses was used for a while by Marika Kotopouli, as the storeroom for her theatre. In general it seems that Durutti exploited this space by creating warehouse facilities and small shops with no particular architectural pretensions.

By way of an epilogue

The building chronicle of the silkmill complex reveals to us the conversion

of Hansen's shopping centre into an industrial complex and then into a housing complex.

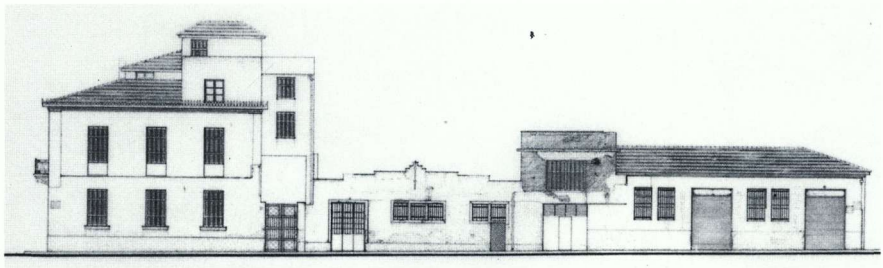
It is significant that the infrastructure of all the conversions was Hansen's original building, which displays characteristic flexibility in receiving alterations. Furthermore, the wing of the silkmill erected on Millerou street in 1854 constitutes a landmark in nineteenth-century industrial architecture. On present evidence, no other industrial building from King Otto's reign has comparable architectural aspirations and synthesis. Later too, industrial buildings tended to be simple functional structures with rudimentary or even non-existent morphological ambitions, used as a rule as a protective shell for the machinery they housed.[36]

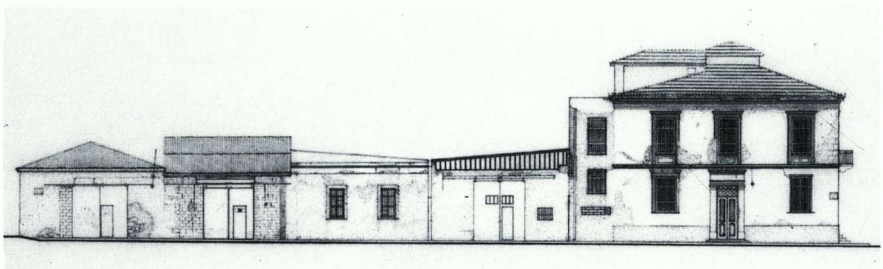
In the silkmill building, however, an obvious effort was made to model and organize the fronts, in order to promote an impressive architectural synthesis. This fact is indicative of the intentions of both the architect and the owners. During the subsequent conversion of the premises into houses, the fragmentary nature of the interventions faithfully depicts the intense pressure for urban housing in late nineteenth-century Athens. Run-of-the-mill dwellings with no particular architectural intentions, since the over-riding factor was economic exploitation.

In evaluating the various phases, it could be maintained that the plot between Megalou Alexandrou, Millerou and Leonidou streets had the fortune of hosting two important buildings of Otto's reign: Hansen's shopping centre, which remained unfinished and was never used for its intended purpose, and the silkmill building, which functioned as an industrial unit, its imposing presence dominating the area, only to be quickly sacrificed on the altar of the growing demand for urban housing in late nineteenth-century Athens. The importance of this building was appreciated by the public: a whole neighbourhood took its name, which name continues to this day, one hundred years after the alteration and partial demolition of the 'Metaxourgeion', the silkmill.

In 1993 the Municipality of Athens, which assumed ownership of the complex, decided to restore and to utilize it. The relevant study was carried out by the Department of Traditional Buildings of the Directorate of Architecture. The main complex has been freed of the later additions, which were demolished, and is being repaired in order to restore it to its original form, as designed by Hansen; it will house shops on the ground floor and offices in the upper storey. Concurrently, the area freed by pulling down the additional buildings is being landscaped as a park on the basis of plans prepared by the municipality's Department of Parks and Squares. Of the additional buildings only the warehouse of the state-funded Kotopouli Theatre will be kept, to be converted into a Municipal Youth Centre. Lastly, municipal work teams are completing the restoration of the exterior of the Durutti residence, a section of the complex that still belongs to the Durutti family.

36. Examples are the buildings of the gasworks (Gazi), the Lavrion mines etc. See also A. Σκοπελίτη, Το γκάζι [A. Skopelitis, The gasworks], Athens.





19. The face onto Germanikou street today (north side). Recorded March 1993. (Municipality of Athens, drawing no. 11, scale 1:100).

20. The face onto Germanikou street today (south side). Recorded March 1993. (Municipality of Athens, drawing no. 11, scale 1:100).

21. The roofs of the complex from the corner of Megalou Alexandrou and Millerou streets.

22. Metaxourgeio today from the corner of Millerou and Germanikou streets.

Christina Agriantoni

THE NEIGHBOURHOOD OF METAXOURGEION

Urban morphology and social patterns of land use are in a dialectical, perpetually evolving relationship that is regulated by the different tempos that the diverse elements of urban space follow.[1] As far as a single building is concerned, the uses it houses and consequently its (original) form, are determined by social needs, by the social management of space. However, because the life span of a building –particularly a large one– is usually longer than that of the uses it originally housed, it may house new uses in the course of its lifetime. These last must of course adapt to the existing shell, with the necessary interventions. The flexibility of a building, that is its ability to house successively diverse uses, depends on its initial form and manner of construction, and specifically on the basic arrangement of its structure.

However, the new uses to be housed in a building do not depend only on the technical possibilities of the existing shell. They depend also on the history of both the shell and its setting, its neighbourhood. In passing from the level of the building to the level of the neighbourhood, we pass to tardier rhythms and more complex processes of shaping. The new uses should be compatible in some way with the character of the neighbourhood (residential, commercial, industrial etc.); lack of such compatibility is usually the basic reason for the building's abandonment by its previous users (e.g. abandonment of a factory in an urban area that has become residential).

The opposite may hold too, particularly in cases of large buildings and urban areas in the throes of development or redevelopment, that is whose character is transitional, still uncrystallized and open to all possible prospects of exploitation. In such cases the lone (personal) action, by definition conjunctural, may have long-term (structural) consequences. The installation of a specific function on a (large) urban plot, with a new or an existing building, can affect decisively the physiognomy of the surrounding area, because it attracts related-supplementary uses to the immediate environs or wards off incompatible ones. So all public buildings, which are usually also monumental in character, induce diffusion of central-administrative functions in their neighbourhood, fixing the centre of the city at the same point, sometimes for centuries. The same can happen with modern, large-scale, redevelopment projects, for which large urban properties are especially suitable; for example, the creation of luxury housing complexes on an available plot in a run-down area (e.g. an old factory site) can upgrade the

1. Many fertile ideas on new approaches to urban history in: B. Lepetit, D. Pumain, *Temporalités urbaines*. Paris 1993.

whole area; the installation of law courts in another area will attract lawyers' offices and so on.

