

“Matters of Life and Death” in a Mediterranean Port City Infrastructure, Housing and Infectious Disease in Patras, 1901–1940

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Patras, the fourth largest Greek city and a major port, underwent a great deal of change during the first half of the 20th century, especially after the currant crisis (1890's) the trade of which Patras controlled and depended on to a large extent¹. The 20th century, a period that perhaps has preoccupied Western Europe urban historians less, since the urban process there has been completed, constitutes nevertheless the great urbanization period for Greece.

At the turn of the century, Patras, while actively trying to fight off the unhealthy factors of its urban environment, continuous and spontaneous expansion meant that these efforts could bear little fruit, especially to the ones living at its outskirts. Up to the 1940's epidemics and disease will repeatedly carve their own print on the city map and decimate the young populations. Medical institutions still, at that period, supported by philanthropic effort and local authorities, will not be able to provide healthcare to meet the city's needs. The arrival of thousands of Asia Minor/Pontus refugees, and the following frequent epidemic outbreaks, made it clear that new initiatives should be undertaken regarding the public health sector, from both local authorities and central government.

1 The rise and fall of the Patran Currant empire is well known and sufficiently present in Greek and international historiography. A sample of the essential works on the subject include: Franghiadis A, *Peasant Agriculture and Export Trade: Currant Viticulture in Southern Greece, 1830-1893*, doctoral thesis, European University Institute, (Florence 1990)., Θ. Καλαφάτης, *Αγροτική Πίστη και Οικονομικός Μετασχηματισμός στη Βόρεια Πελοπόννησο*, 3 vol., (Athens 1990-1992). S. Petmezas, “El comercio de la pasa de Corinto y su influencia sobre la economía griega del siglo XIX (1840-1914)” in J. Morilla, J. Gomez-Pantoja y P. Cressier (edit.), *Impactos exteriores sobre la Agricultura Mediterraneo*, (Madrid 1997), pp. 523-562. Π. Πιζάνιας, *Οικονομική Ιστορία της Ελληνικής Σταφίδας, 1851-1912*, (Athens 1988)

Sources

During the 19th century 20 census were run, from 1821 up to 1896. In the 20th century however they become more scientific and richer in published results. However, the census themselves were not saved, meaning census personal and family cards, and only general information tables the Statistical Service chose to publish exist. For this presentation, we are going to use the ones of 1907, 1920, 1928, and 1940. The census of 1907 is used as a starter point, but we work primarily on the ones of 1920 and 1928. The census of 1928 is richer in published results (tables), while results of the 1940 census were never published due to warfare, except tables regarding population size.

Another source we used is the Vital Statistics for which data exist for the periods 1860–1885 and 1921–1937. The extracted information can only be used to illustrate the actual population progress as well as an expected population progress of a city, though it cannot give an interpretation on issues concerning population inflow or outflow since migration related catalogues were not used by authorities. The most useful source for this study however was the civil registry's archive of Patras after thoroughly indexed more than 45.000 Death Records, but having faced the complexity of working on different methods of registration in a 40 year period. Up to 1919 there does not seem to be a standard system of registration and depending on the care of each clerk, we may or may not find exact data on a person's place of birth, occupation, cause of death etc. The uninterruptedly recording of deaths (contrary to the registration of marriages and births starting only after 1925) – even if incomplete – is due to the fact that a death certificate was necessary to obtain an interment permit. It is after 1919 that all data becomes available after the adoption of national register methods. The use of the Death Records, will show the frequency and course of epidemics and disease (smallpox, typhoid, Dengue, tuberculosis, syphilis, Spanish influenza) and are crucial in calculating mortality rates.

The 1921–1925 Statistics of Death were useful in helping me forming broad causes of death categories and to compare local to national experience.

Matters of life...

Hygiene issues troubling Patras during the 19th century, were common for most Greek cities of the time with most not resolved until mid 20th century, although some improvement was made. By the end of the 19th century the unpopulated maritime lower part of the city, was transformed from a theatre of swamps to the quarters with the best gridiron and sewage. Problems still existed due to its proximity to the sea, in the form of standing water masses at the extremes of the city during summer. In a fast expanding city, water supply was inadequate for several quarters, with water running a few hours during daytime and then collected and

preserved in jugs with whatever hygiene risks this entails especially during the warmer months.

A lot of effort was made by social institutions in fighting disease comprising a danger to public health and social coherence. To all these efforts, private initiative will fill in for state indifference and/or volition, in the form of charity, a not so local experience, since the erection and equipment of health institutes in Athens, Piraeus and Syros was accomplished through private funding².

Starting from the last quarter of the 19th century, the city is being equipped with a new hospital (1872), Almshouse (1876), Nursery (1899), Asylum for the Insane (1900); all built through generous donations of prominent Patrans. The maintenance costs of these philanthropic establishments are covered through municipal budget funding, assisted by private initiatives and to a point Prefect administration. The adding of a new aqueduct, cemetery, avenues and plazas, all contribute in making the city more hospitable for its residents and thought partly responsible for the drop in mortality.

By 1928 the city is struggling for its modernization, so it can reach the living standards achieved in other European cities. This struggle will be consistent with the will of the Greek State to undertake the refugee restoration, with the creation of hygienic infrastructure, to control and confine infectious disease, as well as to organize medical and pharmaceutical treatment. Furthermore the Greek State is called to care for the planning and development of water and sewage system of cities, population and size of which are rapidly increasing during the 1920's³. Cementing of the streets around the city centre is continued and the Council strives for ways to enhance the aqueduct's reserves, although this would not be made possible for many years to come.

“...residents will be able to get cool water at any time, meaning the coming end of ice.”⁴

Improvements seldom reach out to the whole city. On the occasion of the Dengue epidemic and while seeking the causes of its rapid spread, *Neologos* gazette started an extensive inquiry on the sanitary conditions in every district of the city with its reporter accompanied by both a City Councilor and the Chief of Police. The results were published in a series of articles headed “Our districts. A true Augean ordure” – a comparison to the mythical Herculean task – painting a vivid picture of the city

2 Μαρία Κορασίδου, *Οι Άθλιοι των Αθηνών και οι Θεραπευτές τους, Φτώχεια και Φιλανθρωπία στην Ελληνική Πρωτεύουσα τον 19 αιώνα* [The Miserable of Athens and their Healers, Poverty and Philanthropy in the Greek Capital in the 19th Century], (Αθήνα 2004), pp 77–81.

3 Γιάννης Κυριόπουλος, “Οι Πολιτικές Υγείας και Ασφάλισης στην Ελλάδα υπό το Πρίσμα των Διεθνών Εξελίξεων την Περίοδο του Μεσοπολέμου” [Health and Social Security Politics in Greece Under the Prism of International Circumstance]

4 *Νεολόγος*, Tue. 28 Aug. 1928.

and the living conditions of its residents. It became apparent that besides the central quarters, few other areas of the city retained even a minimum of hygienic living requirements. For most sections problems were common like, absence of sewers (Map 1, Areas: 1,2,6,8,25,26), standing waters (Areas: 1,2,4,6,12,21,25,26), open ditches passing through the quarters carrying impurities and becoming sources of infection during summer (Areas: 1,2,3,5,6,7,9,10,26).

Map 1 Area 5 ...a ditch carrying every impurity dropped in by soldiers. I have been informed that by that ditch's foul and germ filled water, surrounding gardens are watered. I am utterly horrified and my horror is aggrandized when a resident hinting the condition tells us in brag: "If only you knew what... nice vegetables grow in these gardens"⁵

City cleanliness issues for streets (Areas: 14, 20), plazas and open markets (Areas: 18, 22, 23) and the lack of a timely unstopping of drains (Areas: 4,9,11,13,14,20,24), were more than common, with narrow streets, preventing the passing of the maintenance-cleansing department carts (Areas: 8,12,14,20,24). Many other hygiene issues derive from the operation of tanneries (Areas: 12,14) and stables (Areas: 9,15), as well as from daily residents' unethical practices like the use of open spaces as lavatories "by people not respecting one's self"⁶ (Areas: 6,12,17,19,20,22,25) and the need for further sanitation in existing public lavatories (Areas: 16,17) and houses (Areas: 8, 14) .

More problematic appeared to be sections outside city limits until recently, gradually incorporated by continuous city plan expansions. The search for cheap housing, and anarchic building, continues to create new small quarters away from city centre and the possibility of quality housing. Interwar Europe cities were being subjected to rationalization regulations with overwhelming urban planning bills⁷, but despite the 1923 "Of Urban planning etc" Bill, urban sprawl continued in many Greek cities⁸ as it did in other cities of the Mediterranean⁹. The State indirectly supported such practices, legalizing illegal constructions as a means to inte

5 Νεολόγος, Fri. 14 Sep. 1928.

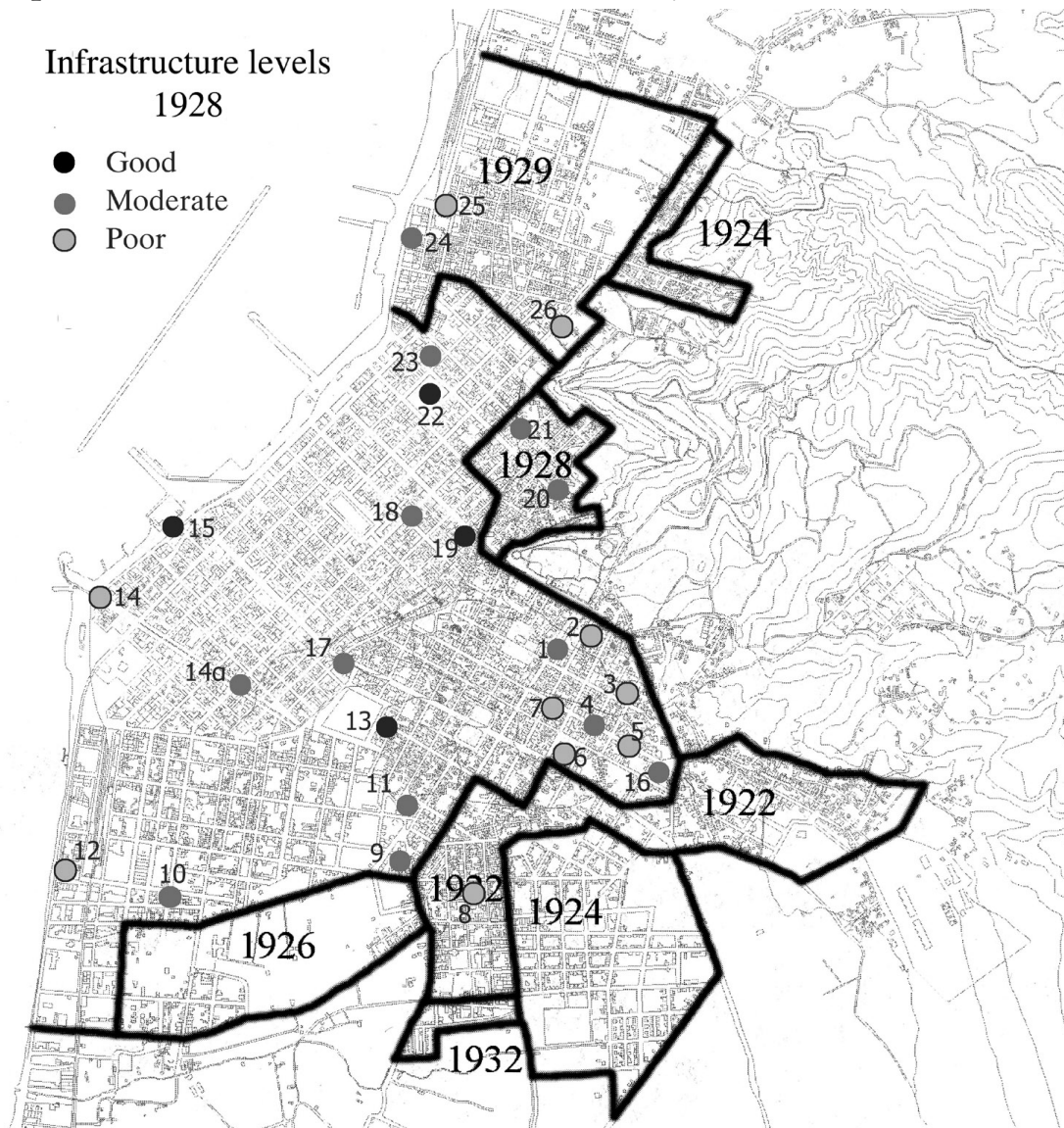
6 Νεολόγος, Mon. 17 Sep. 1928.

