

Chapter 8

Garbage, Industry, and the 'Vultures' of Cali, Colombia'

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There is no sight that so impressively advertises the existence of poverty as does that of the garbage picker at work. If anything represents the employment and income problems of a 'developing' economy then it is Mayhew's (1861) 'bone grubbers' or Cali's 'vultures'² as they sort through what other people have chosen to throwaway. From what little has been written about these people, and *H* is indeed little, it is clear that most observers have been strongly of the attitude that garbage pickers are a hopelessly poverty-stricken group who are scratching out a meagre existence from the crumbs of the richer man's table. Indeed, Koji Taira (1969: 163) concluded that: 'Rag picking is on the borderline between employment and vagrancy'.

But what is strange is that we tend to look at this occupation as an expression of poverty and not as a cause of it. We see the garbage picker as being forced into this activity by the lack of opportunities elsewhere in the urban economy, whilst we tend to forget that he *is* working. As Gareth Stedman Jones (1971: 63) commented on the bone grubbers in nineteenth century London: 'In the absence of any solution to failure, sickness or old age, except the workhouse, the London streets abounded with the most pathetic and gratuitous forms of economic activity'. We have been more interested in the fact that the garbage picker is *not* working in something else, rather than in looking at why he is poor, and how his present activities contribute to that poverty. What we have failed to do is to stop and look at the reality of the situation. The purpose of this paper is to suggest that rather than view the garbage picker as a vagrant who should really be working in a factory, we should see him as a worker who is part of an industrial system, and furthermore that it is often not possible for him to be working in 'something else' because there is no something else available to him.

The contents of this paper are based on a case study in one Colombian city, and are intended to answer two major questions: how have the garbage

pickers inserted themselves into the urban economy, and what are the relationships between garbage pickers and the urban economy? In attempting to answer these questions I am attempting to answer the more general question of why garbage pickers are poor. But it is only a partial answer, based upon an analysis of the structural factors that limit the possibilities which the garbage picker has to accumulate money. The more difficult problem of whether such people maximize their opportunities is largely left on one side.

The fieldwork that forms the basis of this study was carried out in Cali during the latter months of 1976, and descriptions in the present tense refer to that period. Statistics, where they exist, are hard to obtain, and where they do not (as in the majority of cases) take a long time to compile. This problem is compounded by the natural suspicions of all concerned, and a general unwillingness to talk about matters so close to the heart as money. Thus the following material is largely based on informal discussions with those individuals willing to talk, and is mostly presented in the form of a case study of one section of the garbage recycling business.

Cali - Recent Development

The city of Cali presents many of the problems found in other Third World urban economies. It lies on the edge of the fertile Cauca Valley in Western Colombia - the richest agricultural region in the country, famed for its production of sugar cane. Until the early Twentieth Century its growth was very slow, but a number of factors combined to bring about some fairly rapid changes. In 1910 the city was named as the capital of the new Department of Valle, and in 1915 the railway arrived, linking the city with the port of Buenaventura to the west. To some extent Cali has grown on functions that should have been in Buenaventura, but since 1945 there has been quite impressive industrial growth focused on an expanding national market. The main industrial area lies to the north of the metropolitan area, and it would seem that industries are attracted to Cali by the relatively well-developed infrastructure and by the proximity to Buenaventura. This economic development has been accompanied by rapid population growth, from an estimated 25,000 in 1905 to 923,466 in 1973 (OPM, 1971; DANE, 1975). The most rapid population growth came in the 1960s, and Cali is now Colombia's third city in terms of population and economic development, with important contributions to the nation's industrial production in the fields of paper, non-ferrous minerals, rubber products and electrical machinery. Table 8.1 shows the occupational structure as of March 1977.

At the same time Cali was officially said to have an unemployment rate of 11.5% (DANE, 1977: 25). The city has the same kind of labour market development that is found elsewhere - relatively large numbers of people

Table 8.1 Employment by Sectors, Cali, March 1977

Sector	Population	%
Total working population	350,535	100.0
Agriculture	3,376	1.0
Mining	711	0.2
Industry and manufacturing	105,815	30.2
Electricity, gas, water	3,932	1.1
Construction	20,433	5.8
Commerce, restaurants, hotels	90,022	25.7
Transport	18,652	5.3
Financial establishments	12,183	3.5
Commercial and personal services	94,314	26.9
Other	1,100	0.3

Source: DANE (1977:34).

working in small-scale enterprises that generally operate outside direct government control.. These occupations range from small artisan establishments to a whole range of personal services, petty trading and small-scale transport, and within such low income opportunities must be included the garbage picker.

Recuperative Activity

It is very clear that recycling is more than anything else a question of economics. If an article of the required standard can be provided by recuperating it from waste materials at a cheaper price than by using new raw materials, then there will be a market for that waste material.. Hence where raw materials are expensive and in short supply, the incentive will be to use recuperated materials. On the other hand, if raw materials are cheap and plentiful then there will be little demand for substitutable wastes. This law holds for any kind of recuperative activity, and in Cali these are varied. Such variety springs from the different sources of generation of waste and the different points of consumption, plus the different methods of transferring it from generator to consumer..

It is worthwhile analysing the recuperation of wastes in a historical framework, since this highlights some of the processes of change that have been taking place in the recycling system. 'Historical framework' is perhaps a grand phrase to use, given that we can only really reconstruct the happenings of the last 25 years, and this based upon the stories of various people involved. Nevertheless such oral history serves to remind us that the garbage picker is part of a system which appears not to be static, but to be increasing in scale and organization.

