

## REPRINTS AND REFLECTIONS

# Medical and Social Reality in Chile

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## Second part. Life circumstances in the working class

### I. Wages

Any reliable study of the medical and social reality in Chile has to take into account the most important causal factors. Among them, wage takes a predominant place as its amount and how it is expended determines the standard of living for wage-dependent people.

The relation between wage level and salubrity has already been proven in several sociomedical studies, in our country and elsewhere. Alfonso Campos Menendez, in his book 'Hacia una política preventiva de los Seguros Sociales' (Towards a preventive policy of Social Security), an excellent work that constitutes one of the most complete studies on this subject, gives special importance to the crucial influence of the conditions of life on people's health. On these grounds, he demands, in addition to medical and preventive measures, measures of a more general type that help reinforce these measures, integrating them into a plan directed at revitalizing the human condition. In this way, he adds, 'insufficient salaries and unhealthy housing will stop acting as aspects of social disintegration; factors that determine an increase in morbidity and mortality indices'.

As regards the influence of income on mortality, Dr Derwer showed that the mortality rate in Hamburg was 4.8 per 1000 among those who received 1200 Marks income per month, while it was 1.2 per 1000 among the social classes that received 4000 Marks. This suggests that the biological defences—the resistance of the body to disease—is directly related to standards of living.

Already in 1919, G. Giron had noted in his thesis, the high frequency of spine deviations among Chilean students born in families with limited economic resources—these were not present among the children of wealthy families.

In 1934, S. Jimenez, reported the examinations undertaken on children aged 12, in schools of residential neighbourhoods and schools of poor neighbourhoods. The results are as shown in Table 1.

A survey from Dr Jorge Mardones and St Sepúlveda, including 514 girls from public schools, showed the close relation between the parents' wages and defective development among workers' offspring: bad teeth, high mortality, deformities

Table 1

	Weight (kg)	Height (cm)
Schools from residential neighbourhoods	38.4	144.5
Schools from poor neighbourhoods	32.2	136.8

from rickets, etc. He also discussed children born in similar circumstances, but brought up in child institutions with hygienic rooms and good diet. The detailed results of this survey are shown in Table 2.

Despite the difficulties of observing its full impact, salary, as a determinant of the worker's life circumstances, clearly has an influence on morbidity. It has an effect on all morbid states that arise from insufficient or deficient nutrition, the development of infectious diseases, cold-related diseases, etc. especially tuberculosis, which is well known as the disease that most seriously affects the working class.

Dr Cruz says in this respect, 'When the conditions of the people are flowering, and housing, nutrition and culture are above the required threshold needed to express its vital characteristics, tuberculosis develops in an endemic form and with low mortality: 7 to 12 per ten thousand inhabitants. On the other hand, when the above conditions are not met, the environment is such that infection progresses, developing and acquiring an epidemic form that brings mortality up to 60 per ten thousand'.

'In Chile, the big differences in morbidity among workers with adequate pay (less than 1% of secondary school teachers, as reported in Professor Sayé's surveys), those receiving low salaries (4%–5% of workers in industries and farmers, as reported in "Seguro Obrero" the Workers Social Security's survey) and, to a greater extent, the relatives that do not belong to an association (10%, based on Dr Sayé's survey), clearly show the excess rate of disease.'

Drs A de Paula and E de Benedetti in their work entitled 'The tuberculosis' clinics (dispensarios) and their current direction' reach the same conclusions with respect to the difference between mortality for tuberculosis among the rich and the working classes. They highlight the fact that general measures towards social improvement automatically lead to a decrease in mortality for tuberculosis.

Dr Manuel De Viado shows mortality rates for tuberculosis among 'Caja de Seguro obrero' (manual workers), the 'Empleados Particulares' (self-employed workers), and those of the 'La Caja de Empleados Públicos y Periodistas' (civil servant and journalists). The percentage of tuberculosis is much higher among the workers than the employees (among other advantages, employees have a minimum wage fixed by the government, while workers do not have legal protection for

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**Table 2** Survey Mardones–Sepúlveda

