HEALTH, LABOR, AND SOCIAL JUSTICE.
ENVIRONMENTAL COSTS OF THE ITALIAN ECONOMIC GROWTH, 1958-2000

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1. Embodying environmental history.

In the February of 1959, while working on the book that was to become the very manifesto of the environmental movement, Rachel Carson wrote to her editor:

> *As you know, it has always been my intention to give principal emphasis to the menace to human health, even though setting this within the general framework of disturbances of the basic ecology of all living things. As I look over my reference material now, I am impressed by the fact that the evidence on this particular point outweighs by far, in sheer bulk and also significance, any other aspect of the problem*. (Brooks 1989, p. 247)

Published in 1962, *Silent Spring* showed an astonished public all over the world the extent to which the toxic elements of modern production had contaminated the environmental health, and were a widespread menace to human health through the ecological chains (bio-geo-chemical cycles and the food chain). This interconnection between industrial production and human health was the core message of the book, even if the powerful metaphor of the title evoked the idea of a natural catastrophe, such as the extinction of birds and insects. Silent Spring was centered on the analysis of industrially produced toxins and their impact on the whole chain of life, in which no precise boundary exists among plants, animals, water, the soil and human beings. What harms other living beings, the book suggested, harms humans as well. A simple and intuitive principle, against which the business world and the petro-chemical sector in particular, launched a de-legitimating campaign,

based on an imputation of feminine irrationality, that had presumably compromised the author's scientific 'objectivity'.

This paper deals with some of the implications of this story: first, and foremost, the question of objectivity, and its definition in relationship to other forms of knowledge produced at different levels from the one of official science. From the point of view of workers' health this is a crucial issue, as many studies have shown. Who holds scientific authority when it comes to the definition of risks for human health and the choice of values regarding social and environmental life at the same time? The history of workers' health entails plenty of evidence about this point (Bartrip 2002; Clark 1997; Carnevale and Baldasseroni 1995; Johnston and McIvor 2000; Levenstein et al, 2002; Markowitz 2002; Rosner and Markowitz 1987). Even if, for example, medical doctors discovered the existence of a specific coal miner's respiratory disease, known as black lung, since the 1830s, its recognition as a legitimate, disabling and compensable occupational disease required active intervention of coal miners themselves and a strong political battle as late as the end of the 1960s (Smith 1987). The rise of the black lung movement, a grassroots and rank-and-file organization of disabled or retired workers and workers' widows, was solicited by the acquiescence of both official medicine and the union with the corporate definition of the disease. The industrial hygienists' approach to an objective definition of CWP (coal workers' pneumoconiosis) was particularly offensive for the workers' dignity and decisive in inciting their reaction. Since workers' compensation law recognized only silicosis as a respiratory disease associated with mining, based on the scientific evidence accumulated by industrial hygienists in the earlier decades, 'forty-year veterans of the mines who were so disabled that they could not walk up stairs or sleep in a prone position were denied compensation because their X-rays did not reveal the classic pathological changes associated with this specific disease [silicosis]' (ibid., p. 106). Their was, first and foremost, a struggle for the affirmation of a bodily/collective experience of disease against the uncertainties of scientific/objective knowledge. Furthermore, Smith observed, the definition of black lung given by the miners and their families was intrinsically different from the one of medical doctors because it went beyond the physical conditions, 'to encompass the social relations of the coalfields [...] They integrated economic exploitation and physical harm from the vantage point of people who experience these problems as coextensive, internally related, part of the same world of

social/physical experience'. Their vision 'challenged the divorce between human experience and the physical world that is the hallmark of "hard", "objective" science' (ibid., p. 155).