There are three major sources of solid waste in Cali: domestic, industrial, and commercial, and of these the only generator that is easily quantifiable is the domestic system. On average the municipal authorities collect and dump 400 tons of household waste per day,³ a figure which is rising, not only because of increasing population, but also because of improved standards of living and new packaging systems. It is quite likely that some materials have always been recuperated for use again, and in this sense one can think of the shoes, clothes, bottles, tins, household ornaments and even food which find their way into low-income households. Certainly those who have worked in garbage picking for 20 or 25 years relate how in the early days they dedicated themselves to the search for cutlery, jewellery, and other articles such as those mentioned above, which were sold to second-hand goods dealers in the centre of Cali. At this time or slightly later, one imagines that the recuperation of materials for use in small-scale industry started up. Large tins are used to make charcoal stoves, bottles are used in small cosmetics laboratories, and old cloth goes to the small mattress factories. Both of these types of recycling activity would appear to have increased with the general increase in population, but they have been overshadowed by the growth of recycling for industrial raw materials. Such growth has, of course, been related both to the development of industry, and to the movement upwards of prices for raw materials. We shall explore these trends in more detail below, and here it is sufficient to note that the industrial development has been postwar, and has related to paper, steel, animal foods and cosmetics, with a recent increase in the number of plastics firms. Associated with the growth of this raw materials market have been changes in the organization of recycling, and such changes are best considered by an analysis of the different types of recycler.

Some waste is produced and consumed directly within the same establishment, be it a factory or house. The producer and consumer are thus one and the same. Apart from this consumption pattern, there are two agents at work who transfer waste from producer to consumer. The first is the garbage picker, and as such this agent has existed for the longest period of time. The second is the recycling company, which is a capital-intensive concern, which tends to link large-scale industrial and commercial waste producers with those enterprises interested in buying the recuperated materials. In this paper the term 'garbage picker' refers to those individuals who work in public places recuperating materials from the city's garbage. I thus exclude housewives and domestic servants, who may keep the household newspapers to sell at some opportune moment, and those large-scale enterprises that deal in the buying and selling of waste materials. The garbage picker is the most visible component of a larger system, characterized by the sacks that he carries with him, and quite often a small handcart as well. It is important to emphasize that the garbage pickers are not employees of the municipal garbage collection department — the Empresa de Servicios Varios

(EMSIRVA). The latter has a fleet of 50 trucks and its own workforce which assume responsibility for the collection of garbage throughout the city. In addition EMSIRVA concerns itself only with the dumping of garbage, and not its recycling; although this position may change in the future.

With the growth of the market for recuperated raw materials the capital-intensive companies have not only devoted themselves to industrial and commercial wastes, but have also had their eyes on domestic wastes. Such domestic wastes are the most difficult to subject to capital intensive processes of recuperation, given the great mixture of materials that they contain. Table 8.2 gives an idea of the relative amount of recuperable solids in a sample of Cali's domestic garbage.

Because of this mixture of materials, domestic waste has been left to the garbage picker, but at least two possible types of 'modernization' have been envisaged. The one is simply to increase the use of equipment by garbage pickers; i.e. to give them tools for work, such as vehicles for separate household collection of recyclable wastes, and conveyor belts and compactors on the garbage dump or in warehouses. This would almost certainly reduce the number of job opportunities in garbage picking. The other possibility is to do away with garbage picking as an occupation and install a processing plant or incinerator at the garbage dump. This would please some of the foreign salesmen who seem to be continually pestering the municipal authorities to buy such a plant. This is not the place to discuss such possible changes in detail; rather the aim is to depict the garbage picker's work possibilities at the present time, to show how he is dependent on the lack of technical changes in the recycling business, and to demonstrate that if modernization were to come the garbage picker would not be able to participate, through his lack of access to the means of production - the garbage itself, and the capital necessary to

Table 8.2 Composition of Domestic Garbage, Cali

Material	%
Paper	16.0
Metal	2.0
Cloth	3.0
Plastic	1.4
Wood	0.7
Glass	2.0
Bone	0.3
Organic	74.3
Other	0.3
	100.0

Source: Gomez.

technify its recuperation. Even if recuperation becomes more important, the garbage picker may well play an increasingly residual role in the system.

For the present, however, the largest percentage of potentially saleable garbage is collected and started on its way by the garbage picker, and the largest percentage of the garbage picker's production is destined for the large factories. The garbage picker recuperates mainly from domestic waste and secondarily from some commercial establishments and the occasional small-scale industry. It is of interest to look at the materials he recuperates, his methods of work, and, most importantly, his socioeconomic characteristics, in order to understand the nature of his poverty a little more precisely.

The Garbage Picker

There is no precise figure for the number of garbage pickers in Cali. This is partly because of their lack of enumeration in official statistics, partly because it is very difficult for the researcher to enumerate them in their widely dispersed workplaces, and also because the number of pickers seems not to be constant but to fluctuate seasonally. Some kind of estimate can however be attempted. The largest group of garbage pickers found in Cali are those who go to work each day on the municipal garbage dump, which is located by the banks of the River Cauca on the eastern edge of the city. Here the fifty garbage trucks arrive on average twice a day to dump what they have collected, and the garbage is then used as 'sanitary infilling' to raise the level of the river bank. Some 400 people spend their day clustering around each truck as it arrives, or wandering over the dump, in search of whatever saleable materials can be found. Working with sticks and sacks they collect a variety of wastes and later sort them at the side of the dump before selling them. A second major group are those who work in the streets of Cali in conjunction with the routes taken by the municipal garbage trucks. Once the garbage cans have been brought out of the houses, and in the few seconds before the truck arrives, these garbage pickers take out what they can. Each truck tends to collect an average of six people working in front of it as it moves along, and hence there are at least 300 of these pickers in the city. Finally there are those who work with no relation to the garbage collection system at all. Some of these work in the city centre collecting paper from the numerous shops and offices. Others work with carts and collect a more narrow range of materials, often having to buy them. They generally collect bottles, newspapers and certain kinds of scrap metals - articles which would lose their value if thrown into the garbage - and they can be seen wandering through the richer residential neighbourhoods of the city, shouting as they go. The size of this group is the most difficult to estimate, but it would seem that their number is between 500 and 1,000. Thus Cali has anything from 1,200 to 1,700 garbage

pickers, which means that it is not the largest low income occupation by any means. Garbage picking would seem to be roughly equivalent to shoe-shining in numerical importance (cL Wyon, 1976). We must of course remember that the number of people who depend upon the income derived from garbage picking is of the order of five to ten thousand.