Salary per U.C.	Weight (kg)		Height (cm)		Ricket thorax (%)	Dental state			School performance (range 1–7)	
	9 years	14 years	9 years	14 years		Compact enamel (%)	Smooth incisor's edge (%)	Tooth decay and missing pieces (t/m)	General subjects	Gym
<1.00	23.5	35.0	122.5	140.0	40.0	36.6	40.0	7.0	3.8	4.0
1.01–1.50	24.5	35.6	125.0	142.0	35.5	41.9	39.0	5.8	4.3	4.4
1.51–2.00	25.2	42.5	124.8	146.0	33.0	49.2	52.2	6.0	5.2	4.5
2.01–2.50	25.8	41.6	124.3	147.8	13.0	55.7	51.5	5.3	5.0	4.3
2.51–3.00	25.0	44.4	123.1	149.0	12.9	57.0	60.3	5.6	5.5	5.3
3.01–3.50	25.3	44.5	124.8	149.3	12.7	62.5	59.5	4.3	5.7	5.0
3.51–4.00	25.6	45.3	125.6	153.3	12.9	61.3	64.5	4.7	5.4	5.5
4.01–4.50	25.7	47.5	125.5	151.5	8.0	62.9	72.6	3.8	6.0	5.8
>5.00	26.6	47.0	127.8	150.0	11.5	71.7	71.5	4.0	6.5	6.4
Nidos Bello	26.0	46.0	126.0	149.5	2.50	97.5	85.0	1.2	6.0	6.6

**Table 3**

	1930	1931	1932	1933	1934
Men	6.64	5.56	5.18	5.21	5.35
Women	2.94	2.59	2.30	3.01	2.62

salary). This can be attributed to the better economic situation of the former group.

Dr José Vizcarra, reported the salary received by 100 men and 50 women randomly chosen and suffering from tuberculosis. Table 3 shows daily dollar amounts received during the previous 5 years.

These results demonstrate that with such miserly salaries the living standard of this social group had to be very low, and their biological defenses very weak.

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## II. Diet

The main part of the worker's income in all countries is spent on food. The special situation of our workers, with salaries not reaching the minimum level, results in people expending almost their entire salary in covering this basic need.

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(The chapter most of which is not translated here shows how Chileans' diet is deficient in all basic food sources, and compares the food consumption in Chile with that of the US and European countries.)

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The assertions presented in this and the previous chapter are summarized in Table 4 where we can clearly appreciate the amount of time needed for our workers, compared with workers in other countries, to acquire sufficient income to buy basic foods such as milk, bread, eggs, and sugar.

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## III. Clothing

### *Clothing, morbidity, and mortality*

We only need to know that food and housing account for between 90 and 95% of the income to imagine the clothing conditions of the workers.

**Table 4**

Units	France	Chile	USA
1 pound of bread	15 min	38 min	6 min
1 litre of milk	22 min	1 h	13 min
1 dozen eggs	2 h 30 min	6 h	55 min
100 g of sugar	35 min	1 h	7 min

**Table 5** (1937)

Caja del Seguro Obrero		Caja de EE.PP.		Caja de EE.PP. and PP.	
n cases	%	n cases	%	n cases	%
1371	16.95	35	7.55	53	12.68

**Table 6**

Cold	10 030
Respiratory diseases	15 200
Total	25 239

Let us consider now the implications of these deficiencies in adequate warm clothing for the health and hygiene of the people. For this we will compare the mortality due to respiratory infections excluding tuberculosis (mainly pneumonia and bronco-pneumonia), among the groups of 'Caja del Seguro Obrero' (manual workers), 'Caja de Empleados Particulares' (self-employed), and 'Caja de Empleados Publicos' (civil servants).

The highest proportion of the above deaths occur among the workers who are the worst protected against changes in the outside temperature and against cold-related diseases, reflecting the important influence that housing conditions also has on these numbers (Table 5).

The number of people who visited and were discharged from hospitals suffering from cold and respiratory diseases excluding tuberculosis was 25 239 (Table 6).

From these, 16 178 took place during winter and spring.

**Table 7** Mortality in Chile and other countries due to cold and pneumonia

	Chile	Germany	Belgium	France	England	Italy	Rumania	Sweden	Spain	Czechoslovakia	EU	Canada	Uruguay	Japan
Cold	13.4	4.1	3.8	1.1	1.4	0.7	0.6	0.1	0.5	1.6	0.4	0.5	0.1	1.2
Pneumonia	44.7	7.9	9.8	9.8	7.3	17.7	28.4	8.2	16.3	12.8	6.9	6.1	9.7	18.2

No denominators are given for these, but they are cold and pneumonia rates.