The production of bodily knowledge as a means of empowerment was a common story in several workers' struggles for health. On December 17, 1980, 75 ex workers from Carolina textile mills presented themselves to Dr. Phillip Pratt, a pathologist at Duke University's medical center, who two months earlier had published the results of research showing that lung cancer in textile workers derived from cigarette smoking rather than from the inhalation of cotton dust. The workers, all non-smokers, and all diagnosed with byssinosis (brown lung), brought with them a banner proclaiming 'we offer ourselves as evidence' (Judkins 1986). That was both a symbolic and a material struggle, since the workers' purpose was also to obtain compensation and force the employers to a stricter observation of safety rules. This production of bodily evidence can be interpreted, thus, in the sense of the production of 'corpus delicti', the material evidence of a crime in a metaphorical (or even real) courtroom.

The role of locally produced knowledge, has been highlighted in many cases of 'toxic struggles', i.e. struggles for the defense of human life against the harmful effects of modernity, in the form of incinerators or dumping sites or industrial pollution and the like. In one of the most recent studies about the Louisiana Chemical corridor known as Cancer Alley, Barbara Allen has shown how crucial in the dispute was the role of an alliance between citizens' groups and experts on the grounds of an approach defined as 'strong objectivity'. That is the recognition of direct experience of disease and risk among local people, in an area characterized by 'high unemployment, illiteracy, poverty and ill health', as a closer version of reality, opposed to the vague and often denying objectivity expressed by 'official' science. The reason, as Allen puts it, is that 'local experience is embodied rather than disembodied. This means that its point of origin is acknowledged as coming from a particular person or place. […] Embodied knowledge is situated within its social circumstances. The knowledge also carries with it responsibility – some one or some group is responsible for the construction of that knowledge' (Allen 2004, p. 19). 'Strong objectivity' is fundamentally different, so, from modern science as derived from the Enlightenment pretension of universality and cosmopolitism. Locally produced knowledge, in which citizens use alternative sources to fight the corporate/state/government 'lock on information' (Gottlieb 1993) on the risks of production, is generally first and foremost a bodily experienced knowledge. It has been

accumulated in the form of pathologies and illness, even genetic information, in the case of exposure to nuclear radiation. It is primarily a matter of flesh and blood experience, at the level of the community afflicted by a particular form of pollution.

I would like to stress the fact that this bodily experience has been borne in the first place by factory workers in the course of their whole history, and by the workers' families, as they experienced in a lesser concentration the same pollutants and toxins emanating from the factory through their living environment. Quite surprisingly, and perhaps mostly relevant, in the story narrated by Allen, there is no reference to the role of workers and their 'situatedness' (Harvey 1996) in the local struggle. This raises the question whether the workers' community is completely merged within the local community, or a separation has been going on, since the workforce has been hired from other areas and perceives the local environment beyond the factory gates as alien and potentially enemy.

This alienation between the workers' experience of the health/environment issue and the one of local people needs a historical explanation, I argue, since it is here that the "jobs-vs.-the-environment" (Obach 2004) discourse takes mostly grounds. Earlier studies on the topic, in fact, have shown a different pattern, one in which unions, rank-and-file activists, grassroots environmental organizations and citizens have found themselves on the same side of the struggle and fought to obtain important reforms in the field of occupational and environmental health. I will speak of the political implication of this in a following paragraph: first, I need to go back to Carson's work, which represents my point of departure about the relationship between scientific objectivity and bodily experience. An opposite kind of critique about Silent Spring, in fact, is the one considering her message as a concern with birds and the natural environment, as a 'consumer oriented focus on the ecology of suburban spaces and federal wildlife refuges – the habitat of professional ecologists' (Mittman et al. 2004, p. 8). Her focus, according to this critique, hid the fact that health hazards and even mortal injuries deriving from the use of pesticides were being experienced from farmworkers first. Yet, in establishing a separation between human and non-human harming, that critique misses the point, because that separation was exactly what Carson intended to demolish. Furthermore, Silent Spring was also based on some cases of farmworkers intoxication, which Carson had known from a few letters of physicians. Nevertheless, as Linda Nash has shown (in one of the few and most fascinating articles that environmental history has devoted to labor), widespread documentation about the effects of pesticide toxicity to the bodies of

Mexican, mainly irregular farmworkers of California, emerged only very slowly until the mid 1960s. Only then, did the United Farm Workers of Cesar Chavez begin to organize strikes and boycotts against grape growers, in the name of both workers' and environmental health, as well as social justice (Nash 2004).