However, the number of garbage pickers can change quite rapidly. To be sure, there is a nucleus of pickers who always work in that activity, some for a good number of years. It is no rare occurrence to meet a picker who has worked as such for 20 or 25 years. On the other hand, because of the relative ease of entry into the occupation— it requires little capital or skill— there are many people who go into garbage picking for short periods. This varies from the vagrant who devotes the odd day to collecting scraps of paper, to the person who normally works in some other trade but for some reason has had to leave it on a temporary basis. Street sellers of fruit, for example, may find that their supplies came to a halt at certain times of the year, and thus will take to garbage picking for a few days or weeks until the situation returns to normal.

Table 8.3 gives a little more insight on the long term trend in the number of pickers. This was compiled from interviews with a number of garbage pickers. It can be seen that there is a relatively high proportion of pickers who have entered the occupation within the last three years. Leaving aside the very temporary workers, what has caused this would be very difficult to say. Part of the increase has come as a result of the general worsening of problems in the Colombian economy. Important also is the fact that prices for waste materials have increased relatively rapidly in the last few years as the demand for such materials has risen. This has therefore attracted more people into the occupation.

Table 8.3 also allows us to glean some information on other aspects of the garbage picker. Given the impossibility of employing a rigid sampling frame in a study such as this, too great a weight should not be placed on these statistics. Notwithstanding, certain interesting features can be drawn out. Firstly, the age distribution of garbage pickers is relatively wide, including a substantial number of children, who are either homeless or forced to work to help the family budget. The relatively large proportion of young people amongst the garbage pickers helps to explain the almost equal division between migrants and non-migrants. Secondly, over half of the garbage pickers have never gone beyond second grade primary school in their education, and hence can barely read or write. This low educational level is of course another reflection of the lack of funds for education within the household, and the necessity of sending children out to work at a relatively early age. The poverty of the garbage pickers is also strikingly shown by the high percentage living in rented accommodation (usually a single room) either in the city centre or in the peripheral squatter settlements.

Table 8.3 Socioeconomic Characteristics of Garbage Pickers and Employees in the Steel Works and Municipal Hygiene Department, Cali

	Garbage pickers	Steel works/ Hygiene Dept.
Total number of interviews	37	26
% Male	86.5	96.0
% Female	13.5	4.0
Age Distribution (%)		
0-5 yrs	21.6	0.0
16-30 yrs	32.4	23.0
31-45 yrs	40.0	73.0
45+ yrs	5.4	4.0
Birthplace (%)		
Cali	55.4	8.0
Outside Cali	44.5	92.0
(Av. no. yrs. residence immigrants)	20 years	19.4 years
Marital status (%)		
Single	67.0	11.5
Consensual Union	13.5	26.9
Married	13.5	61.0
Widowed	5.4	0.0
Residence (%)		
Nothing	12.9	0.0
Rented room(s)	61.0	15.0
Rented house	6.4	26.0
Own house	9.6	53.0
Other	9.6	4.0
Length of time in job (%)		
0-3 yrs	44.0	38.6
4-6 yrs	14.7	34.0
7-~ yrs	2.9	11.5
10+ yrs	38.0	15.0
% with additional income	37.0	30.0

For comparison, the results of some interviews carried out amongst the lowest paid workers in Cali's steel works and in the municipal garbage collection department⁴ have been included. Not only are the differences between garbage pickers and the other group quite large, but they are compounded by the possibilities open to the latter workers to improve their educational level or to get their own house through various company schemes. Hence although the garbage picker may earn as much as the low paid industrial worker he is in a very different situation. The overwhelming majority of pickers apparently do not work for anyone except themselves.

Family concerns or the employment of helpers are comparatively rare occurrences. Thus the form of payment is almost exclusively according to the amount of material collected. In short garbage picking is piecework, and the income is both low and variable. Much depends, of course, on the abilities of the individual picker and the length of time that he is prepared to work each day, but incomes generally range from 35 to 100 pesos; with an average of something like 70 pesos. If anything, the majority of the garbage pickers earn less than average and are on a par with the government's minimum wage of 62 pesos per day. But those who are covered by government labour legislation such as the steel workers and garbage collection employees, are not only assured of a fixed and regular income, but also get social security payments and a whole variety of other benefits which add 30 to 50% to their wages. There is a world of difference between the garbage picker and the industrial working class.

The types of material that are recuperated by the garbage picker are varied. The largest volume consists of paper and cardboard in its infinite variety of forms. This is processed to make a number of products such as tissues, cardboard and asphalted cardboard roofing tiles. The price paid to the picker for such material is generally between 1.00 and 1.50 pesos per kilo. Metals are also important, particularly scrap iron and steel (2.20 pesos per kilo), but also copper, bronze, aluminium or lead. Most of these materials find their way to one of the foundries, or to Cali's steel works, on the north side of the city. Bottles (0.05-.60 pesos each) are a third major recuperated product, and perhaps the biggest single consumer is the state-owned liquor factory in Cali, but substantial proportions also go to other drinks factories and to laboratories and cosmetics firms. Bone (2.80-3.00 pesos per kilo) is taken from the garbage and is almost the only source of bone for one section of the animal food industry, since it is dry enough to be used in the ovens. Plastics (3.00-7.00 pesos per kilo) are a fast growing market for the waste business, but the limiting condition is that the material must be clean. Many small plastics firms in Cali and elsewhere rely upon this source of raw materials.

We now have some idea of the characteristics of garbage picking. Whilst it is clear that people can and do move into and out of garbage collection, and that the occupation may well perform the kind of 'buffer function' against extreme absolute poverty suggested by Keith Hart (1973), there are also people who work in garbage picking for long periods of time, and the aim of the subsequent discussion is to examine how the nature of garbage picking as an economic activity contributes to the poverty of those individuals engaged in it. It has already been pointed out that the garbage picker is overwhelmingly dependent for his markets upon large-scale industrial concerns. The explanation for part of his poverty must therefore lie in the nature of his relationship to that industry. What follows is an attempt to illustrate the economic structure of the waste recycling business in a more detailed manner,

and given the predominance of waste paper within the range of materials that are collected, that sector of the business has been singled out as a representative case study.