On the other hand, mobility of uses is not the same for all uses nor for all agents. Lawyers' offices will not all move at the same time to the new area of the law courts, nor will old houses or workshops be renovated, converted or rebuilt simultaneously in the upgraded residential area. For this reason, at each moment in its history a neighbourhood bears the traces of the uses that were attracted there by some original pole, even when this pole no longer exists or has changed use. Its morphology at a specific moment imprints the overlying layers of the preceding phases, and it is precisely this element, the historical depth in other words, that gives urban space multiplicity of meaning, vitality and beauty, something which new cities designed on paper could never reproduce.

This dialectical relationship –the history of mutual influences between the large building and its environs, the articulation of conjunctural actions and structural trends, and its material remains in space– is easily discernible in the case of the silkmill (*metaxourgeion*) at Athens, a building of unusual longevity by Athenian standards, and the neighbourhood named after it, Metaxourgeion.

We know that the area lay outside the historic city of Athens, but in direct propinquity to it; a rural area with orchards and fields, it had two additional features that also constitute historical specifications. Firstly, to the south of it lay the area of the Dipylon (nowadays within the archaeological site of Kerameikos), with an important junction where the roads from Eleusis (Iera Odos), Piraeus (branch of the main road to Piraeus, which terminated further south at the 'Dragon Gate') and Sepolia converged.[2] From this crossroads,[3] that can be clearly seen on Aldenhoven's 1837 map (fig. 1), a central road led to the Moria Gate of Haseki's fortification wall. Secondly, right beside the Moria Gate (on present-day Sarri street), according to K. Biris at least, 'gypsy blacksmiths' had settled, for which reason it was also called 'Gypsy' Gate.[4] Consequently, transport-communications functions and industry were already present in the vicinity of the area under consideration before Athens became capital of the state.

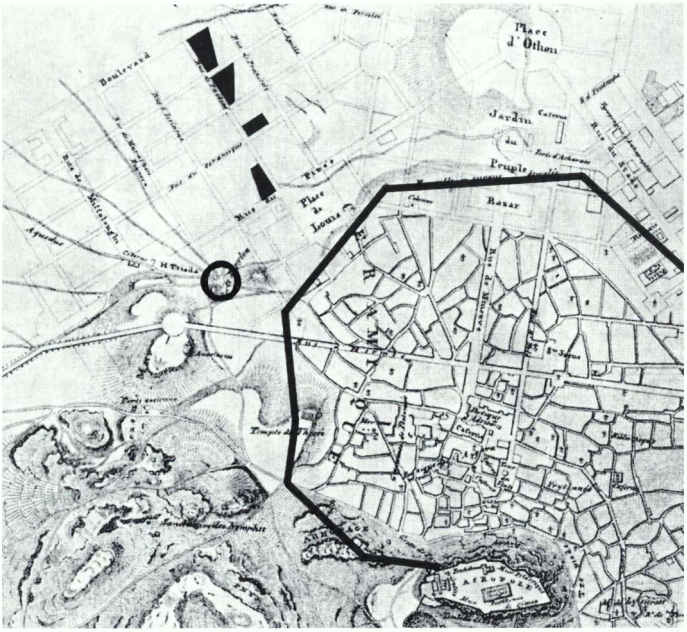
With the declaration of Athens as capital and the timely inclusion of this area in the plans for the new city, prospects opened for the urbanization of 'Chezolitharo' or 'Chesmeni Petra' (Shit Stone), as the location was known before its renaming as the more respectable 'Chrysomeni Petra' (Gilded Stone).[5] At that moment the possible directions its development could take were naturally many. The first direction was charted by the proposed plans of Kleanthis-Schaubert and Klenze for building the palace in the nearby areas of Omonoia and Dipylon respectively. The prospect of installing central urban functions hereabouts mobilized purchases of land and attracted the significant investment of Prince George Cantacuzenos in a large urban property that

2. See the plan of King Otto's Athens and its environs with the rural roads, in K. Μπίρης, *Τα πρώτα σχέδια των Αθηνών* [K. Biris, The first plans of Athens], Athens 1933, 5, and I. Τραυλός, *Πολεοδομική εξέλιξης των Αθηνών* [I. Travlos, Town-planning development of Athens], Athens[2] 1993, pl. XI. See also Lya and Raymond Matton, *Athènes et ses monuments du XVIIe s. à nos jours*, Athens 1963, from which figs 3, 4 and 5 in this study are taken.

3. Today there is also an important road junction (crossroads of the Iera Odos and Piraeus Street) a little further eastwards.

4. Κ. Μπίρης. *Οι γύφτοι. Μελέτη λαογραφική και εθνολογική* [K. Biris, The Gypsies. Folklore and ethnological study], Athens1942, 5. The blacksmiths' shops occupied the entire extension of the Iera Odos into the city, from west to east, on what are now Tournavitou, Astingos and Iphaistou streets.

5. Metaxourgeion, Vathi, Exarcheia and Neapolis (then Proasteion = suburb) were the first unbuilt zones to be incorporated in Klenze's city plan, which was approved on 18.9.1834, see I. Travlos, op. cit., 238. On the area's name, see Chr. Zioulas Collection, contract 12882/17.8.1840 of the solicitor at Athens K. Kokidos: in this contract, which concerns the purchase of Anton Prokesh Osten's estate by Konstantinos Boras (who later sold it to the Société Séricicole) the renaming of the area is mentioned expressly:'Chrysi [Golden] (former Chesmeni [Shit]) Petra[Stone]'; in all subsequent contracts I consulted in this same archive, the area is called 'Chesmeni Petra' or 'Chezolitharo'. The variation 'Chrismeno Lithari' (Anointed Stone) mentioned by A. Papanicolaou-Christensen (here p. 48), is probably later.



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1. Section of F. Aldenhoven's map of Athens, 1837; marked are the four abandoned building plots onto Millerou street, the road intersection at the Dipylon and the fortification wall of Haseki.

2. The Provelengios residence as seen today, at the corner of Millerou and Kerameikou streets.

would operate as a shopping centre. Concurrently, some large residences of wealthy incomers began to be built.[6]

However, the final decision in 1836 to locate the palace at the diametrically opposite edge of the city, upset the balance of social evaluation and 'froze' developments at 'Chezolitharo', whose orientations once again became vague. The Cantacuzenos complex remained unfinished, since the creation of a shopping centre in this now 'off-centre' area was no longer meaningful.[7] Demand for urban land turned towards the northern and northeastern suburban zones, which were the first to be built.[8] Nevertheless, the houses which had already gone up or were finished a little later, even though most of them had been abandoned by their original (wealthy) owners, kept open for a while the prospect of the area's designation as a residential zone.[9] This phase continued for about twenty years, and the last extant witness of it is the Provelengios residence, still standing at the corner of Kerameikou and Millerou streets (fig. 2).