In addition, it is important to note that 27% of child mortality is due to respiratory diseases, and therefore possibly related to the lack of adequate warm clothing. (Other determinant factors are also, to differing degrees, malnutrition and over-crowding).

Let us compare now the mortality due to cold and pneumonia in Chile with that of other countries with different climates and latitudes (Table 7).

Several of these colds and pneumonias are due to tuberculosis and other diseases. However, considering the important disproportion of these figures, a difference too big to be attributable to tuberculosis remains, possibly due to the direct effects of cold-related diseases.

Exanthematous typhus, is another aspect of the Chilean morbidity and mortality that is closely related to hygiene in clothing. Its transmission agent, the flea, lives mainly in clothes, and the state of people's clothing is one of the main obstacles in the fight against it.

Skin diseases have also shown a great increase. It is calculated that 60 000 school children suffer from scabies, a disease that can result in serious renal disorders. To fight it successfully, clean underwear and bed clothing are needed, which almost none of the affected children have. Lack of personal hygiene in combination with scabies, results in a situation that is impossible to alleviate.

### Third part. The medical problems

#### I. Mother-child

##### *Infant mortality*

Of the problems that affect the mother-child dyad, we will first deal with the facts surrounding infant mortality. The demographics from Chile have the typical pattern of a socially disorganized country, and therefore deserve the most attention.

*Illegitimacy.* In 1938, as reported by the Civil Registry, there were 154 919 live births, of which 42 234 (27.9%) were illegitimate.

The first aspect this problem of illegitimacy entails is a deficiency in physiological resistance, as for the most part, the children of single mothers do not receive the father's economic support. Studying the number of stillborn can corroborate the inequality caused by illegitimacy. Of 8239 stillborn, 48.4% are illegitimate whereas illegitimate births represent only 27% of live births. This is why the Ministry has an interest in developing policies to protect single mothers and to help form normal families among the workers, because this influences the future of the mother and child.

*Mortality.* In 1938, births and deaths were as given in Table 8.

According to this, 50.5 per 1000 of all babies born alive die, that is, there is one child dead for every 20 deliveries, with a progressive and increasing trend: in 28 years the mortality rate increased by 12.1 per 1000, from 21.6 in 1903 to 33.7 in 1931. In the following seven years (from 1931 to 1938), the mortality

**Table 8**

	Number	%
<b>Births</b>		
Alive	154 918	
Dead	8239	
<b>Deaths</b>		
<1 month	15 454	10
<1 year	36 511	23.6
>1 year	77 282	

**Table 9**

Balkan countries and Russia	Denmark and Spain	Hungary	Switzerland	France, Italy and Japan
<10	23	28	25	38

rate per 1000 births increased to 16.8 per 1000, a 5 per 1000 greater increase than the previous period occurring in a quarter of the time.

The rate of increase of such an important demographic indicator increased five and half times compared with the previous period. The causes of this increase are to be found in worsening living conditions and the consequently higher physiological misery of the parents. Other important factors are the increasing number of women working in industrial activities, the higher exploitation they suffer, and the insufficient—often non-existent—protection during their pregnancies. This interpretation can be confirmed by comparing the mortality rate figures birth in foreign countries, per 1000 births (Table 9).

The increased rate can be observed in countries where women have been integrated into industrial production, such as France, Japan, etc.

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#### V. Addictions

We define addiction as the deep-rooted habit of ingesting or injecting substances that give a momentary impression of psychic or biological well-being, which in the long-term result in body injuries and mental disorders that have an influence on health, behaviour, environment and even on the offspring.

Psychologically, the dependency develops in predisposed people through its most common vehicles, alcohol, cocaine or opium and its derivatives (morphine, heroin, laudanum, etc.). This predisposition may be due to the inheritance of weak willed personality, lack of sense of responsibility or lack of strength of mind to confront physical or moral pain. Or, because of early childhood experiences, in education, of affective and moral blows, economic and environmental hardship, or of social inequalities, which produce feelings of inferiority and nonconformity in some

complex individuals and seem to them impossible to face without artificial means such as alkaloids and alcohol.