Waste Paper and the Paper Industry in Cali and Other Parts of Colombia⁶

The paper industry has been one of the fastest growing of all Colombian industries, in terms of real added value the annual rate of growth between 1958 and 1969 was 19.5% - the highest for any Colombian industry - followed by basic metals (16.7%) and electrical machinery (14.5%) (FDVCVC, 1976). At the same time, Cali's paper industry represents the largest concentration within the country. In 1974 that city had 57.4% of national production. 55.4% of value added, and 40.8% of employment in the paper industry - employing 4,426 people in the factories, and producing goods to the value of 4,300 million pesos (DANE, 1978).

Despite its rapid development, the paper industry still does not supply all of the country's needs, and in 1973 the country had to import 25% of its consumption in paper products, including 100% of its newsprint (INDIRENNCANADA, 1976). In addition the country is not self-sufficient in raw materials, and has had to continuously import long-fibre softwood pulp from Canada, Scandinavia and Chile. The prices of imported pulp have escalated rapidly (between 1972 and 1976 they rose by 150%) and the price is now between 16,000 and 23,000 pesos per ton according to quality. The Colombian paper industry has, however, made considerable economies in its raw material supply utilizing a short-fibre pulp developed from homegrown tropical woods and *bagazo* (sugar cane waste), and this pulp now represents some 80% of total pulp consumption. Despite the fact that the cost of short-fibre pulp is about half that of imported long-fibre pulp, being of the order of 9,000 pesos per ton, some consumption of long-fibre pulp is essential, and further economies have been made using waste paper.

Waste paper can be recycled several times before its fibres totally disintegrate, and the uses to which it is put are varied. As I have noted above, production tends to concentrate on tissues and toilet rolls, various kinds of cardboard, and asphalted cardboard roofing tiles. Factories distinguish up to 14 varieties of waste paper, ranging from high quality white paper through cardboard to *mixto* - low quality paper of various kinds. The prices for these, which are set by the factory, vary from around 5,000 pesos per ton for the best quality waste paper, to 2,000-2,500 pesos per ton for cardboard and 1,500-1,800 pesos per ton for *muro*. Clearly waste paper is a substantially cheaper source of raw materials than any pulp. For this reason it is used as extensively as possible in processing, and the demand for waste paper (apart from occasional problems with *mixto*) is usually unlimited. Hence it is not

surprising that waste paper now represents an appreciable proportion of national raw material needs in the paper industry.

In 1974 waste paper provided 33% of raw material requirements, equivalent to 112,000 tons: 22% of this came from a variety of international sources- street collection in Panama, waste cardboard from the United Fruit Company in Central America and Ecuador, and even from Miami, USA; the other 87% came from within Colombia. Various executives in the paper business have estimated in conversations with the author, that some 60% of Colombian waste paper comes from the garbage pickers, which suggests that throughout the whole country they provide 52,500 tons of waste paper per year, i.e. 16% of national raw material requirements. By any standard, the garbage picker is of importance to the paper industry.

In Cali itself something like 25,000 tons of waste paper are collected each year, of which 15,000 tons comes from the garbage pickers. The link between the garbage picker and the factory is clearly seen. How is it that we are to understand the poverty of the garbage picker? The answer lies in the fact that he works for the factory but is not employed by it. In order to comprehend this more fully, and to look at its implications for the garbage picker, I will use the example of Carton de Colombia, one of Cali's paper and cardboard factories.

Carton de Colombia: Hierarchies of Employment and the Employment of Hierarchies

Carton de Colombia is not only the giant of the Colombian paper industry, but also a classic example of foreign penetration in Colombia's economic development. Founded in 1944 in the city of Medellin, the company was largely sponsored by money from the USA, today mainly in the hands of the Mobil Oil Company. The first paper mill was built in 1947 in Cali, and since then there has been a steady expansion of plant, not only in Cali, but also in the cities of Barranquilla, Bogota, Medellin and Apartado. 1976 saw the termination of a 350 million peso investment in a new pulp, paper and cardboard plant in Barranquilla (Carton de Colombia SA, 1976). Over half the personnel, plant and production of Carton de Colombia, however, are located in Cali. In addition there are two subsidiary companies, one to run the pulping plant, also in Cali, and the other to manage the forestry reserves that Carton de Colombia possesses. In the late 1960s new laws relating to foreign ownership reduced the share of US capital in the company and brought about a changeover of management to Colombian personnel. But US capital remains as the major, if not the majority, shareholder. The company is, of course, run in a capital-intensive way using the most modern imported machinery and employing highly skilled operators. The continuing link with

the exterior is symbolized by the constant inclusion of new English words into the technical vocabulary, not only of the factory, but of the whole waste paper business as well.

Carton de Colombia uses about 5,000 tons of waste paper per month, 80% of this being consumed in Cali.⁵ Its system of collection is typical of all other paper factories. The waste paper is not bought directly from the garbage picker, or from other industrial and commercial establishments, but from warehouses. These warehouses are paper collection and sorting businesses and are technically independent, operating only under contract to Carton de Colombia. The contract states that, with minor exceptions, all waste paper will be sold to the factory, and specifies at what price. In addition the company provides the necessary packing machines, each of which represents an investment of about half a million pesos, and it may also provide the warehouse manager with a loan to cover his operating capital of one or two million pesos. Many of these managers have previously worked within Carton de Colombia and thus benefit from their experience, plus the not insubstantial leaving pay, in setting up as an independent contractor.