7 Mark Mazower, *Η Σκοτεινή Ήπειρος. Ο Ευρωπαϊκός Εικοστός Αιώνας*, (Αθήνα 2001), p. 98.

8 Βίλμα Χαστάογλου, *Βόλος, Το Πορτραίτο της Πόλης, από τον 19 Αιώνα έως Σήμερα*, (Βόλος 2007) 2nd ed., p.96.

9 Lila Leontidou, *The Mediterranean city in transition: social change and urban development*, (Cambridge 1990), p. 12. Also Δ. Οικονόμου, "Σύστημα γης και κατοικίας στη μεταπολεμική Ελλάδα", pp. 57–114 in Θ. Μαλούτας και Δ. Οικονόμου (edit.), *Προβλήματα ανάπτυξης του κράτους πρόνοιας στην Ελλάδα*, (Αθήνα 1988).

Map 1. Infrastructure condition of 1928 Patras by districts.



1. Marked areas are approximately set, they do not cover the extent of every quarter but an estimated central point.
2. The area surrounded by districts 15,17,19,22 constitutes the original new part of the city (mid. 19th cent.) and would be marked as good.
3. The area surrounded by districts 17,19,13,1,2 is the traditional old part of the city and would be marked as moderate.
4. Areas 1,2,3,4,5,6,7,9,10,11,12,14,14a,22,23 were de facto engulfed in the city plan between 1890–1920.

Sources: (1) Districts' hygiene and infrastructure levels *Νεολόγος*, 14–19 Sept. 1928.

(2) City plan expansions map used here is taken from N. Μιτζάλης, *Η Μεσοπολεμική Βιομηχανική Ανάπτυξη της Πάτρας και οι Μεταλλαγές στον Αστικό Ιστό της Πόλης* [The Interwar Industrial Growth of Patras and the Transmutations in the Civic Web of the City], (Πάτρα 2007), Map 3, p. 140.

grate the working classes and to bind them to State paternalism, functioning as a safety valve against social conflict pressures¹⁰.

Ten years later (1938), the same gazette will publish a follow-up regarding the sanitary conditions found in the working class quarters, focusing on infrastructure (roadwork, water supply, school buildings etc.) and housing quality in which it becomes evident that public and sanitary works start from the city centre and slowly expand to the periphery. Essential problems of the workers quarters in 1938 include water supply, still insufficient according to needs, pollution produced from various nearby industries and narrow unpaved neglected streets. Housing is poor nearly for every lower class quarter and although some new and bigger houses exist, most are small in terms of size and in relation to the number of occupants, with many of them described as shanties. In refugee settlements infrastructure does not vary from lower classes' quarters, but housing is in many cases better due to the active state involvement.

On the poor conditions at those peripheral lower classes quarters, fingers were pointed to their residents by local journals and authorities alike. Their "liability" lies in their very choice of building houses at those remote areas (North South and East), attracted at first by the abundance of cheap land, but then demanding from Civil authorities to fulfill their needs. If living conditions at the slumps were disappointing this was not the case for the city centre, where the main concerns are now limited to secondary issues (boulevards, aesthetic of light poles, band exhibitions at plazas¹¹).

According to the descriptions given for every district, I ranked them both in terms of infrastructure and housing to good, moderate, bad and the results are shown on the following map.

The poor dwellers of those distant quarters will not have a representation in published sources. Information about their numbers and their survival techniques are drawn indirectly from articles concerning philanthropy and city life. During the 1917 blockade, the destitute attending soup kitchens were estimated to be 21.000 (39% of 1920 city's population), while in 1928 over 4.100 (6% of populations) were attending philanthropic soup kitchen on a daily basis.

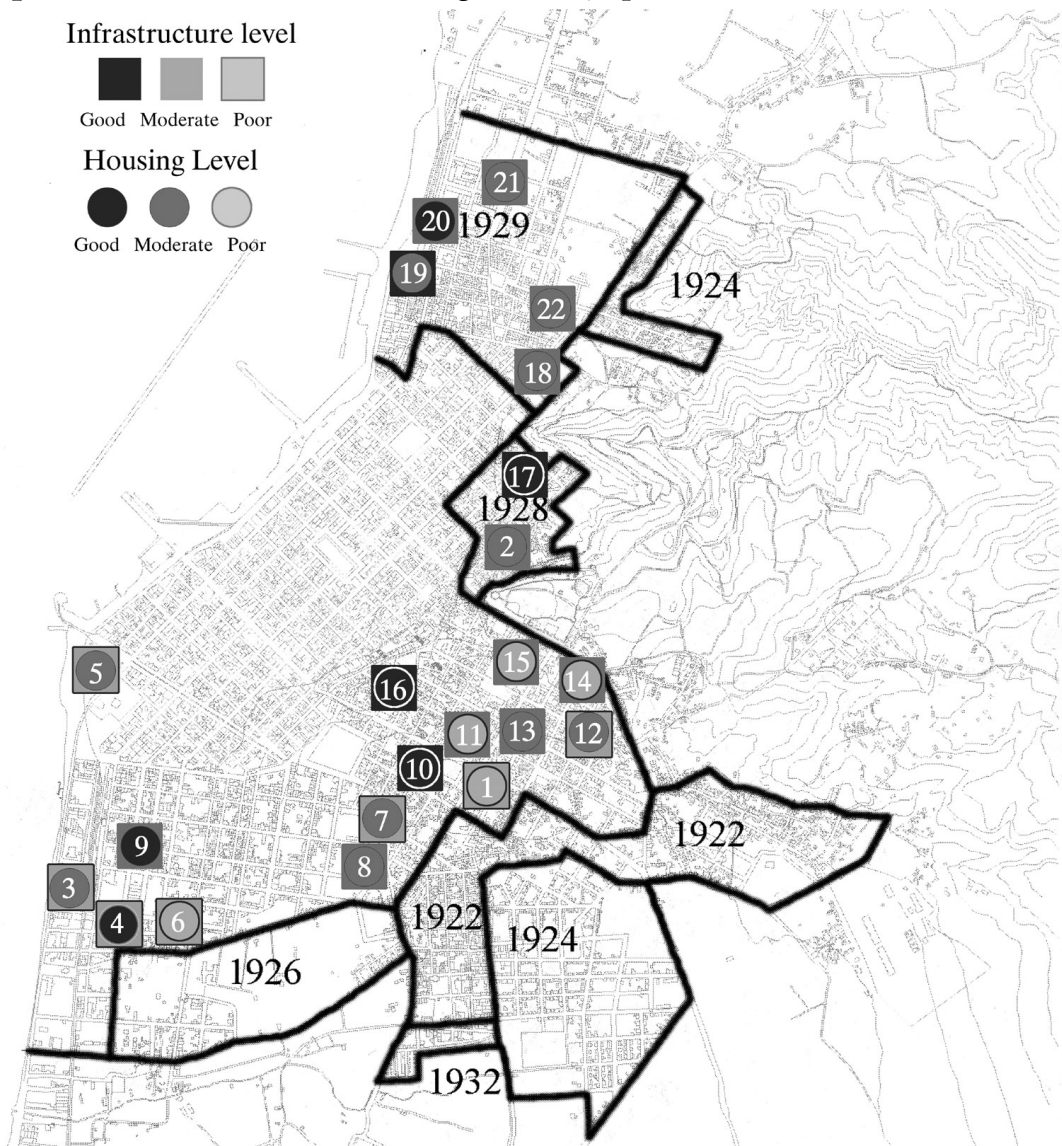
In 1938 4 different daily soup kitchens are still organised at working class quarters with an unknown number of beneficiaries, poor students are given free milk¹² and attend school soup kitchens. The need to support the poor and to expand free school meals is highlighted, especially because of the poor health of the young, caused by malnutrition and showing signs of physical weakness, inability of

10 Λίλα Λεοντίδου, *Πόλεις της Σιωπής, Εργατικός Εποικισμός της Αθήνας και του Πειραιά, 1909–1940*, 2nd ed. (Αθήνα 2001), p. 238.

11 *Νεολόγος*, Tue. 17 May 1938. Also Jun. 2, Jul. 29 and 31, Aug. 2, Nov. 29.

12 *Νεολόγος*, Sun. 16 Jan. 1938. Also found in Fr. 1 Apr. 1938 issue.

Map 2. Infrastructure and Housing levels by quarters, Patras 1938.



The area inside the 5,16,19 triangle is considered good both in terms of infrastructure and housing.

Sources: (1) Information on housing and infrastructure *Νεολόγος* 11 Dec. 1938- 10 Jan. 1939.

(2) City plan expansions map N. Μιτζάλης, *Η Μεσοπολεμική...*, p. 140.

attendance in class, fainting etc¹³. These provisions are intended only for the city's poor with outlander mendicants or even temporarily unemployed immigrants facing forced transportation¹⁴, to ensure social order within the city¹⁵.

¹³ *Νεολόγος*, Fr. 1 Apr. 1938.

¹⁴ Athens police arrests idle people, perhaps seeking and not finding work, declares them as a public enemy and banishes him! Where? To Patras (215 Km)! And the poor soul comes here on foot from Athens with military escort! He is then confined in the Police or Divisional hovel! Then another trek, another fast,.. to Pirgos(100 Km)! He was banished there for Patras police and so on... Αλέκος Μαχρασλής, *Ιστορία της Πάτρας. Η Εξέλιξη μιας Πρωτοποριακής Πόλης. Εικόνες και Γεγονότα από τη νεώτερη πολιτική, κοινωνική και πνευματική ανάπτυξή της* [Evolution of an Avant Garde

...and death

By the end of the 1920's, mortality in Europe and its urban centres is not solely connected with the size of the cities. In most cases public works regarding hygiene are directed to bigger cities, making their population more resistant to certain types of disease. There also seems to be a geographic mortality pattern running from North to South of Europe with three distinct mortality zones and cities found in each sharing common characteristics. A low mortality zone (less than 12‰), found in most cities of Germany, Belgium, Switzerland and the Netherlands. An average mortality zone (12–15‰), affecting England, most of France, North Italy, Austria and part of Poland. The third – high mortality zone (>15‰) – surrounds the cities of Spain and Portugal, Mediterranean France, Italy (except Rome) and Greece (Athens, Sallonica and Piraeus)¹⁶.

Mortality of Patras, estimated by Vital Statistics, for the period 1921–1937, fluctuates between 14,71‰ (1937) and 22,27‰ (1928), while mortality calculated upon Registry's archives on census years, is shown in the following table:

Table 1. Mortality of Patras (‰), 1907–1940.

Year	Patras Population	Death Records	Mortality ‰
1907	51,932	1036	19.95
1920	53,255	1049	19.70
1928	66,809	1450	21.70
1940	79,570	1028	12.92

Sources: (1) Statistical Service of Greece, Census Results 1907, 1920, 1928, 1940.

(2) Mortality estimated using Civil Registry Archives, Death records for respecting years.