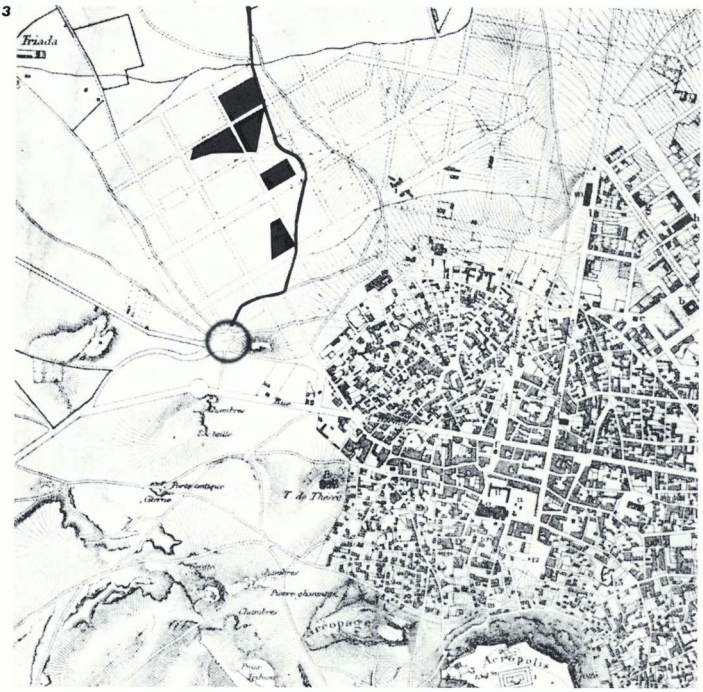
From a French map of 1854 (fig. 3) it is evident that over the twenty-year interval land occupation in the area had remained at the level of 1837. Both maps show four occupied plots, while in 1854, as can be clearly seen, the orchard of the silkmill had been added. One detail of the 1854 map is particularly interesting because it attests the durability of the street plan and

6. Α. Μηλιαράκης, Αι προ πεντηκονταετίας μεγάλαι των Αθηνών οικίαι [A. Miliarakis, The grand houses of Athens fifty years ago], *Εστία*, iss. 470, 1.1.1885, 27. mention as 'products' of this phase the residences of: the Prince of Wallachia Ioannis Karatzas (inside the city walls, on Sarri street), G.Argyropoulos (afterwards of Koumoundouros), Misios (afterwards of I.Messinezis) further south, near the gasworks (Gazi), Botsaris (afterwards of Provelengios) at the corner of Kerameikou and Millerou streets, and of course Cantacuzenos, on the site of the silkmill. See also N. Καλλέργη-Μαυρογένη, Αι πρώται επί Οθωνος οικίαι των Αθηνών [N. Kallergi-Mavrogeni, The first houses in Athens during the reign of Otto], *Τα Αθηναϊκά*, iss. 31-32, Christmas 1965, 84-90, and Αγγελική Κόκκου, Τα πρώτα αθηναϊκά σπίτια [Angeliki Kokkou, The first Athenian houses], *Αρχαιολογία*, iss. 2, February 1982, 57-58.

7. On the fate of the complex, see the detailed study by Aristea Papanicolaou-Christensen in this volume.

8. The rising land prices corresponded to a demand from the affluent strata at that time, rather than the poor immigrants to Athens from the countryside, see also Θ. Δρίκος, *Οι πωλήσεις των οθωμανικών ιδιοκτησιών της Αττικής 1830-1831* [Th. Drikos, The sales of the Ottoman properties in Attica 1830-1831], Athens 1994.

9. For example, the Cantacuzenos residence was let as a house throughout this period, as is evident from the study byAristea Papanicolaou-Christensen in this volume; among those who lived there were Otto Gropius, Christian Siegel and the Luth family.



3. Section of a French map of Athens (Dépôt de la Guerre), 1853-54. Marked are the four abandoned building plots and the orchard of the silkmill on Millerou (then Kerameikou) street, the old road to Sepolia and the road intersection at the Dipylon. (From: L. & R. Matton, op. cit.).

its role in shaping the urban web: although new building follows the layout of the town plan and although the buildings are aligned on Millerou (then Kerameikou) street, in reality the occupied plots are situated on the earlier rural road that led to Sepolia (and which is not shown on Aldenhoven's map). So Millerou street constituted the first pole of settlement in the area, because the new layout at this point was integrated with the earlier road axis.

When 'Wrampe & Co.' decided to buy the complex and turn it into a silkmill (1852), the area had not yet been incorporated in the urban web. The specific building was obviously chosen because no buildings of analogous size that were suitable for such uses existed in Athens at this time. Moreover, the intended new use did not conflict with the still unformed character of the area, one with rather poor prospects on the outskirts of the city.

This second (conjunctural) intervention was to have a long-term impact on the area's future, that is of much greater longevity than the silkmill itself, and this because in reality it concurred with certain long-term trends that had already been inscribed in the city's structure. These trends were reinforced by the establishment of the silkmill: they involved the area's incorporation in the industrial zone of the capital and the crystallization of the city's basic

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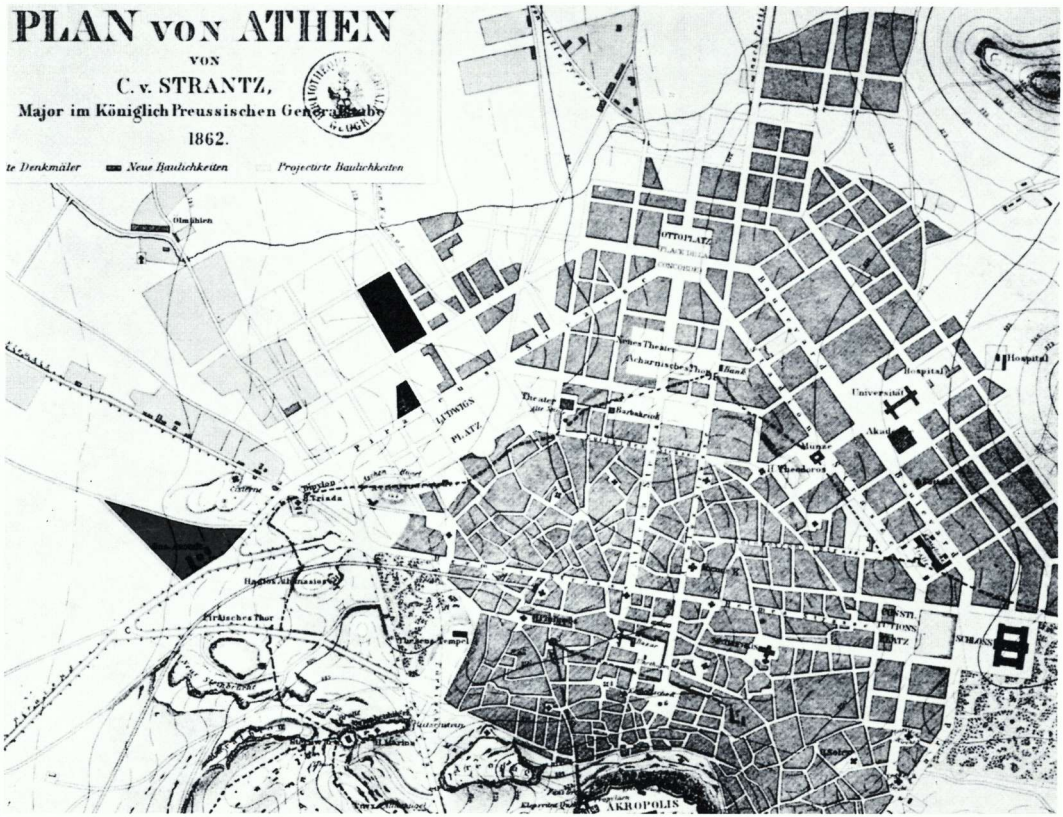
4. Photograph of the western part of Athens in 1869; to the left the Theseum and in the background the silkmill, outside the city and behind the Provelengios residence. (From: L & R. Matton, op. cit., photograph by Rumine, Paris).