The functions of this 'central warehouse' are determined by the requirements of the factory. Waste paper is bought from smaller warehouses, from industrial and commercial establishments, and occasionally from the garbage pickers themselves. It is classified into 14 separate categories, compressed, packed, and transported to the factory. Carton de Colombia has 19 of these contracted warehouses in Colombia - one in each of the major cities including Cali. What is interesting is that, as in nearly every other branch of the waste materials business, the organization is a national one. Hence the waste paper consumed in Cali is the product of waste collection throughout the whole country, and likewise the garbage pickers of Cali are part of a national system serving factories in Bogota, Medellin, Barranquilla, Cali and other industrial areas. This system is partly fostered by the need for fairly specialized raw materials in large quantities, but mainly by the lack of rationalization of waste paper collection consequent upon heavy competition in the business.

The central warehouse in Cali is a large economic concern. It has a daily movement of around 23 tons of waste paper, has four packing machines and employs between 70 and 80 people in three daily shifts working six days per week. This workforce is stable both in numbers and composition, being paid in accordance with the dictates of Colombian labour legislation. There are thus many similarities in the economic organization of the central warehouse and that of the factory, although the former is more labour-intensive.

A great deal of waste paper that arrives in these large warehouses, especially that which has been collected by the garbage pickers, comes by way of what are called 'satellite warehouses'. The Cali warehouse is fed by 18 of these, and they are organized under one of two systems. Six of them are called

'direct warehouses', since they are directly owned and run by the central warehouse, using the latter's personnel and working capital, and paying according to prices fixed by the same. The other 12 are 'indirect warehouses' and are run on a much more informal basis. The central warehouse has no contract with them and there is merely a verbal agreement to buy. This agreement can be, and frequently is, annulled, most usually by the central warehouse because it is dissatisfied with some aspect of the indirect warehouse's service. In return for buying the paper from the indirect warehouse the central warehouse usually pays part or all of the rent of the patio or garage that these small establishments occupy, and may often help out in hard times with a loan to cover the cost of buying material..

These satellite warehouses are distributed around the poorer residential districts of Cali, in order to increase the catchment area for waste paper, and they are much smaller scale operations than the central warehouse. They generally buy about one ton of paper per day, and since they sell to the central warehouse on a daily basis, need a working capital of only two or three thousand pesos. In these small warehouses the paper is classified into two or three different types and packed for shipment to the central warehouse. There is no machinery here, nor transport, the latter being usually provided by the central warehouse. The workforce is small, usually about half a dozen people, and fluctuates on a daily basis according to the volume of paper received. The worker is paid 40 or 50 pesos per day, and perhaps given lunch too. He has little job stability, nor does he appear to desire it.

Such satellite warehouses buy waste paper almost entirely from the garbage picker. The latter usually arrives every afternoon and the material is weighed and paid for accordingly. The garbage picker must classify his material into *mixto* and cardboard, and the average person brings in between 50 and 60 kilos of material per day. Each satellite warehouse has about 20 garbage pickers who regularly sell waste paper to them. As in the central warehouse, there is no single price for any material, but rather it varies according to who the client is, the regularity with which he sells material to the warehouse, the quality and quantity of that material, and within this, the bargain struck between buyer and seller. One satellite warehouse manager commented that there can be as many as 10 different prices for the same type of waste paper.. The top price is always set, however, according to the price paid by the next buyer of the material, be it the factory or the central warehouse, and the warehouse manager always includes a generous cost and profit margin in any calculation.

The satellite warehouse therefore represents a much smaller scale and less formally run enterprise than the central warehouse. It is also in more direct contact with the garbage pickers, none of whom are employed by it. As economic concerns they at times give a higher rate of return on capital investment than the central warehouse. One of the biggest satellite

warehouses, which at the most uses a daily capital sum of 4,000 pesos - 3,000 in purchasing material and 1,000 in running expenses - gives the manager a daily income of 700 pesos when business is favourable, putting him higher in Cali's income scale than most planners and university professors.

The satellite warehouse may not be the last link in the chain between the garbage picker and the factory. In several cases there are intermediaries, sometimes with trucks, sometimes with a small warehouse, and sometimes with nothing but a small sum of capital, who make a living by buying and selling paper. These operations are frequently carried out by part-time garbage pickers who do a little buying on the side.

What has been described here is a hierarchy of intermediaries that link Carton de Colombia and the garbage picker. The word hierarchy must be used with some caution since the word may be interpreted as meaning that the waste paper passes from the picker at the bottom, through the various buyers to the factory at the top. This is not always the case, since the garbage picker can sell to anyone of the three buyers below the factory, although as has been shown, he mainly sells to satellite warehouses and any other small buyers. In addition, to describe the system as a hierarchy may give the impression of stability when the reality is very different. Although the levels within the hierarchy are stable, the composition of each level can change quite rapidly. If the factory is dissatisfied with the work of its contractor in the central warehouse, it can terminate his contract and replace him. Likewise there are frequent changes in the satellite warehouses, owing to the problems of quality control, or to the fact that the satellite warehouse begins to divert its waste paper to a factory that is paying more for the material. The general result of these processes is a shuffling of the links between factories and warehouses within the city. Businesses do not fold, they continue under an agreement made with someone else. Similarly, although there is a regular nucleus of garbage pickers who sell to a particular warehouse, the pickers often get dissatisfied with the prices in one warehouse and begin selling elsewhere.

Nevertheless, the essential characteristics of a hierarchy remain, with each level differentiated by the size of economic unit, from the individual garbage picker up to the factory. At the same time, although the route by which the waste paper arrives at the factory can vary greatly, it always passes from a smaller economic unit to a larger one (see Figure 8.1).