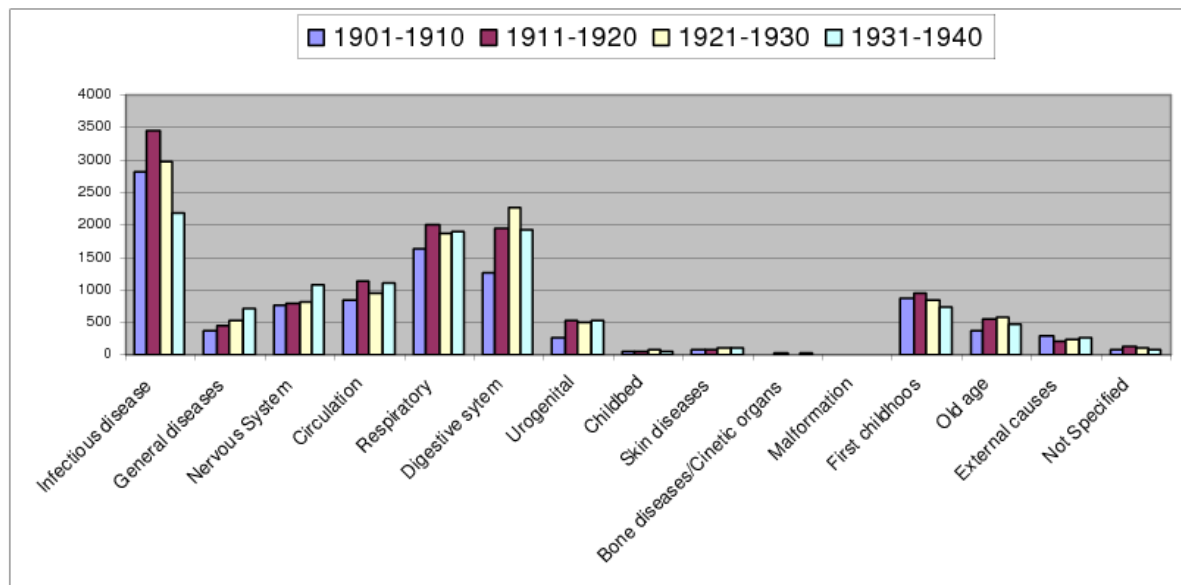
Either from the Vital Statistics data or from calculations on mortality on census years from the Death Records we may conclude that Patras follows the high mortality Mediterranean pattern, with mortality declining only well in the 1930's. To the contributing factors of this drop we should include the existence of an improving water supply and sanitation system, school education on personal hygiene, a rise in living standards for a large portion of the population in Greece and a newly organised pharmaceutical and medical system. If one would argue that this decline might have appeared earlier in the 1920's if the refugee repatriation had not slowed down the process, we should bear in mind that these same major improvements funded by the State, had only been made possible because of its efforts to succeed in the refugee restoration issue (as mentioned earlier).

City. Pictures and Facts from her Modern Molitical, Social and Intellectual Development], (Πάτρα 1983), p. 300.

15 *Νεολόγος*, Fr. 18 Feb., Wed. 9 Mar. 1938.

16 Jean-Luc Pinol, Francois Walter, *Η Σύγχρονη Ευρωπαϊκή Πόλη έως τον Β' Παγκόσμιο Πόλεμο*, (Αθήνα 2007), pp. 112–114.

Figure 1. Causes of Death by Broad Categories, Patras 1901–1940.



Source: Civil Registry Archives, Death Records, 1901–1940.

Infectious diseases hold the first place among causes of death throughout the 1901–1940 period¹⁷. Some as tuberculosis are permanent threats to public health until 1940 while others only occasionally will they strike upon the city. Until 1930, every preceding decade is marked by at least one epidemic, of a greater or lesser scale. Only after 1930 is the city, able to fight off infections on the instance of their appearance, since after that year I could not trace an able number of deaths from infectious disease that could constitute an epidemic.

One of the main reasons of the development of single cases to full scale epidemics, was the refusal of the patients to come forward, afraid of the isolation the medical authorities would enforce. Instead, they would prefer treatment in friendly grounds, even if this meant treatment away from medical supervision, if the latter would entail the quarantine of the patient. During spot tests for carriers of infectious disease, it was not uncommon for patients' families to make a stand against authorities. This refusal was related with the quality of medical services administered during therapy period. Quarantine would often be provided in hospital barracks-outbuildings, sometimes lacking window and door frames, maybe even a roof, heating or medical care.

Smallpox which often visited the city in the 19th century will continue to trouble health authorities up to 1923, when the last epidemic was reported. According to

¹⁷ The categorization followed is the one also used by Death Statistics including: typhoid, Malta (and other) fevers, malaria, smallpox, measles, Scarlet fever, whooping cough, diphtheria, influenza, cholera, dysenterial catarrh, plague, leprosy, erysipelas, encephalitis, cerebro-spinal, malign fevers, anthrax, rabies, tetanus, all tubercular infections, syphilis, all cocciases, septicemia, scrofula, Leishmaniasis.

death records, smallpox will claim 169 lives in 1905 (32 per 10.000), 27 in 1906, 47 in 1913, 50 in 1914 and 78 in 1923 (13 per 10.000 population). For several other years, occasional smallpox deaths are witnessed, but will not, in any case, constitute an epidemic. Remarkably not only have I not encountered an instance of vaccine shortage in the local newspaper *Νεολόγος* (Neologos), but instead there were many a time where large vaccine commissions were published or advertised by civil, prefecture authorities and pharmacies alike. Vaccination to smallpox was compulsory, but unfortunately sources, do not give out any information regarding the way they were organized, the massiveness of which we can only suspect given the volume of vaccine orders, sometimes surpassing 10.000. Therefore, the continued smallpox epidemics in the first quarter of the 20th century must be related to the relative effectiveness of vaccination against the disease, as well as to vaccination system deficiencies, as it had been pointed out for Piraeus at the beginning of the century¹⁸.

Typhoid deaths are also not uncommon until WWII. In the death records of 1913, and only after careful indexing, would a terrible epidemic of typhoid be revealed. With an impressive total of 432 victims, this epidemic remarkably never really affected the city's population and in fact remained invisible to official statistics, since 419 of the victims were prisoners of the Balkan wars. Generally not much care was taken in the registration of prisoners' deaths and more than 30 deaths could be registered on a single record, not giving out any data except names and age of the deceased.

Table 2. Decennial average of typhoid deaths, Patras 1901–1940.

Decade	Annual deaths average	Per 10.000 deaths
1901–1910	19.8	204
1911–1920	18.2	145.6
1921–1930	14	117.9
1931–1940	5	44.7

Note: The 419 prisoners of war deaths are not included.

Source: Civil Registry Archives, Death Records, 1901–1940.

Much progress has been made in the fight against typhoid in the 1920's and in fact this reduction is even more impressive than numbers suggest, since 1922–1923 were years marked by the arrival of thousands of refugees, a population more prone to infection because of their settlement conditions. In Belfast, typhoid seems to have

18 Γιάννης Γιαννιτσιώτης, *Η Κοινωνική Ιστορία του Πειραιά, Η συγκρότηση της αστικής τάξης 1860–1910* [Social History of Piraeus, The Composition of the Middle Class 1860–1910], (Αθήνα 2006) p. 269.

been dealt with since the turn of the century and by 1911 typhoid cases had been “quite rare”¹⁹.

Having been spread throughout Europe, probably by American soldiers, Spanish influenza will concern local journals on a daily basis, with commentaries on the course of the disease, warnings to the townsmen and advices on the protection from the disease. Death Records show 233 influenza deaths for 1918 (44 per 10.000 population), while other sources calculate deaths to 496 (95 per 10.000 population)²⁰. The absence of conformity between the numbers of sources derives from the fact that medical authorities would also count deaths due to other influenza complications, while my figures are extracted from the number of the death records that explicitly state influenza as the cause of death.

Mayor and Prefect put some effort in prolepsis and fighting of the epidemic ordering the disinfection of centers of pollution, repairing of streets where water stagnated, hiring 4 additional doctors to undertake the free examination for the poor and offering medicine and milk to the needy. The Ministry also decreed the assignment of 4 civilian and 10 military doctors to cover needs, but against the Prefect’s decree only 10 out of 45 doctors recorded new cases, to aid statistics regarding the course of the epidemic. Civilians were charged with the cleansing of streets and houses where hygiene conditions were thought not to be proper. At a Mayor’s inspection tourney in the parish of St. Dionysius, the most heavily struck by influenza (58 dead in 2.500 parishioners or 2,32%), things seemed to get out of control:

...they were filled with horror from the shabbiness and foulness of most ground and basement residences. In some of these houses they witnessed the gloom scene of dead alongside dying patients. Eleven cleaning carts were assigned exclusively for the refuse collection of house impurities at St. Dionisius parish.²¹

City Councilor (and M.D.) Topalis published his Influenza Death Statistics, calculating the number and age of victims and distributing them by parish.

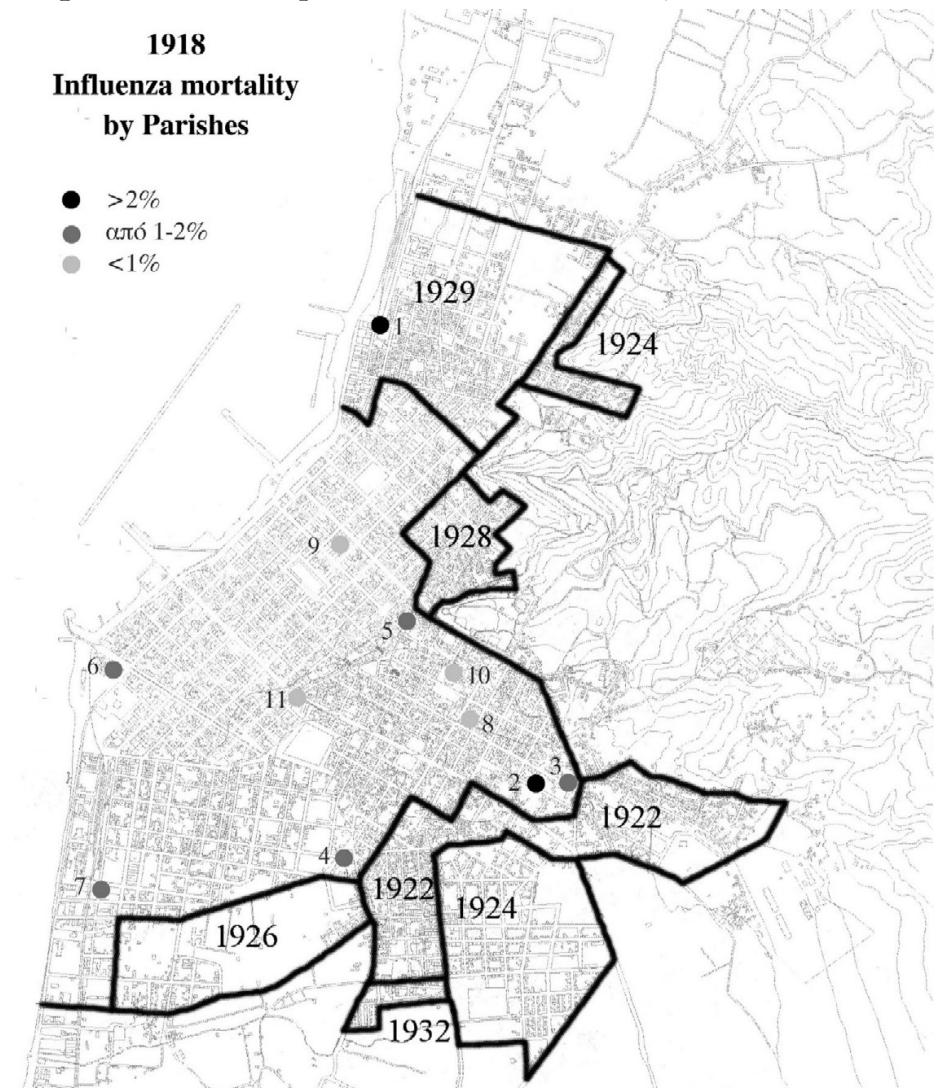
Comparing this map with Map 1 and 2 from 1928 and 1938, it may be argued that the areas with the highest influenza mortality rates in the 1918 epidemic are also the worst in terms of infrastructure and housing even up to the late 30’s. This converse relation between quality housing, infrastructure and mortality, during the Influenza epidemic, is in reality a relation between income and achieved health level, for the various economic strata of the city’s population.

19 Blaney R., “Belfast: 100 years of public health” p. 127 in Frederick Boal and Stephen Royle (ed.), *Enduring City, Belfast in the Twentieth Century*, (Belfast 2006).

20 *Νεολόγος* 4 Nov. 1918.