This is another of the points that I aim to deal with, namely the linkages between the material production process in the industrial system, and the production of knowledge regarding the human/ environmental health. The two have been, in fact, closely connected in an obviously unequal relationship, dominated by the power structure of the capitalist economy, in which workers have played the role of human guinea pigs, testing the effects of a number of substances on their body and by the means of their work. Not only has work been extracted from the workers' bodies in the course of the industrial era, but so too has knowledge. The branch of medical science known by the name of Industrial Hygiene has been construed by extracting information from workers' bodies, observing their reaction to a variety of risk factors in the course of their work life. This kind of science evolved in Europe and the USA between the last decade of the 19th century and the first half of the 20th, so as a good part of the materials on which Carson based her book came from physicians and industrial hygienists. It was that science which first begun to draw the boundaries between normality and abnormality, acceptable and non-acceptable limits of exposure and contamination. The environmental movement of the 1960s, accordingly to Christopher Sellers, would have started from those criteria and definitions studied by Industrial Hygiene to move its attack against pollution (Sellers 1997).

Yet, the relationship between the protection of workers' health and the protection of the environment, and the relationship between labor and the environmental movement has a highly controversial history, appearing even as on opposite fronts The 'jobs-vs.-the environment' discourse has been one of the most powerful and oppressive means to control workers' bodies, lessening the human and environmental protection from the destructive effects of production and impeding the building of any radical alternative to the dominant toxic society. Even worse, environmental historians have internalized that discourse to the extent that the subjects of both labor and human health have found only a marginal place in their narrative. Richard White attributed this to the bias that environmentalists have generally shown toward machines, blamed for their destructive impact on natural environments: the implicit association of work with machines has put labor on the other

side of the barricade (White 1996). In doing so, White argued, environmental historians have missed the point, that was the social relations and mode of production in their ecological dimension. Despite this hypothesis does not account for the labor movement bias against environmentalists, it is an important point of departure for an investigation about the lack of consideration of the whole labor issue among environmental historians, as if work were not the most important moment in the social process of interrelation between man and nature. To understand that, in fact, we must start form the lack of interest that environmental historians have shown about the workplace and the history of business in general.

According to Christopher Sellers 'No subject begs more loudly for recovery of its ecological dimension than the history of the modern workplace' (Sellers 1997, p. 4). In 1999, Sellers himself and Christin Meisner Rosen published an article in the Business History Review inviting business and economic historians to encompass the ecological dimension of industry in their accounts. They argued that business historians were still too embedded within the Chandlerian model of the visible hand, and lacked a vision of basic dimensions such as natural resources, consumer patterns, culture, etc. without which business itself could not even exist. They also suggested a consideration of workers and their families as 'a valuable counterpoint from which to evaluate the significance of the attitudes and values expressed by high ranking executives and others business managers and professionals' (Meisner Rosen and Sellers 1999, p. 594). Unfortunately, that call for environmental consciousness to business historians has not produced relevant results by far, and this must be explained by a more comprehensive account of the cultural dichotomies written in the evolution of western culture, among which the nature/society dichotomy is the most relevant to my point. It is not by chance that business and economic history, whose methodological framework comes from neo-classical economics, chose not to deal with environmental and social costs of the business enterprise. Social costs, according to a classic definition given by the non orthodox economist William Kapp in 1950 (who later became the basis for a whole school of counter-hegemonic studies in political ecology), are produced by the internal logic of private business, that is the principle of investment for profit at the individual unit level. In order to maximize profit on a given investment, entrepreneurs need to minimize relative costs (human and environmental health and safety), by shifting them on third parties, namely the workers and society as a whole. This model produces the concept of externalities, i.e. the translation in economic theory of the nature/society philosophical