dichotomy –maintained to this day– between the high-standard bourgeois residential zones in the east and the popular neighbourhoods with housing and workplaces to the west.

The pace of this development was slow at first, but accelerated, together with the more general pace of urbanization, during the last quarter of the nineteenth century. In a first phase, the silkmill itself, which as we have seen developed into a factory complex of diverse uses, stemmed the westwards extension of the residential zone. In the early 1860s it was still outside the city (fig. 4); it constituted a marginal point of settlement on the 1862 map (fig. 5), which shows that building had just begun to extend to the west of Omonoia Square. Even in 1875 (fig. 6), when this section had been incorporated fully in the urban web, the silkmill complex with its orchard forms a kind of barrier, a limit on the west side, while new building seems to seek outlets to the northwest, crossing the Kyklovoros stream, that constituted a natural boundary of the urban area, and 'encircling' the silkmill at a distance.

During the interval that separates the two maps, of 1854 and 1862, two further events contributed decisively to crystallizing the area's character. The first was the installation there of the Chatzikostas Orphanage in 1856,



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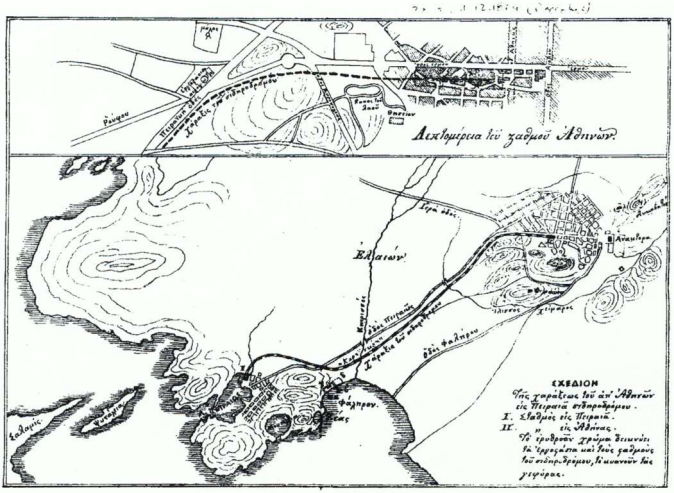
5. Section of the map of Athens by the German army officer C. von Strantz, 1862. The Omonoia area is already built up. The plot of the silkmill is shown here united with the adjacent one to the southeast. At the corner of Millerou and Piraeus streets, the building of the Chatzikostas Orphanage and further south, on Piraeus street, the gasworks (Gazi).

10. The Orphanage was founded with a bequest of Georgios Chatzikostas, from Ioannina, see *Αθήναι* (periodical essay published fortnightly) year I, iss. 2, 5 July 1887 and Σπ. Π. Φίλλη, Αι Αθήναι του 1860 [Sp. P. Phillis, Athens in 1860], *Τα Αθηναϊκά*, iss. 34, Sept. 1966, 40-43 (a republication of Sp. Phillis's letter from a pamphlet he had published in 1866). Κ. Μπίρης, *Αι Αθήναι από του 19ου εις τον 20όν αι.* [K. Biris, Athens from the19th to the 20th century], Part I, Athens 1966, 204, erroneously states that the Orphanage was founded in 1890.

11. Μαρία Κορασίδου, Οι φιλάνθρωποι μιλούν για τους φτωχούς... [Maria Korasidou, The philanthropists

originally in the rented N. Kyklos residence (on Kerameikou steet, presumably abandoned) and subsequently in the Vranis residence, which was conceded to it, at the corner of Millerou and Piraeus streets.[10] Following the 'philanthropists'' strategy for the 'social incorporation of the poor children',[11] the Orphanage set up workshops in which its inmates could learn a trade: at first tailoring and shoe-making, and later blacksmithing. The forge developed into a factory which was let to a private businessman and employed 50 workers in 1884.[12] The second event was the installation of the gasworks, in 1859-1861, on the south side of the road junction mentioned above (fig. 6).[13] The Gazi, as it became known, was the first step in transforming the Athens-Piraeus road into the major axis of polluting activities it still is today.

This complex, the axis of Millerou street with the silkmill and the Orphanage workshops on the one hand, and the gasworks (Gazi) on the other, constituted the first pole of attraction for industrial functions on the west side



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6. Sketch by Ioannis Genisarlis, 1864, concerning the Athens-Piraeus railway line. The detail shows the gasworks at the corner of Piraeus and Voutiadon streets.

of Athens. These were directed there through the process of successive lateral shifts that typifies the mobility and adaptability of land uses in the city. These functions were asphyxiating in their historic hearth which occupied, as is well known, the same site for centuries, since the Pazari (Bazaar) of the Ottoman era was established on the remains of the Roman agora and Hadrian's Library.[14] During the Ottoman Occupation the shops and workshops of Athens developed in a south-north direction along the axis of present-day Panos street and radially along the vertical axes of Iphaistou, Pandrosou, Adrianou streets etc. Iphaistou street in particular, extending (via Astingos and Leokoriou streets) as far as the Moria Gate, was the focus of forges and saddlers, while on the east side of Pandrosou street were textile workshops (*ambatzidika*). So in the Ottoman period at least, the structure of the city was characterized by a segregation of activities into 'polite' and 'polluting', the latter located in its western sector. [15]

With the opening of Ermou, Aiolou and Athinas streets the industrial zone was reconstituted upon these new axes. It should be noted here that, contrary to familiar stereotypes concerning its 'parasitic' character, Athens was and remained an industrial city: but even in the industrial period it remained a city of small factories producing a wide range of consumer goods (from necessities to luxuries). Shops and workshops now developed mainly from east to west, with Ermou street as the central axis, eventually occupying the entire area between Monastiraki and the western edge of Adrianou street, the neighbourhood of Psyrri and the triangle bounded by Ermou - Athinas - Evripidou streets (today's shopping centre), maintaining local enclaves of specialization.

speak about the poor...], *Τα Ιστορικά*, iss. 17, December 1992, 401.