21 *Νεολόγος* 21 Oct. 1918.

Map 3. Per Parish Spanish Influenza mortality in Patras, 1918.



Sources: (1) Νεολόγος Thu. 25 Oct. 1918.

(2) City plan expansions map N. Μιτζάλης, *Η Μεσοπολεμική...*, p. 140.

The poor, not having the ability to meet high rent prices in the developed city centre, choose to build shanties at the city's outskirts that cannot provide even a minimum of living conditions in terms of sanitation, especially when those areas have hardly any sewerage or water supply. Their frail economic condition also means their diminished capacity in search for medical assistance in times of illness (besides the municipal hospital), food consumption in terms of both quality and quantity, making them more susceptible to disease.

In Ερμής (Ermis) encyclopedia, plague seems to have made its last appearance in Piraeus, and other port cities, during 1912–1915²². Μεγάλη Ελληνική Εγκυκλοπαίδεια (Great Hellenic Encyclopedia) argues that plague in Piraeus in 1912, was imported from India via contaminated sacks, while cases reported at Siros in 1915, are presumed to be nothing more than heavy cases of influenza. Greater

22 Lemma πανώλη (plague), *Encyclopedia Ερμής* (ΧΘΩΝ 2002).

care was taken in the prevention of plague introduction and precautionary measures against the plague at the time were mainly limited to disinfection from land and sea.

...provisions are taken for the dispatch of all boat rats and obstruction of their exit to the land... The duration of the imposed disinfection is set to 5–7 days, including the time of passage for ships. Passengers coming from plague stricken areas are carefully examined, placed under hygienic supervision and their luggage is decontaminated. The recording of all cases is mandatory for doctors, the medical attendance of the sick is provided by adept personnel in appointed seclusive hospitals, or where these do not exist, in secluded houses...²³

Its appearance in 1922 right after the coming of the Asia Minor refugees, contradicts the holding position that plague was vanished. Although not comparable in volume with past times pandemics, there were indeed a lot cases resulting to death²⁴. During the 1900–1940 period, Death Records register 50 plague victims, 46 of which pertain to the 1922–1929 period. Out of 36 cases where place of birth is known 11 concern refugees. These 50 deaths by far exceed the number suggested by Maraslis²⁵, whose sources rely on Medical Association statements and journals mentioning 73 cases of plague (1922–1928) with a total of 19 deaths.

Plague is mainly transmitted to man from rat parasites (less common is transmission from human parasites) and more vulnerable are populations without access to clean water or protection against verminous raids. For Patras, such populations exist among the poor and the Asia Minor/Pontus refugees, dwelling in shanties beyond city limits. Upon their arrival, refugees will stay in groups of tens and hundreds, in overcrowded and inhospitable places (26 refugee camps in 1922²⁶ found in warehouses, schools, churches, or the countryside), helping diseases to spread faster among their ranks. Refugee camps, where thought to be permanent plague centers, when the outbreak of 1924 started out from one of these temporary settlements²⁷. Plague patients' quarantine, will initially take place at the Hospital for

23 Lemma πανώλη (plague), *Μεγάλη Ελληνική Εγκυκλοπαίδεια* [Great Hellenic Encyclopedia], Τόμος ΙΘ' (Αθήνα 1932).

24 Enlightening on the course of plague in Greece, but also for the diachronic medical, social and religious discourse that the disease triggered, is the work of Kostas Kostis Κώστα Π. Κωστή, *Στον Καιρό της Πανώλης, Εικόνες από τις Κοινωνίες της Ελληνικής Χερσονήσου 14ος-19ος Αιώνας* [In the Time of Plague. Visions from the Greek Peninsula Societies 14th-19th Centuries], (Ηράκλειο 1995).

25 Αλέκος Μαρασλής, *Ιατρική και Γιατροί στην Πάτρα* [Medicine and Doctors on Patras], (Αθήνα 1978), pp. 362–364.

26 *Νεολόγος*, 30 Oct. 1922.

27 *Νεολόγος*, 28–29 Jun. 1924.

Infectious disease which for this period will be turned to a Plague hospital; two country mansions will be ordained for the same purpose soon after.

The plague alarm will cease in August 1924²⁸, two weeks after the last report of a transmitted case in the city. One could assume that infected vermin in foreign ships are responsible for the spread of plague, although it is odd that between the 26 victims for which profession is known (1922–1929), no mariner or port related professional (transportations, dockers etc) is mentioned. The first victim for whom profession is known (4th in time line) is a traveling petty merchant. His contribution to the spread of the disease could have been great, if in the meantime he had handled personal items of plague victims²⁹. Moreover the few blocks targeted focus of the disease, hints that plague may not be the result of a pest epizooty, but a case of a man to man transmission. The greater spread among refugees, in respect to the total population could also lead to a similar conclusion. According to sources, plague as well as lot other infectious disease are an inherent feature of every major population movement, may it be of economic, military or forced nature, with the translocation of refugee populations being the most distinctive type of the last category³⁰.

There is, on the other hand, hard evidence to suggest epizooty as the cause of the outbreak. Among the first victims was a young builder, having ailed after working in sewage repair works at the Paragka (Παράγκια) refugee settlement for 5 days (where plague started out in 1924), pointing to a verminous spread if not contracted by refugees. Piraeus will be stricken by plague in 1923, a year after its first appearance in Patras, counting 118 deaths until 1926. Other cities visited by plague include Thebes (1926), Chalcis (1926) Kalamata (1926,1929), Messini (1929) and Pyrgos (1929)³¹ (most of them being port cities).

The reason why local press did not pay much attention to plague at its early first outbreaks, must be associated with the presence of several other infectious diseases throughout 1922–1924 considered to be more threatening to the health of the citizens. Besides several cases of smallpox, the city was under siege from lethargic encephalitis as well as a typhus epidemic (1922–1923), for which refugees were again blamed for by parts of society and press³².

The last great epidemic to strike upon the city will be in August 1928 when the first of many cases of Dengue³³ was identified. The epidemic was carried from

28 *Νεολόγος*, 4 Aug. 1924.

29 Journals had repeatedly criticized TB victims' families for immediately using or selling a deceased's personal items without first caring for their disinfection.

30 Κώστας Π. Κωστής, *Στον Καιρό της Πανώλης...* p. 164.

31 *Τα Νέα* [Ta Nea journal] 29/01/2000.

32 At that same time typhus was also found in Corfu and many other Greek cities receiving refugees

33 Comparing the number of deaths registered in Patras to the number published in Vital Statistics, we can see that only for the year 1937 do the numbers of these sources agree. For the

Athens by travelers; by Sept. 20 there were 20 thousand cases leading to 7 deaths³⁴ and by Oct. 3 Patras counted 50 dead from the Dengue, with a lot more out of complications to vital organs, mainly the kidneys³⁵. Deaths caused by the continuous attenuation of the body, on account of the disease, being registered to other causes, were impossible to detect in the death records. By calculations more than 30.000 (44% of city's population) had contracted the disease and there are mentions of some ailing two or three times. In Athens and Piraeus 80–90% of the population had been infected³⁶ while a total of 1.419.800 cases resulted in 2065 deaths nationwide³⁷.

Besides the infectious diseases mentioned above that took the city by surprise, there were also others that had become endemic to the city and were constant threats to the health and life of its residents. Syphilis and tuberculosis are among the ones with the greatest effect upon society.

Although venereal diseases are not an uncommon cause of death in early 20th century Patras, because of its nature it seems almost invisible to detect in death records of adults, but it's well present in the death records of foundlings. Society seems to be aware of the situation with local press being filled with daily entries-advertisements for syphilidic treatments, medicines and syphilidologist doctors. This alone lets us assume, that syphilis was more common than the registry's death records let us assume.

Table 3. Decennial deaths from Syphilis, by age groups, 1901–1920.

Year	<1		1–10		21+	Total
	Foundlings-	Illegitimate	Legitimate	Foundlings-	Illegitimate	
1901–1910	153		9	3	10	175
1911–1920	225		10	10	9	254
Per cent	87.43		5.14	1.71	5.71	100.0
1901–1910						0
Per cent	88.58		3.94	3.94	3.54	100.0
1911–1920						0

Source: Civil Registry Archives, Death Records, 1901–1920.

rest of the years they show an average divergence of 0,67%. So it seems that mortality in Patras taken from the Civil Registry does not seem to greatly vary from published statistics, although both census results as well as the correctness of number of deaths registered have been opposed by recent research and contemporary sources as well. Siampos G., *Δημογραφική εξέλιξις της νεωτέρας Ελλάδος, 1821–1985*, Αθήνα 1973. Valaoras V., “A reconstruction of the demographic history of modern Greece”, in *Milbank Memorial Fund Quarterly*, April 1960, Vol. XXXVIII, No. 2.

³⁴ *Νεολόγος*, 20 Sep. 1928.

³⁵ *Νεολόγος* 3 Oct. 1928.

³⁶ *Ta Nēa* 29 Jan. 2000 <http://www.in.gr/Reviews/placeholder.asp?IngReviewID=22767&IngChapterID=228388&IngItemID=22841>

³⁷ Φωκίωνας Καπανάκης, *Η Δημόσια Υγιεινή εν Ελλάδι* [Public Hygiene in Greece], (Αθήνα 1933), p. 12.

Syphilis is responsible for at least 429 deaths in the first 20 year period, 92% of which are infants with congenital syphilis (on average 20 deaths annually).³⁸ Some hypotheses can be made here regarding the increased number of foundlings dying from syphilis.

Undeniably a number of the infected infants are illegitimate children of prostitutes transmitting them with the disease and then abandoning them at the Nursery right after birth. A second is that legitimate children of infected parents – afraid of the social stigma – choose to abandon the infant so as to secure their social status and existence since the infant would be recorded of “unknown identity” and the disease could not be traced back to them.

Consequently, there is an undeterminable greater number of infected women (as carriers would be a lot more than infected women giving birth every year) and a number of infected men. An adults’ attempt to conceal this social disease, minimizes rates among them, since syphilis could be a triple stigma. Besides the social stigmatization of a person, syphilis constituted a stigma for a nation since it was thought that it could be responsible for giving birth to generations of degenerate murderers. It was also seen as a stigma for the city not knowing how and where to “hide” its patients or to deal with the prostitutes transmitting the disease³⁹. This last issue had often troubled authorities of numerous cities⁴⁰ by mid and late 19th century, with suggestions made for located prostitution, later giving way to the idea of expulsion of prostitution from areas of family presence⁴¹.

Although by 1900 prostitutes were obliged to be inspected twice a week (and if one was found to be carrying a VD she was to be sent to the Syphilitic Hospital for treatment) Syphilis was still spreading. Efforts to contain syphilis included the founding of a new Women’s Infectious Disease Hospital in 1905 (with 20 beds)

38 Infection of foetus is more common when the mother is at the first stages of infection. Some infants die intrauterine and when born alive they soon show symptoms of congenital syphilis. Αντωνιάδης Αντ.(edit), *Ιατρική Μικροβιολογία [Medical Microbiology]*, (Αθήνα 2005).

39 In France prostitutes were obliged to be tested once a week. Suspicious cases were sent to hospitals, living in miserable conditions and were held captive until they were cured. Calculations suggest that during 1871–1903 725.000 women were arrested in this manner. Syphilis was also seen as an instrument of the working class against the middle class and aristocracy, since it was spread from prostitutes to men and women of the upper classes. Tilles Gerard., *Stigma of Syphillis in the 19th century France*, <http://www.bium.univ-paris5.fr/sfhd/ecrits/stigma.htm>.

40 The Common women’s Establishment. Execution of Scheme. Engineer Mr. Likoudis by order of. D. Sotiriadou, is already processing the design of an Establishment for common women...will be erected at a non-expanding section of the city...will consist from many single and independed pavilions... *Νεολόγος* 26 Oct. 1899.

41 In the 1894 “Of common women and disorderly houses” police ordinance a proven prostitute was forbidden to walk to public promenades, public squares and to enter theatres. Γιάννης Γιαννιτσιώτης, *Η Κοινωνική Ιστορία του Πειραιά...* pp. 245–255.