dichotomy (Kapp 1950). From mainstream economics and their theoretical framework, business historians derive the idea that environmental and health issues are to be considered externalities, and then are not entailed within the narrative of business history. The 'objectivity' of economics as a science, political ecologists insist, owes much to its philosophical and cultural choices. I would add that the concept of externality has been surprisingly powerful among environmental historians, too. The idea that nature is somewhere else than the workplace, and that environmental history can deal with its history without trespassing the factory gates, can explain much of the reluctance, shown by environmental historians, to consider workers' bodies as part of its subject.

The ecological dimension of modern industry is written in the flows of toxins emanating from the workplace to the environment and the human body, through air, water, the bio-geo-chemical cycles and the food chain. Before encountering the living environment outside, however, industrial toxins meet the workers' bodies, which represent the biological dimension of the industrial workplace. In one of the few articles devoted to this argument, Arthur McEvoy suggested to consider the workplace as an ecological system. He observed that 'ecology points to an analysis of health and safety in terms of the interaction between a number of systems: the worker's body and its maintenance, the productive processes that draw on the worker's energy, and the law and ideology that guide them' (McEvoy 1995, p.149). Although this suggestion introduced a basically new dimension in environmental history (one still not explored by its practitioners), it implied a still too passive role for workers in the interplay between production and health. The worker's body is not simply an organic machine, since it is endowed with cultural and symbolic tools, and produces not only energy, but knowledge and social agency as well.

Even though environmental history has shown such a scarce interest for workers' health and the workplace, it has also devoted a huge effort in investigating the urban environment and its wide socio/ecological implications. In that historiography, health issues, such as tuberculosis and cholera epidemics, that afflicted the urban population in the transition from the rural to the urban/industrial world, have been largely dominant topics, as well as the ecological implications of the water infrastructures that changed the face of most western cities. Water and air pollution have also been addressed by a number of studies at the scale of technological, social and political implications, showing how conflicts and struggles emerged in the course of the industrial era in different contexts. This line of inquiry has recently led some environmental historians to deal with the issue

of environmental justice, related to the social distribution of environmental costs and risks in industrial societies.

In a collection of essays about environmental health, Gregg Mittman, Michelle Murphy and Chris Sellers have suggested three dimensions for the interpretation of toxic exposure in the modern world: scale, materiality and uncertainty. The choice of the scales to which locate the representation of health issues is crucial to the understanding of their social meaning. Isolating the molecular, ecosystem, or even the planetary dimension from each other can obscure the complex interrelationships between levels of exposure and social agency; though, this is a prevalent approach among health, environmental and policy experts. Second, a history of health must consider as its subject the material flows that constitute life on this planet, and recognize the particular importance among them of minerals, chemicals and nuclear radiation. In industrial societies, flows of asbestos, radium, lead, silica, etc. played a crucial role in determining that epochal shift from the bacteriological pattern of disease to the degenerative one, typical of affluent societies. Modern workplaces, so, not only produce commodities, but also a variety of diseases. Third, the relationship between places and bodies, perceived as a matter of exposure, as material contact between toxins and flesh, has been a subject of expertise for a variety of professionals, from engineers to industrial hygienists, biologists, and public health officials, each dealing with the relative uncertainties of their knowledge. Therefore, ‘uncertainty is perhaps the single most pervasive characteristic of the history of exposure’ (Mittman et al. 2004, p.): it must be dealt with as a historic artifact, as the history of invisibility, imperceptibility and doubt. This links the history of health both to the issue of risk, in its social definition and implication, and to the issue of knowledge, in its power dimension.