A question which springs to mind is the following. If most waste paper collected by the garbage picker is consumed by Carton de Colombia, why does the latter have no direct relationship with him, such as by employing him? In addition it would seem logical that the development of a waste paper section within the company should stabilize the collection systems and assure the required volume of materials. Instead we see a system of collection

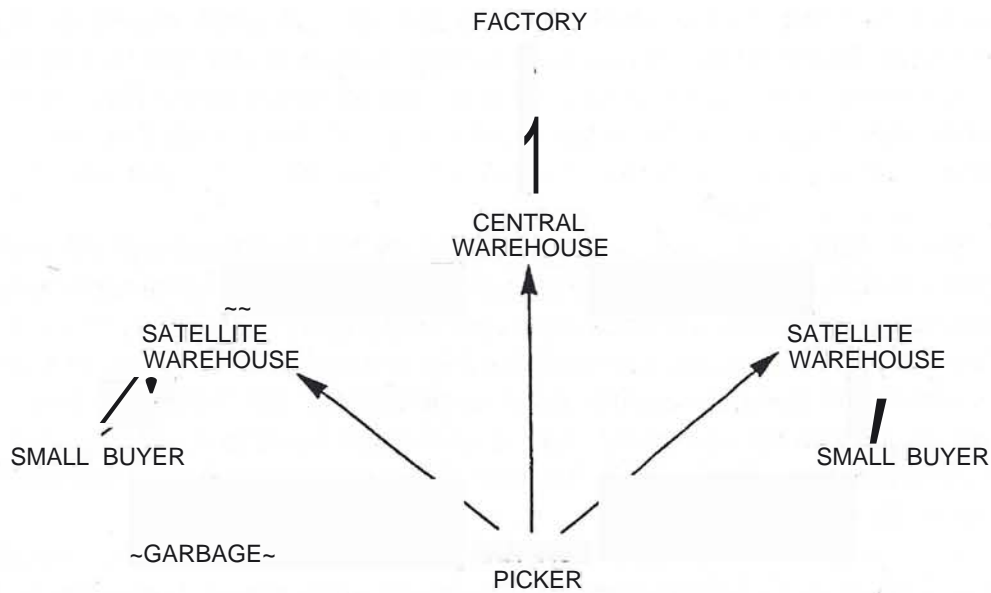


Figure 8.1. Relationships between the garbage picker and dealers in waste paper

characterized at each level by independent economic enterprises, in which each enterprise is paid according to the volume of material that it produces.

These kinds of economic organization have been commented upon elsewhere. It would appear that the *raison d'être* is to reduce costs by a variety of mechanisms. Karl Marx (1976: 692-700) wrote a very interesting section in *Capital* on the subject of piecework. He concluded (p. 698) that: '... the piece wage is the form of wage most appropriate to the capitalist mode of production'. He saw this as obvious since (p. 695): '... it is naturally in the personal interest of the worker that he should strain his labour power as intensely as possible; this in turn enables the capitalist to raise the normal degree of intensity of labour more easily'. Although there is some evidence to suggest that, under the piecework system in the waste paper industry, the individuals do not strain themselves as much as they might, the general law still holds. In the great majority of cases contracts are made by 'the piece' and not by time, since it is generally said that in this way the buyer can be sure of greater efficiency from the seller. And just as Marx suggested (p. 697) that: '... the wider scope that piece wages give to individuality tends to develop ... the competition of the workers with each other', so we see that very same process, not only in the rivalry between the warehouses, but also in the fights that break out between pickers on the garbage dump as they dispute over who should have a particularly prize piece of waste material.. Those who work in the waste paper business are well aware of these principles. In discussing the case of the satellite warehouses, the manager of the central warehouse

mentioned that the direct warehouses do not give as good results as the indirect ones. His reasons for this were largely related to the fact that as the personnel in the direct warehouses did not have to worry about their wage, nor could they improve it by being more energetic, they tended to be less productive. It requires frequent changes of personnel to try and maintain some degree of efficiency.

Of course, this mechanism is compounded by the independence of each enterprise within the hierarchy. Thus the relationship, based upon some kind of agreement or contract, benefits the buyer at the cost of the seller. Not only is each enterprise encouraged to work hard by the piecework system, but the independence of each enterprise shifts responsibility for various activities progressively down the hierarchy. Why should there be such a general desire to delegate responsibility? Firstly because of the labour force, and secondly, because of flexibility.

The first point may be well illustrated if we examine the relationship between Carton de Colombia and its suppliers of waste paper. Given the fact that garbage picking is a labour intensive activity, it is not surprising that there are at least as many garbage pickers in Cali as there are employees of Carton de Colombia. In addition, the functions carried out by the central warehouse itself, plus the satellites, all require fairly large amounts of labour in relation to the capital invested. Hence if Carton de Colombia were to directly employ these additional persons, its labour force would increase in size, and what is more important so would its labour costs.

Carton de Colombia is both proud and relieved at the fact that throughout its history it has never had a strike. The workers are represented by the Sindicato Nacional de Trabajadores de Carton de Colombia, formed in 1948, and labour unrest has largely been avoided by the generous wages paid within the company. The minimum wage paid in the factory is three times the minimum wage stipulated by Colombian labour legislation, and the benefits increase as a worker increases his length of time with the company. In addition, there has been a policy of 'retirement' for those workers generally deemed to be activist, and the company is willing to pay the very high compensation costs that this process necessitates. If the labour force were larger it would create two problems. Firstly, any additional workers would have to be paid according to the conditions laid down in the bi-annual agreements between the company and the union (Carton de Colombia SA, 1975). This would effectively mean that the piecework system was ended, and that the garbage pickers would have their income trebled. In effect the cost of waste paper would rise by more than three hundred per cent, since not only would the garbage pickers be paid more, but their productivity would most probably be less. Secondly, an increase in the size of the workforce is feared since it is thought that there would be greater threats to labour stability. By delegating the responsibility for waste paper collection, Carton de Colombia

effectively fractionalizes its labour force and severely impedes any attempt at true collective wage bargaining.

In addition a waste collection system built in this way permits the factory to avoid the problems that arise due to the fluctuation of the market. It seems very clear that 'underdeveloped' economies are subjected to far more fluctuation than 'developed' economies. This is certainly the case in Colombia, which at the international level has recently seen high prices for coffee (its main export) together with rapid inflation, whilst at the national level such features as a three month strike in Cali's cement works led to the almost complete paralysis of the construction industry. The waste paper industry experienced a crisis in 1975 when demand was not stable but falling. Under these conditions the factories had no problem of maintaining a workforce that was doing nothing. In effect the garbage picker is like the classic dockworker of nineteenth century London, waiting at the dock gates to see if there is work. In this particular case the offer of work may be suspended by the payment of very low prices, or by an absolute refusal to buy on the part of the factories. In such a situation the garbage picker will tend to devote himself to the collection of some other material until times are better.