“...so far confined in a shanty – a real hog pen...”⁴², the Anti-Aphrodisiac Clinic in 1924, (right after an observed increase of VD, for which refugees were once more held responsible), and the “Syphilitic Infirmary for the Poor” 1936. Just 19 adults, 4 women and 15 men were declared to have died from the disease in the 1900–1920 period. Nonetheless in an advanced stage syphilis is connected with other diseases infecting the nervous system, like the case of a labourer in 1909 dying from “*paralysis (from syphilis)*”. Therefore the actual number of deaths from syphilis – as for other diseases as well – is elusive a fact acknowledged by both Director Ιω. Γ. Μιχαλόπουλος and Inspector Μιχ. Ι. Βαστάγος in the 1921–1922 introduction of the Statistics of Deaths respectively.

During 1921–1940, deaths from syphilis drop to a third mostly due to the decline of foundlings’ deaths from the disease and more information on the victims is available since death records registration is standardized (1919).

Table 4. Decennial deaths from Syphilis by age groups 1921–1940.

Period	<1		1–10		11–20	21+	Total
	Foundling	Legitimate	Foundling	Legitimate			
1921–1930	74	14	1	4	1	19	113
1931–1940	38	6	0	1	0	6	51
Per cent 1921–1930	65.49	12.39	0.88	3.54	0.88	16.81	100.00
Per cent 1931–1940	74.51	11.76	0.00	1.96	0.00	11.76	100.00

Source: Civil Registry Archives, Death Records, 1921–1940.

Of the 4 women dying from syphilis aged 35–65, only one was born in the city, the others coming from the broad periphery that supplied the migration movement to Patras⁴³. One was married and all were registered as housewives, but considering that V.D. are widely spread in high risk groups, one would expect to find some of them among its victims. Tracing some of the at least 300 prostitutes⁴⁴ (1910) among them however is impossible⁴⁵ as it is almost certain that on the instance of a prostitute’s death, her status is covered behind the – harmless for social mores – term “housewife”.

⁴² Εφ. Νεολόγος, 16 May. 1905.

⁴³ For the demographic composition of Patras see αναγιώτης Γ. Ηλιόπουλος, “Δημογραφική συγκρότηση και μεταναστευτικά ρεύματα της πόλης-λιμάνι των Πατρών την περίοδο του Μεσοπολέμου”, pp 131–139 in Λυδία Σαπουνάκη Δρακάκη (ed.), *Η Ελληνική πόλη σε ιστορική προοπτική* [The Greek city in historical perspective], (Αθήνα 2005) or Panagiotis G. Eliopoulos, “Demographic composition and immigration movements of the port-city of Patras during the Interwar Period”, 7th International Conference on Urban History, Athens-Piraeus, 27–30 October 2004. <http://library.panteion.gr:8080/dspace/handle/123456789/458>.

⁴⁴ City Council Meeting Proceedings 11 Oct. 1910.

⁴⁵ In the death records of 1901–1940 period, there are just two records mentioning prostitutes. A “common” dying from nephritis (uraemia) in the Municipal Hospital (1911) and a disorderly house mistress aged 55 dying from pneumonia in 1926.

More dangerous to public health was thought to be the unregistered non-professional prostitution that could not be checked (numerically or medically) as the main cause of VD transmission. By calculations this unregistered prostitution was estimated to be 100 times greater than the official for Athens and Piraeus, comprising of teenagers and young women complementing their income, or trying to amass their dowry while ostensibly preserving their social status, being responsible for 75% of the total venereal cases⁴⁶. If what holds for Athens and Piraeus regarding the number of prostitutes checks for Patras, it may explain the lack of information on prostitution in the death records.

Despite its preference to lower strata, the disease concerns everyone and among the 14 male victims (7 having been born in Patras.) we find a chemist, a retired higher ranking military officer and two private employees, with just two out of the 14 passing in the Municipal Hospital.

Research on the nature of tuberculosis has much to tell of a society's structure and has been used by historic demographers as a rate for the socioeconomic state of a society. It concerns all social strata but it is particularly disastrous to the poor where it decimates the young. Until the first quarter of the 20th century, commendable cures will include aerotherapy, rest, overfeeding and heliotherapy while cough medicines, antipyretics, haemostatics for hemoptysis will be administered to relieve the symptoms. Such a treatment was inexpedient to the poor especially when hospitalization in Greek Sanatoria was a time-consuming effort⁴⁷. Tuberculosis had shown downward tendencies across Europe by the second half of the 19th century and although other respiratory disease had many more victims, authorities were more concerned with tuberculosis. This is because respiratory disease was affecting infants and the elderly while tuberculosis hit the economically active young adults that constituted the capital of a society⁴⁸.

Early 20th century Greek doctors found the causes of the infectious transmission of the disease in unhealthy and poor ventilated environment (schools, public offices, tobacco cutting factories, printeries, industries, prisons, houses), recruitments, returning emigrants from overseas⁴⁹ and the absence of precautionary measures and decontamination. Other factors thought to be predispositions to tuberculosis were the spread of syphilis, alcoholism, measles, smallpox, whooping

46 Lemma πορνεία (prostitution), *Μεγάλη Ελληνική Εγκυκλοπαίδεια Δρανδάκη* [Great Hellenic Encyclopedia], Β' έκδοσις, (Αθήνα 1932), Τόμος Κ'.

47 Γεράσιμος Ρηγάτος, *Ιστορία της Νοσηλευτικής, από τη Φιλάνθρωπη Τέχνη στη Σύγχρονη Επιστήμη* [History of Nursing, from Philanthropic Art to Modern Science], (Αθήνα 2006) p. 132.

48 Anne Hardy, "Reframing disease: changing perceptions of tuberculosis in England and Wales, 1938–1970", *Historical Research* 76 (194), 2003, 535–556.

49 When the disease progresses and they can no longer work, they return to Greece with the hope of attention and medical treatment from their families. Such a theory is confirmed for 17 dying on steamboats coming to Patras from the U.S.A. and three more where we read "arriving from America".

cough, all of which weaken the immune system making it more susceptible to infection. They considered that lack of hygiene in public and private places, but also unhealthy habits, dropped the system's defense mechanisms and led to tuberculosis, relying on the fact that just a small percentage of those exposed to the disease ailed.

For England, Sweden, France, Germany and Greece, institutionalization in hospitals and sanatoria, was the most popular practice to abolish the infectious spread⁵⁰. Once hospitalised, patients not only pose no threat, but could also find better treatment. Success of institutionalization was measured by the number of patients that could be accommodated. In 1914 Gothenburg, had 106 beds for every 100 deaths from the disease. Birmingham provided 57 beds for every 100 deaths. In the early 1930s, Gothenburg had 175 sanatorium and hospital beds per 100 deaths, while in Birmingham there were only about 60 beds per 100 deaths⁵¹. In Patras the available number of beds for pulmonary tuberculosis, did not change in the course of more than 25 years. The 18 hospital beds provided meant that there were 14 beds per 100 deaths. In 1930 the number of beds had not changed and the beds per 100 deaths ratio had decreased to 12.

The fight against tuberculosis abroad was deemed to be fought, not only in the field of curing the infected, but also in the areas of health education and the social and environmental factors that led to TB like poverty and housing⁵². For Patras however poverty and poor housing went hand by hand, especially when the idea of workers' housing schemes would have to wait since accommodation for the refugees was more pressing and health education would not bear fruits until the 1930's. The 1901–1904 tuberculosis mortality had been calculated for 12 major Greek cities (Athens, Piraeus, Patras, Corfu, Syros, Trikkala, Volos, Kalamata, Larissa, Zante, Pyrgos and Tripolis) to 16,02% with 40,2 deaths per 10.000 population and Greece having 34 deaths per 10.000 population. During the same period France and Austria would count 30 deaths according to the Berlin Sanitary Bureau Statistics⁵³ and Sweden 332 per 100.000 during 1875–1879 falling to 145 during 1921–1930⁵⁴.

50 Μαρία Κορασίδου, *Όταν η Αρρώστια Απειλεί, Επιτήρηση και Έλεγχος της Υγείας του Πληθυσμού στην Ελλάδα του 19 Αιώνα* [When disease threatens, Surveillance and Control of the health of the population in 19th century Greece], (Αθήνα 2002), p. 59.

51 Marjaana Niemi, *Public Health and Municipal Policy Making, Britain and Sweden, 1900–1940*, Ashgate, 2007 pp. 134–135.

52 Ibid., p.117.

53 Βασίλειος Πατριώτης, “Η Πορεία της Φθίσεως εν Ελλάδι, από του 1890–1905” [The Course of Pthisis in Greece during 1890–1905], Πρακτικά Ε' Πανελλήνιου Ιατρικού Συνεδρίου, (Αθήνα 1906), p. 12.

54 Jan Sundin and Sam Willner, *Social Change and Health in Sweden, 250 of politics and practice*, Swedish National Institute of Public Health, 2007, p. 119.

Many doctors claimed that TB deaths were in fact more than sources recorded, especially for infants⁵⁵ and considered that ¼ of all deaths registered to asthma, emphysema, bronchitis, cerebro-spinal etc., were in reality deaths from TB. This could only be the result of massive misdiagnoses, intentional or unintended. A family losing a member to the disease, would pressure the doctor to alternate the cause of death, so they would not themselves be suspected as carriers of fear for a potential social isolation.

many a time the doctor succumbing in the persistent demand of the deceased family, declares as cause of death not tuberculosis but instead chronic bronchitis, and this for obvious social reasons...⁵⁶

This occurred against the B.Δ.(Royal Decree) 31 Dec. 1836 “Of protection against infectious disease” by which pulmonary tuberculosis was declared an infectious disease, ordering its notification (registration) and precautionary measures to be taken by doctors and relatives on penalty of 20–200dr. fine and 1–6 weeks imprisonment⁵⁷. In Britain compulsory notification of TB cases was introduced in 1913⁵⁸.

Doctors were not always responsible for this “denaturalization”, given that solvency to assure medical treatment should not be taken for granted at the time. Especially for the lower strata, a doctor may be called to issue certificates for people who he never had the opportunity to examine in life. He should then rely on the information given by relatives to understand the nature of the illness of the deceased. On the other hand fear of arrest, must have not acted in a preventive manner as to avoid the covering of causes of death that would otherwise bring unrest to the social sphere.

...The doctor is called only when the end is near, usually too late or even right after to declare the death.: This is a usual case for the elderly for who “old age melancholy” is the most common “cause” of death. Therefore doctors called to issue a death certificate to a person they have not treated, usually accept what the family tells them, without investigating further, unless the death was suspicious: They knew that nothing more was expected from them...⁵⁹

55 Γ.Ν. Μακκιάς, Πρακτικά του Α' Ελληνικού Συνεδρίου κατά της Φυματίωσης (Αθήνα 1909), pp. 137–138.