Cocaine, morphine and derivative, and other substances, encapsulated in the generic term of alkaloids, is a type of addiction that originates in particular individual and social circumstances. It is generally observed in the bourgeoisie and aristocracy. We will rarely see a worker addicted to cocaine or morphine; when it happens, it is usually when an addicted person of the high social strata has not only initiated but also maintained the worker in the habit.

People from the bourgeoisie, but especially those from the aristocracy, are the usual worshipers of alkaloid dependencies. Among them, the individual factors—lack of will, irresponsibility and fear of life—take intellectualized and imaginary characteristics that meld with the type of excitation, or false vitality the alkaloids provide.

On the other hand, alkaloids are expensive and illegal substances. The need for an illegal organization for their trade makes them even more expensive. Only people with large economic resources can afford to initiate into the brotherhood of alkaloidism.

Most never confess their habit, which is illegal, and the acquisition and consumption of drugs is associated with shame. Almost all users lie about the dose and level of addiction, making its control, treatment, and documentation difficult with the tools currently available.

The worse side of addiction to alkaloids is the proselytizing eagerness of the addicted people and the relationship it has with prostitution, alcoholism, and crime, as drugs and the need to get them at any cost destroy any sense of social responsibility and personal respectability in the addicted. For the same reasons, family organization and children's education, as well as the mental inheritance of the offspring, are handicapped when the father or mother is addicted.

#### **Alcoholism**

Alcoholism is defined as voluntary intoxication through ethyl alcohol consumption. It can be acute or chronic. Kopelin says the person who ingests a new dose before the effects of the previous one are over becomes alcoholic.

Dr Germinal Rodríguez, Professor of Hygiene in the Faculty of Medicine of the University of Buenos Aires, emphasizes the effect of cumulative small doses and estimates that for a healthy individual, of average weight, doses higher than 40 g of pure alcohol in 24 h are sufficient to have a pathological effect. Therefore, people who have never been drunk can also be alcoholics, making the number of alcoholics much higher than the number of intoxicated (drunks).

However, in Chile, we can clearly affirm that the burning problem is of alcoholic intoxication and not of alcoholism, as we will prove with the data.

Last year, 44% of the total number of people arrested was because of alcohol intoxication. This relation is more or less constant throughout the years as shown in Table 10.

We can add that among 138 000 persons arrested because of alcohol intoxication in 1938, 15 162 were also charged with having committed bodily harm.

In the same year, of the 137 963 criminal offences dealt with in the Tribunals of the Republic, 45 171 were related to intoxication-related crimes, and 29 563 were for illegal acquisition of alcoholic drinks.

**Table 10**

Year	Total number of arrested	Arrested for alcohol intoxication
1935	251 452	104 138
1936	274 105	117 991
1937	327 927	147 718
1938	314 560	138 607

**Table 11**

	Litres
Wine	355 000 000
'Aguardiente' (brandy)	1 052 000
'Pisco' (grappa)	648 000
Distilled liquors	2 199 000

**Table 12**

Wine	77 litres
'Aguardiente' (brandy)	830 g
'Pisco' (grappa)	140 g
Distilled liquors	500 g

To confront these discouraging figures on alcohol intoxication among the people in this country, we must examine the statistics on production and consumption of alcoholic drinks per inhabitant.

Wine and other alcoholic drinks production in 1937 was as shown in Table 11.

The per capita consumption in that same year, according to previous production, was as shown in Table 12.

This gives an overall consumption of 78 litres, per inhabitant per year; the equivalent of 9 litres of pure alcohol.

Comparing these data with the consumption per inhabitant per year in countries such as France, Germany, Spain, and Italy where it is much higher, we have to conclude, as previously stated, that our problem is not of alcoholism, but of alcoholic intoxication.

#### **Causes of alcohol intoxication in Chile**

The individual or pathological causes existing in all countries, such as spirit of imitation, lack of culture, dipsomania, and mental degeneration, are insignificant in Chile compared with the social causes, which we briefly explain here.