12. In 1860 the Orphanage housed 60 orphan boys aged 8-12 years, the number rising to 100 in 1870 and 220 in 1883, see Σπ. Φίλλη, op. cit. and *Επετηρίς της Ελλάδος δια το έτος 1884* [Sp. Phillis, Annual of Greece for the year 1884], Athens 1883, 139-140. The Orphanage is clearly visible on the 1875 map (fig.7), in its finished form with an atrium.

13. The sketch from the article by the lieutenant in the Engineer Corps, I. Γιαννήσαλη, Γενικαί σημειώσεις περί σιδηροδρόμου και ιδίως περί του απ'Αθηνών εις Πειραιά [I. Yannisarli, General notes of the railway and especially that from Athens to Piraeus], *Ονήσανδρος*, iss. 9, 1 December1864 (appendix). Ioannis Yannisarlis (Genisarlis), who became Professor of Surveying at the Polytechneion (Technical University), took part in designing the Street Plan of Athens, in 1864, see K. Μπίρης, *Ιστορία του Εθνικού Μετσοβίου Πολυτεχνείου* [K. Biris, History of the National Metsovion Polytechneion], Athens 1956, 502.

14. See Ν.Θ. Φιλαδελφεύς, *Ιστορία των Αθηνών επί Τουρκοκρατίας από του 1400 μέχρι του 1800* [N.Th. Philadelpheus, History of Athens during the Turkish Occupation from 1400 to 1800], vol.1, Athens 1902, 308-309, and I. Τραυλός, op. cit., 208-220 and particularly fig. 140, 211.

15. See the note on this dichotomy in pre-Revolutionary Athens also in G. Sklavounos, Transports et division sociale de l'espace urbain: Athènes du XIXe au XXe siècle, *Villes en parallèle*, iss. 9, Feb. 1986, 38.

7

7. Section of J.A. Kaupert's map of Athens, 1875. Marked are the manufacturing zone of the city, on the basis of a contemporary guidebook, the Orphanage and the silkmill, in the 'vanguard' of the westwards expansion of the zone.

Expansion of this zone northwards and eastwards, where the new city was being built, was prevented by the 'good' neighbourhoods of Omonoia and Syntagma respectively. To the east, from the height of the coffee shop 'Oraia Hellas' in Aiolou street, Ermou street hosted the best shops and coffee shops, terminating at the hotels, patisseries and mansions in Syntagma square. To the north, the Boukoura Theatre (1840), the Varvakeion High School (1857) and the head office of the National Bank delimited the ambit of Omonoia Square.[16]

Consequently the west side of the city was the only 'natural' outlet for the industrial zone. On this side, where, as we have seen, the most important workshops were located, the functions of the old communication node were widened. Aghion Asomaton square was now the terminus for carriages and all kinds of land transport arriving with ever increasing frequency from Piraeus; the installation of the railway station here in 1869 further burdened the node

16. On the nature of the northern part of Athinas street in the 19th century, see characteristic pictures (unfortunately undated) in Θ. Παπαγεωργίου, *Ενθύμιον Αθηνών*, [Th. Papageorgiou, Souvenir of Athens] Athens1990 and Δ. Σκουζέ, Ο δρόμος που άλλαξε μορφές, *Η Αθήνα που έφυγε*, [D. Skouze, The road that changed forms, *Athens that Has Gone*] Athens 1961, 60-63.

with the needs of loading and undloading. The entire area from Aghiou Philippou square, the pitch of the Maltese porters, to the outskirts of Eleftherias (Koumoundourou) square, was filled with facilities serving transport needs: the older pack-saddle-makers, fodder-chandlers etc. and the newer carriage-makers', carpenters' and metal workshops.

It was these carriage-makers' workshops that pioneered the expansion of the industrial zone to the west. The first to 'migrate' to the west of Piraeus street, to open up next to the silkmill, was the 'Greek carriage-shop of Mr Galliani',[17] the existence of which is attested from at least 1862. Three years later, in 1865, the newly-crowned George I visited to Durutti silkmill and the carriage-shop 'lying adjacent to it', and awarded a medal to both owners.[18] Ten years later, in 1875, most of the carriage-makers (14 of the 15 recorded in a contemporary guide to Athens) were crowded in Adrianou street, Asomaton square and Sarri street, while in the immediate vicinity of the silkmill a workshop for iron structures is recorded.[19] In the meanwhile, a section of the silkmill itself (the smithy-carpenter's shop) which had already gone into decline, was let to an independent businessman.[20]

In 1875 the silkmill finally closed and its area was once more at a crossroads. However, there was now a pressing and mass demand for housing: the capital had entered the orbit of rapid expansion and its population soared: from 44,250 inhabitants in 1870 it reached 63,374 in 1879 (increase of 42%) and 107,251 in 1889 (increase of 69%). So within the decade 1875-1885 the entire area, as far as the outskirts of the gasworks (Gazi) to the south and the Kyklovoros stream to the west, was settled and incorporated in the city (fig. 8). Its identity as a depressed area, as well as the nature of the new demand (mass migration on an unprecedented scale from the countryside and the provincial towns), contributed to the formation of a popular neighbourhood with humble houses for artisans, journeymen and all manner of small tradesmen and manufacturers, mainly from the Peloponnese but also from the islands.[21]

Even so this mass invasion of housing did not stall the penetration of productive functions in the area of the silkmill (Metaxourgeion).[22] On the contrary, the character of the new incomers facilitated this. Always with Millerou street as the principal pole and carriage-making the dominant function, workplaces began infiltrating the neighbourhood. By 1900 most of the carriage-shops had moved from Adrianou street westwards to Asomaton, Leokoriou and Sarri streets, while four had gone down Piraeus street to be installed in Millerou street.[23] At least two of these, the carriage-shop of the Rossi Brothers and that of Lorenzo Mamos, were large workshops employing several people and constructing all kinds of carriages and vehicles; indeed a contemporary guide mentions the 'silkmill' [Metaxourgeion] as the address of the first.[24]

In the same period metal workshops had also moved into the area. Two of

17. *Εθνοφύλαξ*, 10.7.1862.

18. *Εθνοφύλαξ*, 10.4.1865. The Galiani carriage workshop is not mentioned in later sources, but it is quite possible that it continued in operation under another name: in an advert for the carriage workshop of the Rossi brothers, set up very close to the silkmill in 1900, its founding date is cited as 1861, while it is not mentioned in later sources, thus it was very probably the successor to the Galiani carriage workshop. See also Société Biotechnique Hellénique, *La Grèce industrielle et commerciale en 1900*, 2e Partie, *Catalogue des principaux industriels*, Athens 1900, XVIII of the appendix.

19. D. Doukakis's bedstead workshop on Piraeus street, a short way down from the Conservatory, see M. Μπούκας, *Οδηγός εμπορικός... των κυριωτέρων πόλεων...* [M. Boukas, Commercial guide...of the main towns...], Athens 1875, 109-110, 112.