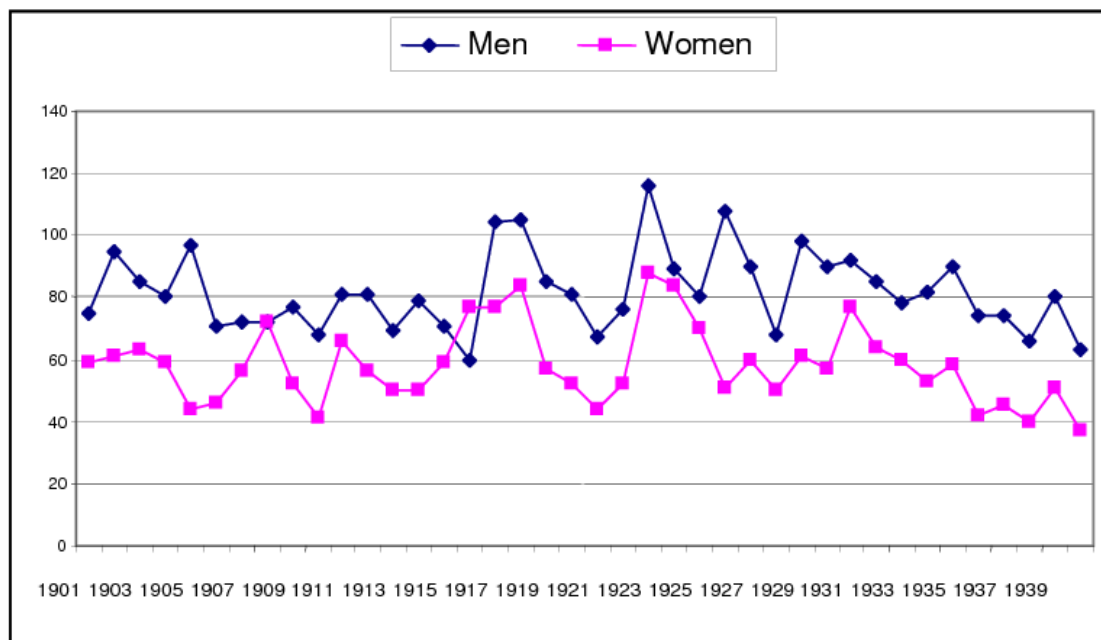
56 Π. Ροντόπουλος, Η εν Ελλάδι εκ Φθίσεως θνητοτης καθ' ηλικίαν, φύλον και επάγγελμα εν 12 πόλεις κατά την τελευταίαν δεκαετίαν 1899–1908 [The Phthisis mortality in Greece, by age, sex and vocation in 12 cities for the last decade 1899–1908] , Πρακτικά του Α' Ελληνικού Συνεδρίου κατά της Φυματίωσης 1909, p. 502.

57 Β. Πατρίκιος, Β' Έκθεσις περί της εκ φυματίωσης θνησιμότητος εν Ελλάδι [2nd Report on Tuberculosis mortality in Greece], (Αθήνα 1918). p.32.

58 Linda Bryder, *Below the Magic Mountain, A Social History of Tuberculosis in Twentieth-Century Britain*, (Oxford 1988), pp. 41–43.

59 Eugénia Bournova, “La mortalite en transition dans une ville mediteraneenne, Rethymno au debut du xx siecle”, *Histoire Urbaine*, vol 21, Avril 2008.

Figure 2. Number of deaths from Tuberculosis, Patras 1901–1940.



Source: Civil Registry Archives, Death Records, 1921–1940.

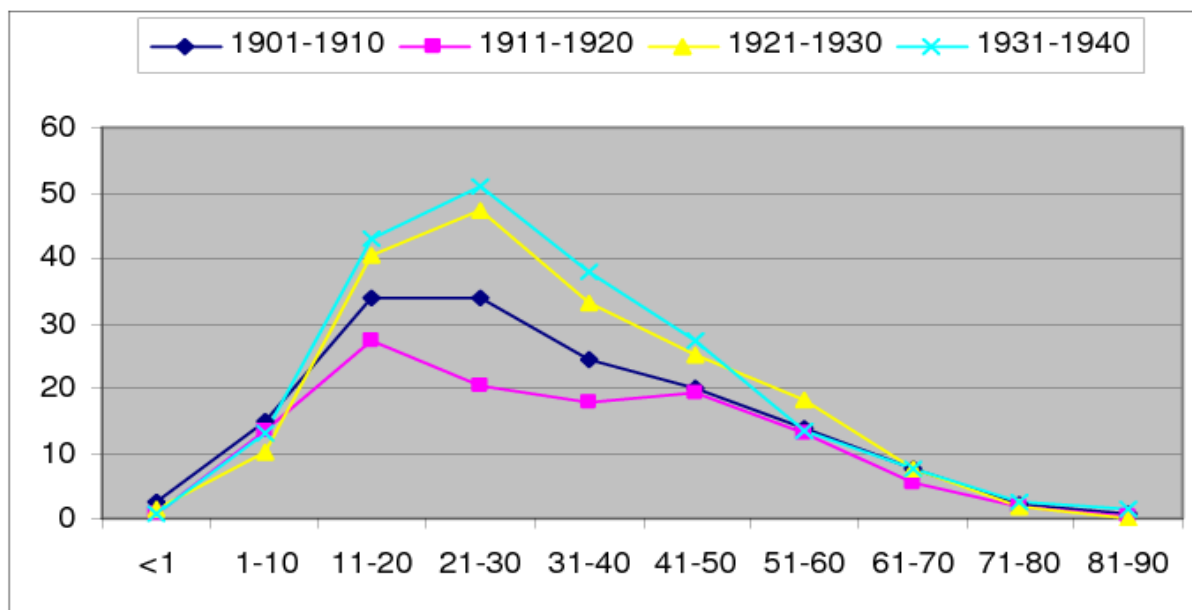
Apart from the years between the Greek involvement in WWI (1917) and the coming of the Asia Minor/Pontus refugees (1922), TB deaths show a relative stability. The increase of deaths from TB during WWI was common for many European countries due to the worsening of food consumption⁶⁰. Tuberculosis mortality slowly decreases in the 1930's although it still remains high when compared to other European cities. For 1907, census year, TB mortality in Patras is calculated to 24,65 per 10.000 population. For Mediterranean Spain in 1912 the rate for Cadiz (population 70.000) is 40,3, for Gerona 40,50, Leon (population. 11.000) 44,70⁶¹. In 1928, TB mortality in Patras is 17,66 per 10.000 population (respective rates for 1927 and 1929 are 20,4 and 23,32). For that same year Cardiff having the highest rate among British cities of the same size, mortality reached 10,1 and Swansea 10,03. By 1940 Patras' rate falls to 12,69 but still high compared to Cardiff 9,00 and Swansea 6,9⁶². Apart from the 1911–1920 period deaths from TB as a percentage to total deaths are increasing for men and women alike. Male deaths

⁶⁰ In Greece food shortages were experience even before its involvement to the war because of the blockade by the Entente Forces, resulting in 30 deaths from starvation in Patras alone according to the Registry's archives.

⁶¹ Espagne. Mortalite generale et mortalite par tuberculose dans les capitales (chefs-lieux) de provinces en 1912 (Etablies d' apres le Boletín mensual de Statistica demografico sanitaria). Office International d' Hygiene puplique 1915 p 953. in Βασίλειος Πατρικιος, *Έκθεσις περί της εκ φυματιώσεως θνησιμότητος εν Ελλάδι* [Report on Tuberculosis mortality in Greece], (Αθήνα 1917) p. 46.

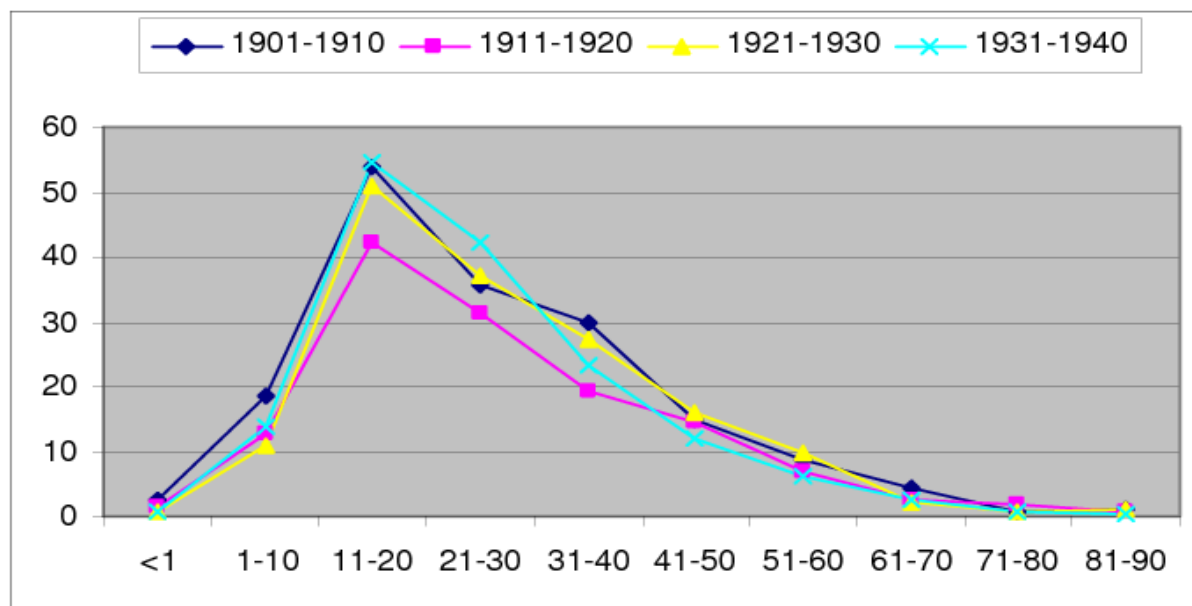
⁶² Steven Thompson, *Unemployment Poverty and Health in Interwar South Wales*, (Cardiff 2006), p. 206.

Figure 3. Decennial Male Distribution of Tuberculosis Deaths to Total Deaths by Age Groups, 1901–1940.



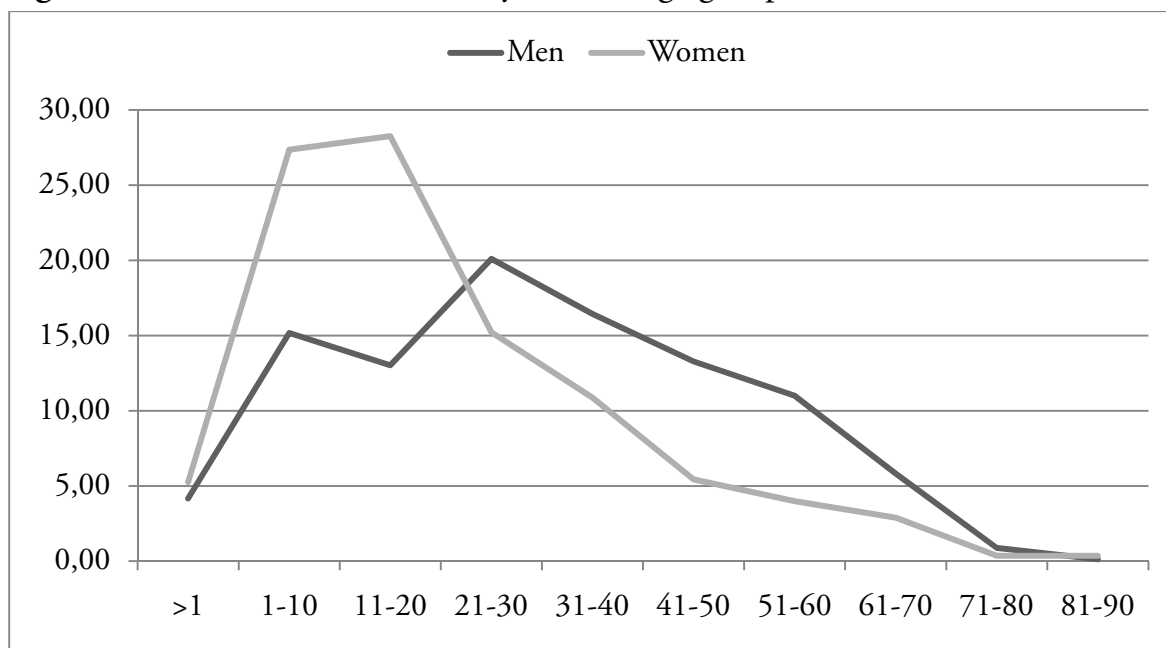
Source: Patras Civil Registry, Death Records Archives, 1901–1940.

Figure 4. Decennial Female Distribution of Tuberculosis Deaths to Total Deaths by Age Groups, 1901–1940.