Thus the combination of piecework with the independence of the suppliers of waste paper serves to keep efficiency high and costs low. The central warehouse for example, therefore maintains a facade of independence, even though it works exclusively for the company. Despite the large amounts of capital that are used by the company to help the warehouse, the manager is technically independent and directly in charge of the warehouse. Some observers have suggested that in recent years the manager could well have been put onto the company's payroll, but this is impossible to verify. The intention is, however, to maintain a warehouse that functions for the company without the latter accepting any direct responsibility for it. The company is indeed acutely aware of the fragility of the system. In 1975, during the time that the latest agreement on wage rises was being discussed by the company and the union, there was much labour unrest within the factory. Simultaneously there were stirrings within the Cali central warehouse among the workers, all of whom are non-unionized. The company therefore commissioned a study (Betancur and Mejia, 1975) of wages and wage differentials within the warehouse, as a result of which substantial pay increases were awarded. The aim was to answer any possible complaints about the difference in wages between the factory and the warehouse. Warehouse wages are still well below those of the factory, and Carton de Colombia greatly fears unionization among the warehouse workers. Indeed the visitor is asked not to mention the subject in his conversations with employees.

What applies to the relationship between the factory and central warehouse also applies to the relationship between central warehouse and satellite

warehouse, and between the latter and the garbage pickers. In each case it is an attempt to lower costs by not employing those who effectively work for the establishment, and it is done by keeping the labour force divided and by paying so as to encourage efficiency. The garbage picker who chances to ask for a contribution towards medicine in times of sickness will probably be treated paternalistically and given 10 pesos, but any idea of permanent sickness benefit receives short shrift within the warehouse.

These reasons explain the nature of the hierarchy, but they do not fully explain the proliferation of levels within the system. Why is it that there is not just one buyer in the system but as many as three? The reason for this lies mainly in the division of labour within the totality of activities that comprise the waste collection system. The waste paper has to be taken from the garbage, classified, compressed and transported to the factory. The insertion of different enterprises into this process has two functions. Firstly, it increases the amount of material available to the buyer. If Carton de Colombia did not have a central warehouse, and if the central warehouse did not have satellite warehouses, the amount of waste paper that reached the factory would be much lower than it is today, simply because the garbage picker does not have the time or the money necessary to get his paper to the factory or to the central warehouse. The idea is thus to encourage the garbage picker to work by providing places for him to sell that are close to his work area - hence, for example, we see buyers actually on the garbage dump or touring the streets in their trucks.

Although the percolation of capital downwards from the factory reflects the advantages of the division of labour, from the point of view of the buyers themselves there is a great attraction to getting oneself into the hierarchy since the returns are very good. Each stage in the collection of waste paper requires an increasing amount of capital, and even though much of this capital may initially come from the next level up in the hierarchy, the ability to control the movement of a relatively large volume of paper represents a chance to make money. By adding a small amount of value to a large volume of paper through transport, classification etc., the individual reaps a good profit. It is in this way that the product of many gets increasingly concentrated into the hands of the few, resulting not unnaturally in huge income differences between the garbage picker and the various waste paper buyers. The picker suffers from the small scale of his enterprise, and from his lack of capital. There is money to be made only in volume.

The Hierarchy and the Garbage Picker

The preceding analysis has gone into great detail on the links between the garbage picker and industrial waste consumers. It explains something of the

nature of the link but does not address the question of his poverty directly, and it is to this aspect of the problem that I now turn.

Why is the income of the garbage picker so low? It is low because of the nature of recuperation referred to earlier in this paper - a matter which places the analysis firmly within the sphere of international supply and demand for raw materials in the paper industry. As we have seen, the factory sets its price for recycled paper, and this is done with direct reference to alternative raw material supplies. The demand for waste paper is related to its price in comparison with that of pulp, and hence any attempt to raise the price of waste paper to anywhere near the price of pulp would end the market for recuperated materials, since pulp is naturally a preferable material. Hence if garbage pickers were successful in a bid to become employees of Carton de Colombia, the cost of waste paper (as we have seen) would rise by at least three times, and it would be pointless for the company to buy that material. The garbage picker must always be paid with one eye on the price of pulp. The conclusion therefore is that the hierarchical system which has been described is designed, not only to keep the prices of waste paper low, but to ensure the continued existence of waste paper collection. Unless pulp rockets in price, or becomes unavailable, which is extremely unlikely, the garbage picker can only be a low-income worker.

At the national level, and operating within this price constraint, we see a market that has tendencies towards monopoly. This is represented at the factory level by the predominance of Carton de Colombia. Whilst nearly all the smaller companies pay a higher price for waste paper than does Carton de Colombia, the latter can always be assured of suppliers because it has the power to withstand the ever-present economic fluctuations that often cause smaller companies to run out of money. Hence, wholesalers in waste paper are always paid immediately, and their working capital is not run down. For this reason Carton de Colombia has some liberty to keep the prices lower than interfirm competition would normally lead us to expect. Indeed one ex-employee of Carton de Colombia has suggested that waste paper prices could be raised by 30% with no ill effects for the company.

At lower levels in the hierarchy of waste paper dealers we find tendencies towards oligopsony. Significantly this has occurred on Cali's garbage dump, where the six paper buyers are in constant contact with each other and have an informal agreement on the price of waste paper that has tended to be just half of the price of waste paper in other parts of the city. This lowering of prices more than compensates for the poorer quality of the material that comes from the garbage dump, and for the fact that the picker does not have to transport it to the warehouse.