20. For this reason the forge-carpenter's shop and its equipment were excluded from the 1865 auction, see *Δηλοποίησις... πλειστηριασμού...* [Notification... of auction...], *Δικαστικός Κλητήρ*, 7.8.1865.

21. There are fleeting yet poignant images of the area in some literary texts: 'down in the outmost reaches of the city, beyond the silkmill', was the humble home of 'Master-Demetris the Villager... whitewasher and painter by trade', that he had built himself, in A. Papadiamantis's short story 'Φλόστοργοι' (1895) (in Λίζυ Τσιριμώκου, *Γραμματολογία της πόλης, λογοτεχνία της πόλης, πόλεις της λογοτεχνίας* [Lizzy Tsirimokou, Grammatology of the city, literature in the city, cities in literature], Λωτός publications, n.d.[1987], 86-87). The young Virginia stayed with her aunt 'who had once lived in style, but having been left a widow was an ironer', at Metaxourgeion, in the novel by Κων. Χρηστομάνος, *Η κερένια κούκλα*, [K. Christomanos, The Wax Doll, Athens 1925 (excerpt from p. 11). Later testimonies on the character of Metaxourgeion in: B. Αγγελίδης, *Μεταξουργείο-Κολωνός. Νοσταλγία και πραγματικότητα* [V. Angelidis, Metaxourgeion - Kolonos. Nostalgia and reality], Athens 1992, particularly 37-47.

22. The separation of home from workplace is of course a recent phenomenon, belonging to the automobile age. The mingling of functions in historic cities, and not only in their poor neighbourhoods, is well known and needs no further elaboration here. If there is something we should remember, it is the doctrinaire attitude with which the principle of separation of functions has been applied in the 20th century, leading to those residential zones not fit to live in, that exist in all big cities.

23. The carriage workshops of N. Exagoreas (2 Millerou street), G. Stokos (2 Millerou street), L. Mamos (23 Millerou street) and the Rossi brothers (42 Millerou street 'neighbourhood of the silkmill'). See Σπ. Κουσουλίνου, *Οδηγός της Ελλάδος 1900* [Sp. Kousoulinos, Guide to Greece 1900], 4 (section V, 'Index of Addresses'), and Société Biotechnique Hellenique, op. cit., 6 and XVIII of the appendix.

24. Even though the silkmill had for some time given its name (Metaxourgeion) to the area, the neighbourhood and specifically the zone delimited by Piraeus, Voutiadon, Kon/poleos, Lenorman and Kolokynthous streets (that is including the Gazochori [gasworks] and part of the neighbourhood of Akadimias Platonos [Plato's Academy]) it was named officially for the first time, in the RD of 7.6.1908, 'Κεραμεικού έξω'. See M. Μαρμαράς, *Η αστική πολυκατοικία της μεσοπολεμικής Αθήνας* [M. Marmaras, The urban apartment block in inter-war Athens], Cultural Foundation ETBA, Athens 1991, 96 and map 1, 97.

8. Section of the map of Athens prepared by the Riunione Adriatica de Sicurta, 1885. The areas of the silkmill (Metaxourgeion) and the gasworks (Gazochori) are now incorporated in the urban web. (From K. Biri, op. cit. 201).

8

the most important machine-shops in Athens, of the Konteka Brothers ('Hephaistos') and of 'Vlachanis, Petropoulos & Co.' were located in Kolokynthous and Lenorman respectively. The second, at the corner of Konstantinoupoleos and Lenorman streets, where the Peloponnesian railway track defined the new boundary of the city (fig. 9), developed into an important factory which, as 'BIO, Anonymous General Industrial Company', continued in existence until at least the 1960s.[25] With these installations, and possibly other smaller ones not recorded in the guides of the period, the neighbourhood of Metaxourgeion had already formed by the turn of the century the basic traits of its aspect and character, which its subsequent evolution, always in the same direction, was to reinforce: a popular-petit-bourgeois neighbourhood with mixed uses (housing, trade and industry) diffused through its web.[26]

This physiognomy is recorded clearly thirty years later, on the 1930 map (fig. 10), which indicates, on the basis of a detailed guide of that year,[27] all the industrial uses (primary and ancillary) in the area delimited by Piraeus street, Iera Odos, Konstantinoupoleos, Lenorman, Achilleos and Deliyorgi streets. This area included some 1900 addresses (numbered entrances),[28] about 680 of which belong to all other uses except residential (trade, industry, leisure,

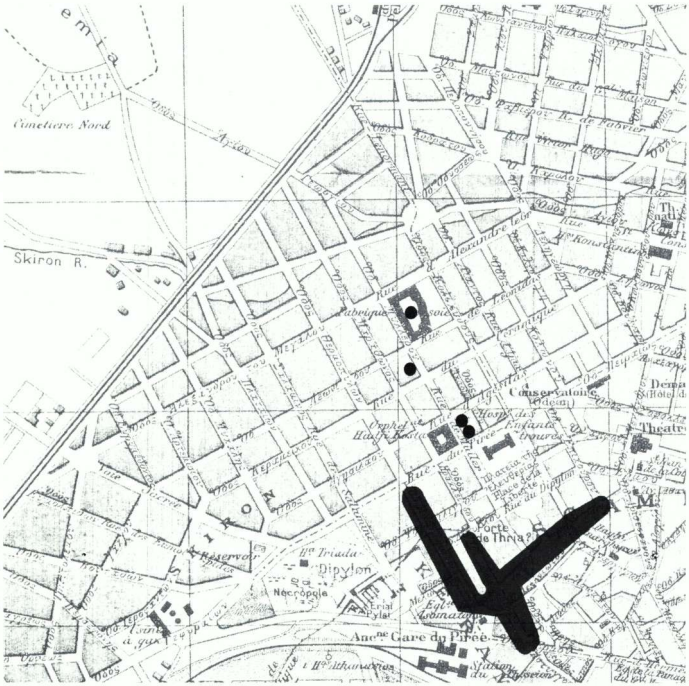
25. On the Kontekas engine-shop, see Sp. Kousoulinos, op.cit., 49 (section V) and 40 of the appendix. On the Vlachanis-Petropoulos engine-shop, which is not mentioned in Kousoulinos's guide, see S.B.H., *La Grèce*.., op. cit., 8 and V of the appendix. The firm 'BIO', which widened its interests beyond a machine shop to producing alcoholic beverages and dough, is mentioned in all subsequent census sources on industry.

26. See also the classification proposed by M. Marmaras, op. cit., 110.

27. *Οδηγός της Ελλάδος του έτους 1930* [Guide to Greece for the year 1930], (founded by N.G. Inglesis in 1900), Πυρσός S.A., Athens.

28. The number is calculated on the basis of the numbering of the streets; it is obviously an approximation because possible subdivisions (e.g. 42a etc.) are not known. The units were placed on the map in fig. 10 on the basis of the numbering of the streets today, since comparison with the numbers recorded in the 1930. *Guide* showed that they have not changed drastically since; however minor local differences should not be ruled out, for which reason the site of the units on the map should not be considered infallible; the approximation was made by block.