In the previous chapters we gave an approximate picture of the wretched living conditions of individuals and communities in Chile. We saw how salary, significantly lower than the minimum needed to live, does not provide for the necessary clothing, obliges people to live in inadequate, unhealthy and, inhospitable housing, and only permits insufficient food intake to obtain the minimal caloric energy necessary to compensate for the energetic expense of the body. Add to this the demanding job the workers face, together with the lack of entertainment, and you will reach the conclusion that for a worker to go to the canteen and become drunk is the only apparent solution to these problems. The canteen is light and warm with friends who cheer him up and allow him to forget the miseries at home. As Dr Hugo Grove very well expresses,

alcohol for the Chilean worker is not a stimulant but an anaesthetic that allows him to overcome the exhaustion of his body.

#### *Effects of alcoholism and alcohol intoxication*

This is not an opportunity to insist on the moral consequences of alcoholism, acute or chronic, in the individual. We do not think it necessary to present here how this vice affects the general production of the country, owing to the time the affected person has to stop working. We want to expose only how alcoholism affects morbidity and mortality indicators.

Referring first to chronic alcohol intoxication, we can highlight its direct consequences to gastric, hepatic, and nervous disorders (alcoholic paralysis) that can become alcoholic dementia.

The demographic yearbook of Chile corresponding to 1937 shows that from a total of 109 795 deaths, 403 were due to hepatic cirrhosis and 142 due to acute alcoholism; 130 among men and 12 among women. Under the category where delirium tremens is included there were 75 deaths in 1937.

Alcoholic intoxication, especially the acute type, plays a predominant role in another area of general morbidity and mortality, that is, in accidents.

In 1937, there were 4850 accidental deaths in the whole country, of which 381 were suicides; the 4500 remaining deaths were homicides, acute poisoning, burns, drownings, trauma, etc. According to the observations of Primary Care (Asistencia Primaria) and the hospitals, up to 90% were originally related to a state of alcohol intoxication, either by the person injured or by the person responsible for the accident. The number of visits for this reason to the hospitals of the Republic reached 22 665 in 1937, with 958 deaths.

As the number of deaths due to intoxication is five times greater than deaths occurring in hospitalized persons, it is logical to estimate that the total number of injured in the country is almost five times greater than the hospitalizations; bringing the number of accidents in that year to more than 100 000. This is a conservative calculation as we assume that only the most severe accidents reach the hospital. In summary, the most important component of alcohol pathology is accidents.

We have already referred, in the chapter about clothing, to the high percentage of pneumonia in our country. It is well known by clinical observations that alcoholic intoxication is the most frequent contributory cause of pneumonia. When studying morbid effects of alcohol, it is also necessary to refer,

**Table 13**

Embriaguez maxima (Maximum intoxication), 38 (3.3%)
Embriaguez mediana (Medium intoxication), 241 (21.2%)
Achispados (Merry), 351 (30.8%)
Sobrios (Sober), 509 (44.8%)

to the association between intoxication, so frequent in our country, and STD transmission. In this sense, we cite as an example the results of an inquiry about the state of sobriety of those who visited the center 'Profilactorio Antivenereo' (STD clinic) of Iquique. Table 13 provides data for 1139 people treated since May 1938.

The proportion of people with a certain degree of intoxication reaches 56%, and this is likely to be underestimated, as only people who have not completely lost control of their behaviour and who have a higher cultural level were reaching the centre.

It is also important to note that often conception takes place in a state of intoxication, at least on the father's side. The effects of acute and chronic alcoholic intoxication on the unborn child are well known. The alcoholic inheritance determined by the toxic influence on the parent's reproductive cells can be distinguished in physical characteristics, with dystrophias and even monstrosities. The mental characteristics to note are mental retardation, idiocy, moral weakness, tendency to neurosis (hysteria, epilepsy, dipsomania, etc.).

Dr Grove reported to the Senate in 1937 the following results:

- Among 219 children of parents who were occasional drinkers, 2.3% inherited a trait.
- Among 130 children of parents who were moderate drinkers, 4.6% inherited a trait.
- Among 67 children of parents who were habitual drinkers, 9% inherited a trait.
- Tuberculosis has greater effects among children of alcoholic parents. As reported by Knopf, 8% of children of parents who drank occasionally had tuberculosis; 15% of children of regular drinkers had tuberculosis; and 21% of children of confirmed drunks had tuberculosis.

The figures given in this chapter prove the substantial influence of alcohol intoxication on the country's morbidity and mortality, and, consequently, the seriousness of this problem for the Government in its commitment to improving the nation's health.