Such are the structural factors that limit the possibilities of income generation from garbage picking. It is necessary to consider the possible means by which the garbage picker might raise his income, always

remembering that he operates *within* the structural limits defined above. He has two possibilities: to unite with his companions, unionize the work and ask for higher prices; or, to raise his productivity. Unionization is difficult from a number of points of view. As has been shown, there are very strong barriers inhibiting any kind of collective action amongst garbage pickers. Not only would they be fighting with little of the political skills necessary, but they work in highly dispersed locations, and it is no coincidence that the attempts to organize these people have all started from, or concentrated upon, the largest nucleus of pickers, those who work on Cali's garbage dump. Additionally, the pickers are selling to a great number of different buyers and hence it is hard for them to direct any action towards a specific target. The history of trade unionism among Cali's low income occupations (such as street sellers or small-scale transporters) tells a story of personalism, corruption, and an ideology that is subservient to that of the 'managers' of the system. There is no great hope for a united stand amongst the garbage pickers. The history of Cali's garbage dump shows that in the early 1960s there were attempts to set up a cooperative but this failed after one year, apparently through a combination of poor administration and the pricing tactics of the paper companies. In the early 1970s there was a spontaneous movement amongst garbage pickers *and* buyers on the dump, but this was in defence of their right to work, rather than an attempt to raise the prices paid to the picker.

Raising productivity is a somewhat more complex matter. It depends upon three possible factors: the willingness of pickers to work, greater access to the garbage, and the use of more tools in the sorting of waste materials. The work patterns of the pickers themselves is a very complex matter and is better left as the subject of another paper (Birkbeck, 1978). Greater access to the garbage is perhaps possible. It would require, for example, more chance to get materials at the point of generation and before they are dumped, and more possibility to pick over the garbage before it disappears as sanitary infill. Both of these opportunities would require some kind of organization to bargain for this, and yet as we have seen, that organization is lacking. Productivity could only be raised by the use of more machinery or tools in the job. This may be merely the provision of carts for all concerned, so that they can collect more garbage and transport it to the warehouses. Any larger input of machinery, such as trucks or separation/processing plants would inevitably reduce labour requirements since even with greater access to garbage the scale of operation would be such that perhaps only 25% of present garbage pickers would be required to work.

Hence the problems are great. There is a limit to the price that a picker can get for his material, and even small rises in price are out of reach at present. Indeed we can posit that such small rises would merely bring more people into the occupation and help to keep the income as low as it has been. As we have

seen, the only way to make money from garbage is to handle it in large quantities, a factor which implies a reduction in the number of workers. And finally, the access to the means of production, i.e. the garbage and the capital to exploit it, is not in the hands of the garbage picker. It would appear that the recuperation system is moving away from the exploitation of cheap labour to the capital-intensive exploitation of garbage represented by the processing plant. In this field the only agents would be the large companies that buy waste materials, and the municipal garbage collection authorities who can potentially make money out of selling waste. The garbage picker will have to fight long and hard in order to maintain any access, or right, to the garbage.

Conclusion

The discovery of poverty is nothing new or interesting, likewise our horror at the many and varied forms of exploitation. What is important is to focus our attention on the mechanisms which develop to promote and maintain income differentials - hence our interest, among other things, in work. The present study started from an interest in garbage picking, not as an expression of poverty, but rather as an active causative factor. It has attempted to explore the nature of that poverty through an analysis of the links between garbage picking and other sectors of the urban economy, notably big industry. The case study presented here, firstly of the recuperation of waste paper, and more specifically of the activities of Carton de Colombia, possesses most of the salient characteristics of the other branches of the garbage recuperation business.

The overall development of garbage picking is intimately related in its economic organization to big industry, not only in Cali, but throughout the whole of Colombia. If the steel industry is in crisis so are scrap iron collectors. If the demand for waste paper goes up so do prices, and in all probability the number of garbage pickers as well. It has been shown how the garbage recycling business is characterized by a hierarchy of vertical links which extend from the factory to the garbage picker. The nature of this hierarchy is explained by its function in reducing costs through a variety of mechanisms - notably the use of the piecework system and the division of the labour force that effectively works for the factory. The peculiar characteristics of the garbage picker's case is that he appears to work for himself when in fact he is part of an industrial organization. The significance of this conclusion is threefold. Firstly, it directs attention at the processes of linkage in the urban economy, and raises the question - to what extent do similar occupations exist which appear to be independent and yet are subordinated to the needs of the large-scale capitalist sector? Secondly, it raises the interesting question of the way in which the garbage picker assesses and reacts to his own situation, viz. how independent does he feel himself to be? Thirdly, it provokes thought

about what is the best policy to help the garbage pickers. We cannot argue that they should be incorporated into the industrial sector of the economy since they are already a part of it. Neither can we argue for increasing their share of the income generated by recuperation in anything but a limited way because of the structural constraints that operate in determining income. The garbage picker may work hard, may have a shrewd eye for saleable materials, may search long for the right buyer; in short, he may be the near-perfect example of the enterprising individual. It will not get him far.

Notes

1. The research which is summarized in this paper was carried out as part of a larger project on 'Policies towards urban informal service employment in Cali, Colombia', directed by staff members of the Centre for Development Studies, University College of Swansea, in collaboration with the Servicio Nacional de Aprendizaje (SENA), Regional Office in Cali. The research was financed by the United Kingdom Ministry of Overseas Development.
2. In Cali, garbage pickers are popularly called *millinazos* (vultures), a reference to the hundreds of vultures that swarm over the garbage dump as the pickers are at work, and a telling indicator of the opinion of the mass of the populace regarding this kind of work.
3. Information supplied by the Jefe de Aseo, Empresa de Servicios Varios (EMSIRVA), Cali.
4. I would like to thank the Gerente de Relaciones Industriales, SIDELPA, and the Jefe de Aseo, EMSIRVA, for their collaboration in the collection of this data.
5. At the time of writing US \$1.00 was valued at 36.50 Colombian pesos and one pound sterling was valued at 62.00 pesos.
6. Much of this information is based upon INDIRENAJCANADA (1976) and DNP (1976).
7. Estimate given by the Manager of Recolectora de Papeles, Cali.
8. Information supplied by the Seccion de Fibras Industriales, Carton de Colombia, SA, Cali.

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