29. Thermopylon and Megalou Alexandrou streets were main commercial streets.



9. Section of a map of Athens in 1896 (Guide Joannes, Hachette & Cie); marked are the zone of wheelwrights' workshops in Asomaton, Lefkoriou and Sarri streets, and the four wheelwrights' workshops in Millerou street (1900).

services); that is roughly one in three houses in the area were (or included in the ground floor) workshops or shops.

The census and mapping of these uses enhances the basic characteristics of the neighbourhood. Firstly its popular character; in comparison with the density of each class of uses in Athens overall, there are, for example, very few clothing-footwear shops in Metaxourgeion, yet a high percentage of tailors, shoemakers and alterations-repairs workshops; there is just one restaurant (of the 98 recorded in the Guide), yet a host of cook-shops and coffee shops. Secondly, the large number of shops and the variety of uses (among them health services, education and leisure) point to a neighbourhood which within the fifty or so years since it began to be settled had acquired a fully urban character. Lastly, the different density of the various uses in individual parts of the neighbourhood bears witness to the mechanisms of attraction-repulsion of like-opposite functions that create contexts and attach identities to sectors of the urban web. So commercial and industrial uses are crowded in the central zone of the neighbourhood and on the peripheral axes, while in its interior and particularly its western part there are mainly residential pockets, from which however food shops are not missing,

KEY

1. 'Heavy' (total: 141)

1.1 Metal sector (total: 64)
Automobiles: workshops making bodies (6) and springs for cars and coaches (1), upholstery (6), engine shops (6) and paint shops (4) (total: 22)
Tinners (1)
Nickel-platers (1)
Electrical machine works (2)
Bedstead factory (1)
Foundry (1)
Machine shops (9)
Welders (2)
Brass foundries (5)
Farriers (2)
Blacksmiths (14)
Lantern-makers (4)
Smelters - casters (3)

1.2 Wood sector (total: 60)
Wheelwrights (3)
Coopers (5)
Cabinet-makers (and basket furniture) (24)
Chair-makers (3)
Basket-weavers (4)
Cart-makers (2)
Roller blind-maker (1)
Box-maker (1)
Woodcarver (1)
Carpenters (11)
Saddlers (5)
Coffin-maker (1)

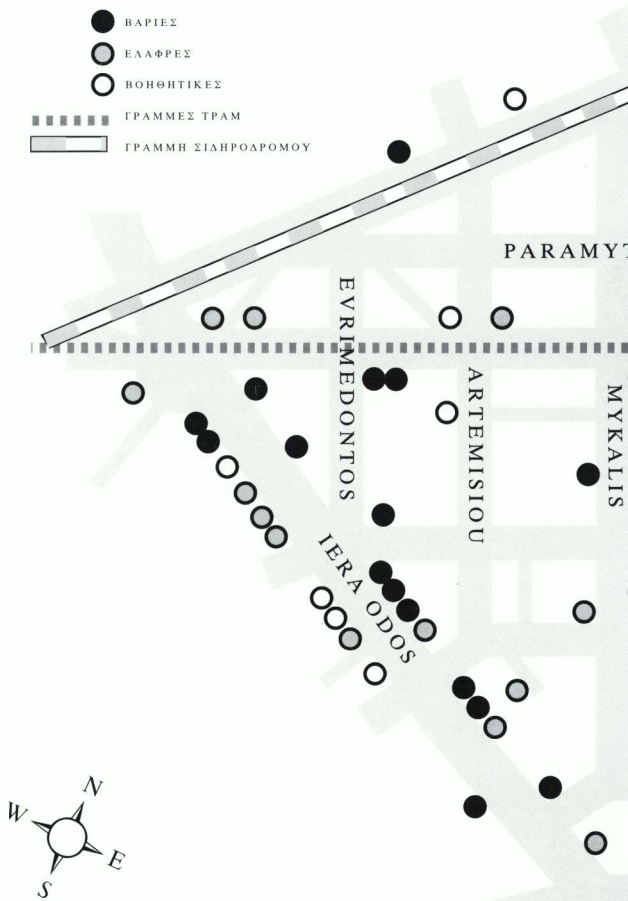
1.3 Building materials (total: 7)
Asphalt (factory) (1)
Plaster of Paris factories and stucco mouldings (3)
Synthetic marble (factory) (1)
Marble-carvers (2)
Mosaic tiles (factory) (1)

1.4 Miscellaneous (total: 10)
Lithographer (1)
Soap factory (and perfumes) (3)
Ropery (1) Printers (5)

2. 'Light' (total: 116)
2.1 Food sector (total: 32)
Bakeries (23)
Dairies (2)
Sweet factory (1)
Beverage factory (and aerated) (6)

2.2 Textiles, clothing and footwear sector (total: 75)
Knitwear (factory) (1)
Quilt-makers (2)
Silkmill (1)
Milliners and Hatters (8)
Bespoke tailors and clothiers (17)
Vest-makers (1)
Slippers-pumps (manufacture) (2)
Sandal-makers (3)
Shoemakers (40)
Shoe factory (1)