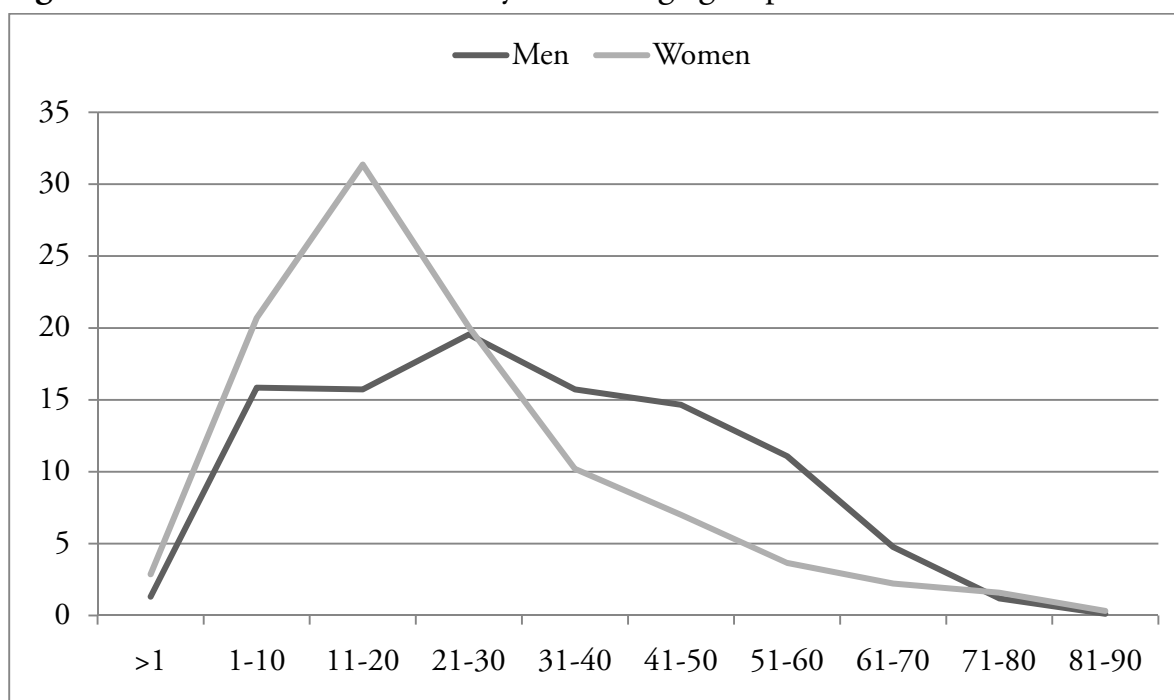
Source: Patras Civil Registry, Death Records Archives, 1901–1940.

Figure 5. TB deaths distribution by sex and age group 1901–1910.



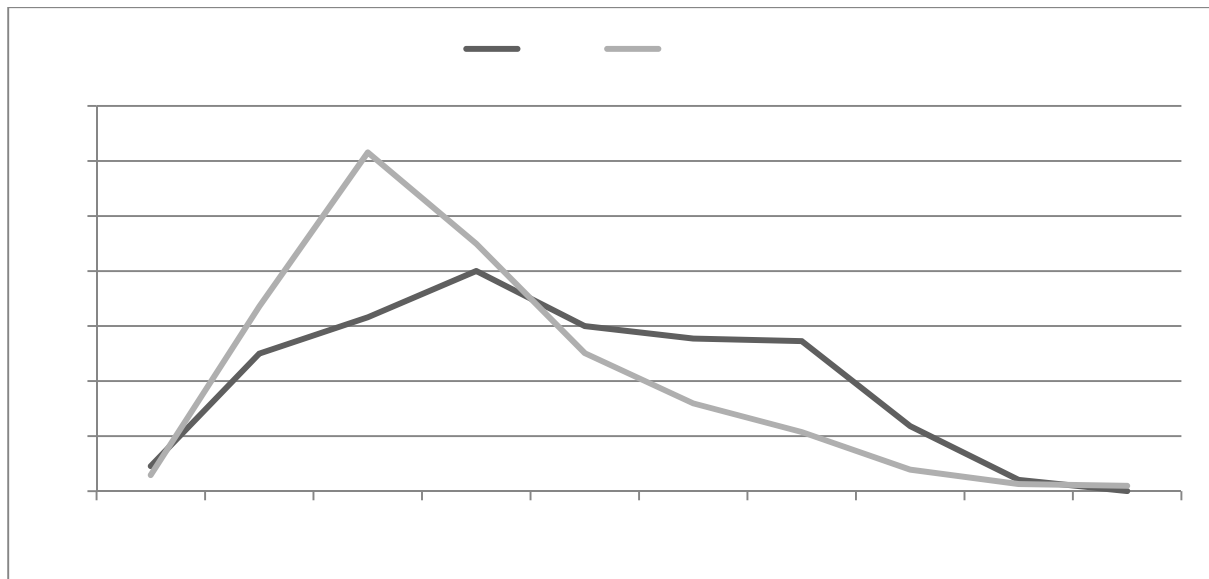
Source: Patras Civil Registry, Death Records Archives, 1901–1910.

Figure 6. TB deaths distribution by sex and age group 1911–1920.



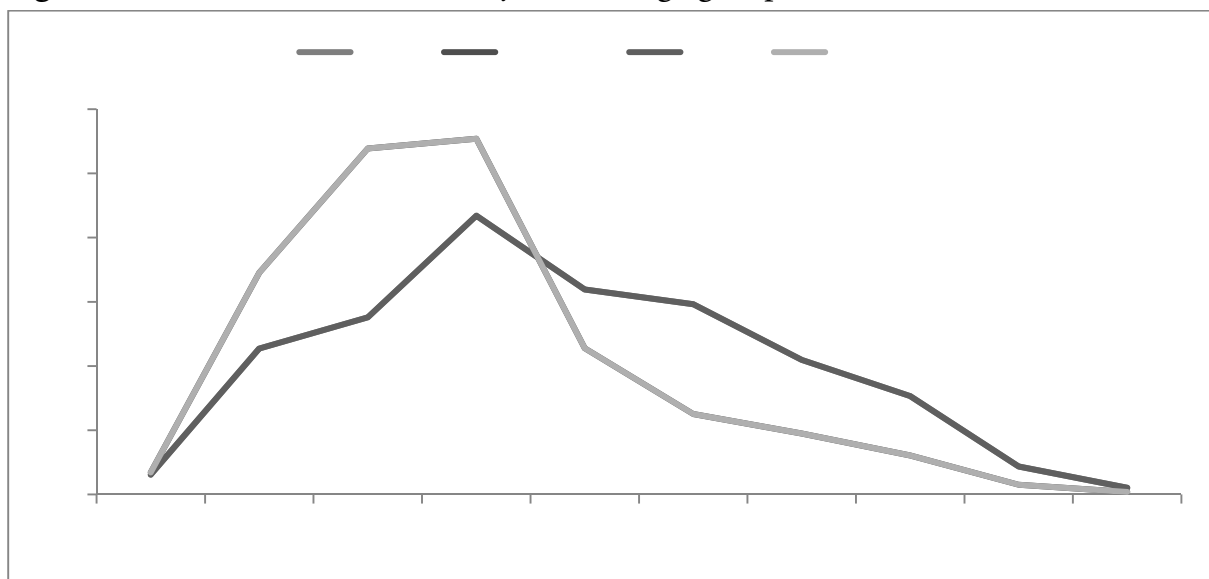
Source: Patras Civil Registry, Death Records Archives, 1911–1920.

Figure 7. TB deaths distribution by sex and age group 1921–1930.



Source: Patras Civil Registry, Death Records Archives, 1921–1930.

Figure 8. TB deaths distribution by sex and age group 1931–1940.



Source: Patras Civil Registry, Death Records Archives, 1931–1940.

from the disease are almost always more the female and it constitutes the greatest cause of death for the young and adults up to 40 of both sexes, common to many other European cities.

“..Tuberculosis constituted the first cause of death – a veritable scourge of society – in young people between 11 and 20, and adults between 21 and 40...”⁶³

63 See Maurice Garden, «La mortalité» in Yves Léquin, *Histoire des Français XIXe – XXe siècles, Un peuple et son pays*, Armand Colin, Paris 1984, pp. 287–366.

Male deaths from TB peak in the 21–30 age group, while for women this occurs earlier between 11–20. At its peak TB was responsible for more than half of deaths of both sexes, just as pre WWII Belfast where TB was responsible for half of deaths for ages 15–24⁶⁴. Worthy to note is the 1911–1920 period's considerable decline of male deaths for the 11–40 age groups and should be attributed to the continuous recruitments of the Balkan and WWI Wars, since female deaths do not show such a great decline. The also small percentage among the economically active males' deaths in the 1901–1910 period should be seen as a byproduct of overseas emigration which Patras accommodated as a major emigration port.

The two sexes were not treated equally in death. Women percentages are more concentrated to younger ages, especially towards the age of 20. For the whole 1901–1940 period, 60,87% (1901–1910) to 45,92% (1931–1940) of the inflicted will have died by the age of 20, while by 30 the respective percentages are between 76,09% (1901–1910) and 71,5% (1921–1930). Big improvement is observed for young girls (aged 0–10) with a drop from 32,61 (1901–1910) to something less than 19% (1931–1940). It follows the usual tendency for female TB mortality to exceed male during childhood and early adulthood, but male surpassing it around the age of 30.

In Merthyr and Rhondda S. Wales, young female TB mortality during 1931–1933 is also higher than male. In the 15–24 age group male mortality is 1,6 in Merthyr and 1,1 for Rhondda, while female is 2,9 and 2,65 per 1000 population respectively. In the 25–44 male mortality is about 1,45 and 1 and female 1,75 and 1,55 respectively. And again for Swansea female TB mortality will exceed male up to the 15–24 age group⁶⁵.

Research in UK, Germany and Sweden suggest that the TB preference towards young women is attributed to the better feeding of men on the expense of women. Hard work at home and constant childbearing took their toll, making them more prone to the disease⁶⁶.

...a certain amount of evidence suggests that house-wives, at their own expense, put the rest of the family first when it came to serving food. This, in combination with hard work and frequent pregnancies, could lead to a low nutritional status and reduced resistance to TB. There is, on the other hand, little evidence that children were also subjected to such gender discrimination at the dinner table, which could have contributed to the higher mortality rate among girls...⁶⁷

64 Frederick Boal Stephen Royle (ed.), *Enduring City, Belfast in the twentieth century*, (Belfast 2006), p. 247.

65 Steven Thompson, *Unemployment...* pp. 208–210.

66 W. D. Johnston, "Tuberculosis", in Kenneth Kiple (ed.), *The Cambridge World History of Human Disease*, (Cambridge 1993), pp. 1059–1068.

67 Jan Sundin and Sam Willner, *Social Change...* p. 123.

An explanation based on the stress caused by childbearing to the immune system, however satisfactory may be for most European cities, fails to do so to the same extent for Patras, since it mostly covers women already married something which before the age of 20 was not very common in Patras since the average age at first marriage (1925–1940⁶⁸) for women is 24,6⁶⁹ – a point strengthened by N. Peloponnese's low illegitimate natality of (0,007). If in fact children, regardless of sex, were not discriminated in terms of food portions, the increased concentration of younger girls' deaths must be indeed connected to other biological and social factors. Puberty and the start of menstruation increases nutritional needs and when these cannot be met, it increases the chances of infection, but to these factors we should add the impact of domestication in over-populated housing which was the case for the majority of the poor, as mentioned earlier, or the worse working conditions the female unskilled workforce faced in industry.

Men's deaths tend to be more dispersed according to age. Half of the ailed victims will have died by the age of 30 with 20% of its victims being from 21 to 30. Young boys' rates (aged 0–10) seem to improve since in 1901–1910 they represent 19,34% of the victims, but by 1940 their percentage drops to 12,9%.

Research on the relation between each occupational group's causes of death, to its representation in the city, is still ongoing and hopefully will shed some more light on the life and death issues of a major port-city in South East Europe.

Summary

Greece experienced its great urbanization period rather late compared to most European countries, for which it proved totally unprepared for. The following urban sprawl witnessed in Patras and several other Greek cities in the first three decades of the 20th century, resulted in a deterioration of living conditions and sanitation for a great part of an expanding city, given the lack of funds or the will of authorities to confront the issue.

Up to 1928 poor hygienic infrastructure had as a result the constant presence of epidemics (smallpox, influenza, typhoid, plague, encephalitis, Dengue etc.), strengthened by the thousands of Asia Minor/Pontus refugees' influx, which eventually compelled the State to intervene by funding large sanitation schemes nationwide, and resulted to an impressive drop in mortality and the eradication of large scale epidemics in the 1930's.