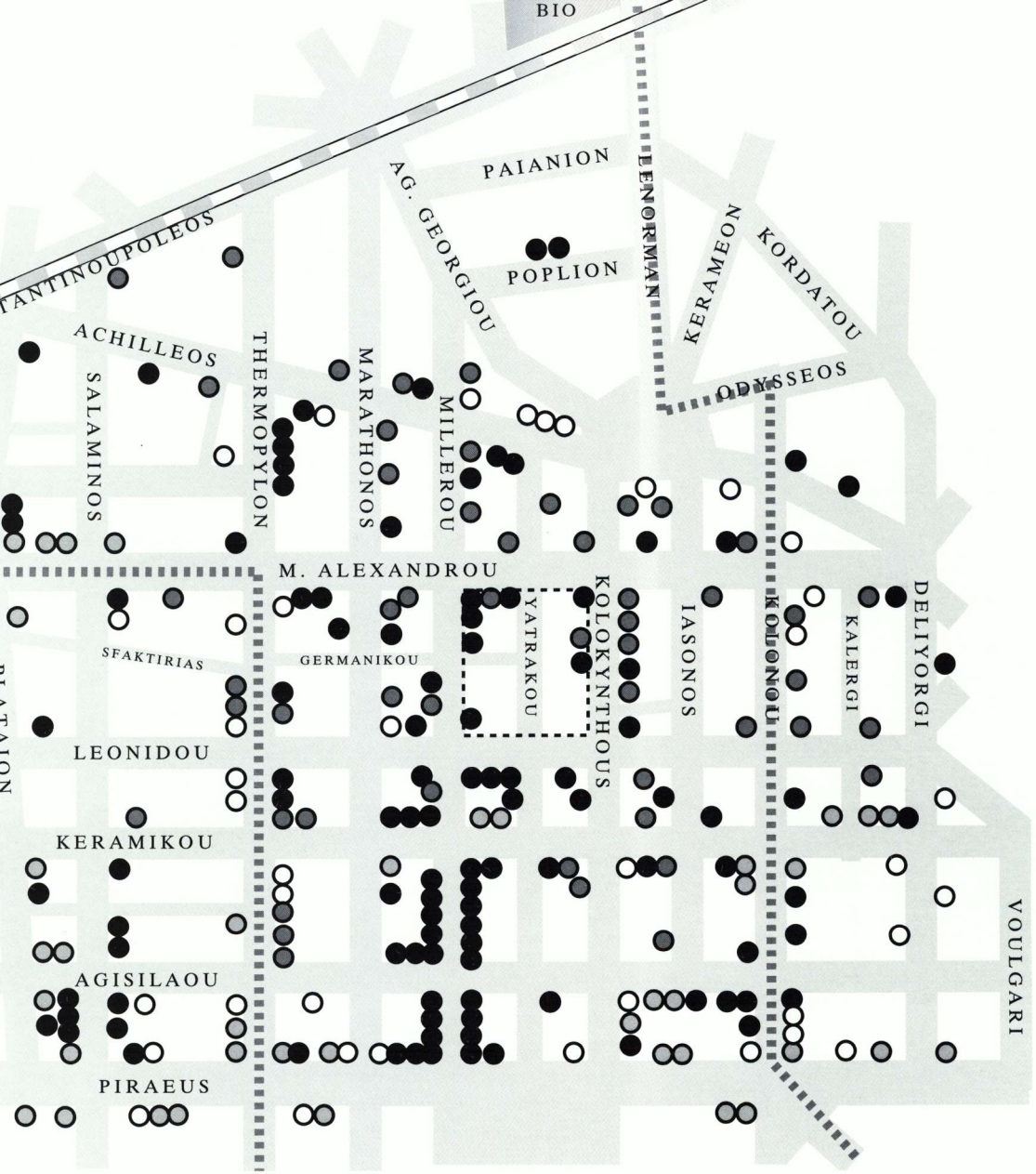
10. Manufacturing installations in the neighbourhood of Metaxourgeion in 1930.



2.3 Miscellaneous (total: 9)
Book-binders (3)
Sign-painters (1)
Chandler (1)
Box-makers (3)
Dentures (factory) (1)
Bicycles (repairs - renting) (3)
Goldsmith - Watchmaker (1)

3. Auxiliary installations (maintenance, repairs etc. (total: 54)

3.1 Garages (12)
3.2 Plumbers shops (10)
3.3 Personal services (32)
Dyeing and cleaning clothes (4)



Barbers (21)
Altering and cleaning hats (1)
Laundries - Ironing (3)
Shoeshiner (1)
Cobblers (2)

***The installations with more than one use have been included in each use separately but have not been counted twice in the totals, for which reason these are not always the same as the sum of the individual numbers.**

dispersed throughout the web on virtually every corner; northeast, on the outskirts of Omonoia (beyond Kolokynthous street), a greater concentration of services and self-employed professions is observed.

However, the most important feature of the neighbourhood of Metaxourgeion, that which is of prime interest here, is the high concentration of industrial units, and indeed of those which in a rudimentary classification could be designated 'heavy': metal workshops, timber yards, building materials and printers, 141 units in all (fig. 10). Indeed particularly striking is the density of these units in Millerou street which, 75 years after the founding of the silkmill, remained the paramount street of workshops and small factories, while in contrast neighbouring Thermopylon street amassed more 'light' workshops (clothing, footwear, box-making etc).[29]

Even more revealing for the resilience of the historical parameters in forming the neighbourhood's physiognomy, is the ascertainment that it retains its specialization in servicing transport; but the carriage-shops have given way to various workshops servicing the motor vehicle: car-body workshops, car upholstery and springs, engine shops, paint shops and parking lots,[30] as well as spare-parts shops. It is these workshops that will slowly give way to the garages of the post-war period, when all possibility of establishing a Greek automobile industry has been finally wiped out.[31] The 1930 Guide records a transitional period in which, despite the invention of the 'production line' in the Ford factories, the production of the automobile still remained to a large degree labour intensive, thus allowing the parcelling out of parts production and mainly of assembly tasks, to smaller units. The small transport industry in Athens adapted to the developments and showed remarkable flexibility and durability to time.[32]

Lateral shifts and absorptions, forces of attraction exercised by strong poles (large properties, atypical functions), readjustments of productive uses within the limits of wider families, are some of the formative mechanisms of the urban web in its historical course that the history of the neighbourhood of Metaxourgeion enhances. The formation process was not so linear. The physiognomy of the neighbourhood emerged from the synthesis of opposing trends that at various times appeared to predominate temporarily (industrial zone - residential zone) and from the articulation of individual (conjunctural) actions and structural propensities of the development of the city. The large building of the silkmill played a leading role in this tug-of-war. First it opened the way for the expansion of the productive zone to the west of the city; later 'it was beseiged' by housing; but the influence it had already exerted on its environment withstood the test of time more effectively than the building itself. The productive functions, with central axis Millerou street, infiltrated the newly settled area to form an inextricable mesh of housing-workplaces, an urban neighbourhood with a distinctive identity.

30. One of these, perhaps the most important, Nikos Theologos's 'automobile factory' (52 Thermopylon street) was published recently in 'Ψηλον', the colour supplement of the Sunday newspaper *Κυριακάτικη Ελευθεροτυπία* 24.7.1994, in a feature entitled Ο Έλληνας Φόρντ λεγόταν Θεολόγου (The Greek Ford was called Theologos). Production must have stopped by 1930, however, since it is mentioned as a 'garage' in the *Guide* of that year.

31. Contrary to the popularly held view, the automobile repair shops did not move into the area of Metaxourgeion after World War II because it was abandoned by its inhabitants (see the relevant article in the *Δελτίον Συλλόγου Αρχιτεκτόνων*, referred to). Nor, of course, did the old inhabitants of Metaxourgeion leave their neighbourhood because of the repair shops. As 'old-established' Athenians after the War, and certainly more thoroughly incorporated in the petit-bourgeois and bourgeois strata of the city, the inhabitants of Metaxourgeion moved into better housing conditions, in the apartment blocks at that time taking over the whole city; the repair shops for their part maintained the area's character as a workplace, so 'saving' the properties from the voracious building-contractors and Metaxourgeion from the invasion of the apartment block...

32. It should be noted that two out of five car-body shops ('Athina' at the corner of Millerou and Germanikou streets, opposite the silkmill, and P. Alexiou) and two out of nine engine shops (S. Kordellakos on the Iera Odos and S.Sideris, again in Millerou street) in 1930, are included in 1954 among the most important factories of the respective sectors, see. N. Σιδέρης *Η ελληνική βιομηχανία. Βιομηχανική παραγωγή και αξία αυτής κατά τα έτη 1953 και1954* [N. Sideris, Greek industry. Industrial production and its value during the years1953 and 1954], Athens 1955.

11

11. 'Automobile Factory' (now a garage) at 54 Millerou street: living proof of a long and forgotten history.