Other infectious diseases however had become endemic to the city, such as venereal disease and TB and would not be dealt with effectively until after WWII. Venereal disease deaths are common among the foundlings in the Municipal

68 Its only from 1925 that the Registry records marriages.

69 Calculations on Marriage Records 1925–1940, Patras Civil Registry, Marriage Records Archives.

Nursery, since most adults' deaths were more likely to be concealed in fear of a social stigmatization. The effect of TB upon mortality is rather difficult to be precisely estimated, given a large number of untreated patients, misdiagnoses and efforts to conceal true cause of death as per Venereal Diseases. TB showed a firm preference to working class young women and men and deaths from TB would start declining only after well in the 1930's.

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References

- Blaney R., “Belfast: 100 years of public health” p. 127 in Frederick Boal and Stephen Royle (eds.), *Enduring City, Belfast in the Twentieth Century*, Belfast, 2006.
- Bournova Eugénia, “La mortalité en transition dans une ville méditerranéenne, Rethymno au début du xx siècle”, *Histoire Urbaine*, vol 21, Avril 2008.
- Bryder Linda, *Below the Magic Mountain, A Social History of Tuberculosis in Twentieth-Century Britain*, (Oxford 1988)
- Eliopoulos Panagiotis G., “Demographic composition and immigration movements of the port-city of Patras during the Interwar Period”, 7th International Conference on Urban History, Athens-Piraeus, 27–30 October 2004. <http://library.panteion.gr:8080/dspace/handle/123456789/458>.
- Franghiadis A, *Peasant Agriculture and Export Trade: Currant Viticulture in Southern Greece, 1830–1893*, doctoral thesis, European University Institute, (Florence 1990)
- Garden Maurice, “La mortalité” in Yves Léquin, *Histoire des Français XIXe – XXe siècles, Un peuple et son pays*, Armand Colin, Paris 1984.
- Hardy Anne, “Reframing disease: changing perceptions of tuberculosis in England and Wales, 1938–1970”, *Historical Research* 76 (194), 2003.
- Johnston W. D., “Tuberculosis”, in Kenneth Kiple (ed.), *The Cambridge World History of Human Disease*, Cambridge, 1993.
- Leontidou Lila, *The Mediterranean city in transition: social change and urban development*, (Cambridge 1990).
- Mazower Mark, *Η Σκοτεινή Ήπειρος. Ο Ευρωπαϊκός Εικοστός Αιώνας*, (Αθήνα 2001).
- Niemi Marjaana, *Public Health and Municipal Policy Making, Britain and Sweden, 1900–1940*, Ashgate, 2007.
- Petmezas S., “El comercio de la pasa de Corinto y su influencia sobre la economía griega del siglo XIX (1840-1914)” in J. Morilla, J. Gomez-Pantoja y P. Cressier (eds.), *Impactos exteriores sobre la Agricultura Mediterraneo*, (Madrid 1997), pp. 523–562.
- Pinol Jean-Luc, Walter Francois, *Η Σύγχρονη Ευρωπαϊκή Πόλη έως τον Β' Παγκόσμιο Πόλεμο*, (Αθήνα 2007).
- Sundin Jan and Willner Sam, *Social Change and Health in Sweden, 250 of politics and practice*, Swedish National Institute of Public Health, 2007.
- Thompson Steven, *Unemployment Poverty and Health in Interwar South Wales*, Cardiff, 2006.
- Tilles Gerard., “Stigma of Syphilis in the 19th century France”, <http://www.bium.univparis5.fr/sfhd/ecrits/stigma.htm>.
- Αντωνιάδης Αντώνιος, *Ιατρική Μικροβιολογία*, Αθήνα, 2005. [*Medical Microbiology*].

- Γιαννιτσιώτης Γιάννης, *Η Κοινωνική Ιστορία του Πειραιά, Η συγκρότηση της αστικής τάξης 1860–1910*, Αθήνα, 2006. [Social History of Piraeus, The Composition of the Middle Class 1860–1910].
- Δήμος Πατρέων, Πρακτικά Δημοτικού Συμβουλίου 11 Oct. 1910. [Municipality of Patras, City Council Meeting Proceedings].
- Ληξιαρχείο Πατρών, Αρχείο Ληξιαρχικών Πράξεων Θανάτων, 1901-1940 [Patras Civil Registry Death Archives 1901-1940].
- Εθνική Στατιστική Υπηρεσία Ελλάδος, Αποτελέσματα Απογραφών Πληθυσμού 1907, 1920, 1928, 1940, Υπουργείο Εσωτερικών [National Statistics Agency of Greece, Census Results, 1907, 1920, 1928, 1940, Ministry of Internal Affairs].
- Εθνική Στατιστική Υπηρεσία Ελλάδος, Στατιστική της Φυσικής Κίνησης του Πληθυσμού, Υπουργείο Εσωτερικών, 1921-1937 [National Statistics Agency of Greece, Vital Statistics, Ministry of Internal Affairs, 1921-1937].
- Ηλιόπουλος Παναγιώτης Γ., “Δημογραφική συγκρότηση και μεταναστευτικά ρεύματα της πόλης-λιμάνι των Πατρών την περίοδο του Μεσοπολέμου”, [Demographic composition and immigration movements of the port-city of Patras during the Interwar Period] pp. 131–139 in Λυδία Σαπουνάκη Δρακάκη ed., *Η Ελληνική πόλη σε ιστορική προοπτική* [The Greek city in historical perspective], Αθήνα, 2005.
- Καλαφάτης Θ., *Αγροτική Πίστη και Οικονομικός Μετασχηματισμός στη Βόρεια Πελοπόννησο*, 3 vol., Athens, 1990-1992. [Rural Credit and Economic Transformation in N. Peloponnese].
- Καπανάρης Φωκίωνας, *Η Δημόσια Υγιεινή εν Ελλάδι*, Αθήνα, 1933. [Public Hygiene in Greece].
- Κορασίδου Μαρία, *Οι Άθλιοι των Αθηνών και οι Θεραπευτές τους, Φτώχεια και Φιλανθρωπία στην Ελληνική Πρωτεύουσα τον 19 αιώνα*, Αθήνα 2004 [The Miserable of Athens and their Healers, Poverty and Philanthropy in the Greek Capital in the 19th Century],
- *Όταν η Αρρώστια Απειλεί, Επιτήρηση και Έλεγχος της Υγείας του Πληθυσμού στην Ελλάδα του 19 Αιώνα*, Αθήνα, 2002 [When disease threatens, Surveillance and Control of the health of the population in 19th century Greece].
- Κυριόπουλος Γιάννης, “Οι Πολιτικές Υγείας και Ασφάλισης στην Ελλάδα υπό το Πρίσμα των Διεθνών Εξελίξεων την Περίοδο του Μεσοπολέμου” [Health and Social Security Policies in Greece Under the Prism of International Circumstance] in Κυριόπουλος Γιάννης ed., *Δημόσια Υγεία και Κοινωνική Πολιτική. Ο Ελευθέριος Βενιζέλος και η εποχή του*, Αθήνα, 2008 [Public Health and Social Policy. Eleftherios Venizelos and his Era].
- Κωστής Κώστας Π., *Στον Καιρό της Πανώλης, Εικόνες από τις Κοινωνίες της Ελληνικής Χερσονήσου 14ος-19^{ος} Αιώνας*, Ηράκλειο, 1995 [In the Time of Plague. Visions from the Greek Peninsula Societies 14th-19th Centuries].

- Λεοντίδου Λίλα, *Πόλεις της Σιωπής, Εργατικός Εποικισμός της Αθήνας και του Πειραιά 1909–1940*, 2nd ed. Αθήνα, 2001 [Cities of Silence. Workers' Settlements in Athens and Piraeus 1909-1940].
- Μακκιάς Γ.Ν., *Πρακτικά του Α' Ελληνικού Συνεδρίου κατά της Φυματιώσεως, Αθήνα, 1909* [1st Hellenic Conference against TB Proceedings].
- Μαρασλής Αλέκος, *Ιατρική και Γιατροί στην Πάτρα, Αθήνα 1978* [Medicine and Doctors on Patras].
- Μιτζάλης Νίκος., *Η Μεσοπολεμική Βιομηχανική Ανάπτυξη της Πάτρας και οι Μεταλλαγές στον Αστικό Ιστό της Πόλης, Πάτρα, 2007* [The Interwar Industrial Growth of Patras and the Transmutations in the Civic Web of the City].
- Νέα, Τα, [Ta Nea Journal] 2000 Jan. 29,
<http://www.in.gr/Reviews/placeholder.asp?IngReviewID=22767&IngChapterID=228388&IngItemID=22841>.
- Νεολόγος, Ο, [Neologos Journal] 1899 Oct. 26. 1905 May 16. 1918 Oct. 21, Nov. 4. 1922 Oct. 30. 1924 Jun. 28–29, Aug. 4. 1928 Aug. 28, Sep. 14, 17, 20, Oct. 3. 1938 Jan. 16, Feb., 18, Mar. 9, Apr. 1, May 17, Jun. 2, Jul. 29, 31, Aug. 2, Nov. 29, Dec. 11-31. 1939 Jan. 1-10.
- Οικονόμου Δ., “Σύστημα γης και κατοικίας στη μεταπολεμική Ελλάδα”, [Land and Housing System in Afterwar Greece] pp. 57–114 in Θ. Μαλούτας και Δ. Οικονόμου eds., *Προβλήματα ανάπτυξης του κράτους πρόνοιας στην Ελλάδα, Αθήνα, 1988* [Problems in Developing a Welfare State in Greece].
- Πανώλη λήμμα, *Μεγάλη Ελληνική Εγκυκλοπαίδεια, Τόμος ΙΘ', Αθήνα, 1932* [Plague Lemma, Great Hellenic Encyclopedia].
- Εγκυκλοπαίδεια Ερμής, ΧΘΩΝ 2002* [Encyclopedia Hermes].
- Πατρίκιος Βασίλειος, *Έκθεσις περί της εκ φυματιώσεως θνησιμότητος εν Ελλάδι, Αθήνα, 1917* [Report on Tuberculosis mortality in Greece],
- *Έκθεσις περί της εκ φυματιώσεως θνησιμότητος εν Ελλάδι, Αθήνα, 1918. [2nd Report on Tuberculosis mortality in Greece]*.
- “Η Πορεία της Φθίσεως εν Ελλάδι, από του 1890–1905”, *Πρακτικά Ε' Πανελλήνιου Ιατρικού Συνεδρίου, Αθήνα, 1906* [The Course of Phthisis in Greece during 1890–1905].
- Πιζάνιας Π., *Οικονομική Ιστορία της Ελληνικής Σταφίδας, 1851-1912, Athens, 1988* [Economic History of Greek Currants]
- Πορνεία λήμμα, *Μεγάλη Ελληνική Εγκυκλοπαίδεια Δρανδάκη, Β' έκδοσις, Τόμος Κ', Αθήνα, 1932* [Lemma Prostitution, Great Hellenic Encyclopedia].
- Ρηγάτος Γεράσιμος, *Ιστορία της Νοσηλευτικής, από τη Φιλάνθρωπη Τέχνη στη Σύγχρονη Επιστήμη, Αθήνα 2006* [History of Nursing, from Philanthropic Art to Modern Science].
- Ροντόπουλος Π., *Η εν Ελλάδι εκ Φθίσεως θνητοτης καθ' ηλικίαν, φύλον και επάγγελμα εν 12 πόλεις κατά την τελευταίαν δεκαετίαν 1899–1908, Πρακτικά του Α' Ελληνικού Συνεδρίου κατά της Φυματιώσεως, Αθήνα, 1909* [Phthisis

mortality in Greece, by age, sex and vocation in 12 cities for the last decade 1899–1908].

Χαστάογλου Βίλμα, *Βόλος, Το Πορτραίτο της Πόλης, από τον 19 Αιώνα έως Σήμερα*, 2nd ed, Βόλος, 2007 [Volos, Portrait of a City from the 19th Century to the Present].