Although the examples cited above show that environmental history has been dealing with the relationship between environment and health, still the worker’s body plays a barely visible role in these accounts. Labor history, on its side, has devoted a larger amount of studies to the issue of workers’ health, stressing how, according to David Rosner and Gerald Markowitz, ‘the exploitation of labor is measured not only in hours of work and lost dollars, but also in shortened lives, high disease rates and painful injuries’ (Rosner and Markowitz 1986, p. ix). Also, in dealing with occupational health, labor history has found fertile common ground with the social history of medicine, since, ‘in its most basic form, the struggle between labor and capital to control the means

of production has set the context within which safety and health programs and policies have developed' (Rosner and Markowitz 1986, p. x). However, labor history has shown a strong reluctance to exit the workplace, when it comes to a consideration of the health issue in broader environmental terms. It seems, therefore, that both environmental and labor historians have followed an academic division of labor, recognizing the factory gates as the symbolic and material boundary between their respective concerns.

Probably the sub-field most interested in the labor/environment relationship has been the history of the environmental movement. According to Robert Gottlieb (author of a landmark history of the American 'new' environmental movement) starting from the economic recession and anti-labor policy of the eighties, toxic struggles have become 'more compelling as community issues than as workplace issues, despite the fact that production hazards precede and frame the hazards experienced at the community level' (Gottlieb 1993, p. 351). The book showed instead, how in the 1960s and 1970s labor and environmental movements had been allied in a number of struggles, fighting for common interests. First, a crucial role had been played by those independent physicians who, in the early 1960s, begun examining unions' welfare and retirement records, in order to build their counter-arguments against corporate science. That new occupational health movement was taking place along with the substantial changes in the environmental movement too, starting to be aware of the existence of a power/knowledge issue. The first and most striking example was the black lung movement, which led to the first of a series of health and environmental acts, all passed between the end of the 1960s and the early 1970s: the Mines Safety and Health Act (1969), the Occupational Safety and Health Act/Administration (1970), the Environmental Protection Act/ Agency (1970). The role of health professionals, coming from the ranks of the students, feminist, environmental and radical left movements, in soliciting those reforms and supporting the labor movement in their implementation, was crucial in the US case, where they formed the COSH groups (Committees on Occupational Safety and Health), as well as it was determining in the Italian case (the SMALs experience, as we will see in the next paragraph). In both contexts, those 'new' physicians shared a common methodological revolution that put workers at the core of the knowledge producing process. Also, in both cases they shared this methodology with sectors of the labor movement particularly active in the process of empowerment concerning health/environment related reforms. As a leader of the Oil Chemical and Atomic Workers union, Anthony Mazzocchi,

‘the most influential figure within the new occupational health movement’ in the seventies, emphasized ‘the importance of worker-generated activity and the potential links that could be established between workers and public interest and professional groups’ (Gottlieb 1993, p.365). Mazzocchi had also been instrumental in the passage of environmental reforms such as the Clean Air and Clean Water Act.

While grassroots health organizations were not always welcomed by union leadership - because of their influence as rank and file activists - at the local level the alliance between labor and environmental activists was strong, and the labor hegemony was not under discussion, as many unions’ officials served as COSH directors, and some unions funded them. The seventies also offered plenty of evidence of a labor/environmental alliance, such as the EFFE groups (Environmentalists for Full Employment), the Urban Environmental Conference, Ralph Nader’s and Barry Commoner’s networks, etc. Nevertheless, Gottlieb remarks, for the environmental movement workplace and social justice issues remained external to their mission, as well as the labor movement ‘remained bound by union acceptance of the structure of industry decision making’ (Gottlieb 1993, p. 366).

In the late 1990s and early 2000s, a series of articles on Environmental History focused on the labor/environmental movement relations. According to Scott Dewey, workers’ awareness of potential health risks from pollution appeared quite advanced in comparison to that of their fellow citizens’ (Dewey 1998, p. 48). Starting from a series of accidents (such as the “killer smog” which seriously affected 6,000 persons in Donora, Pennsylvania, in 1948) the unions’ commitment in the passage of Air and Water Clean Acts was determining. During the fifties, the United AutoWorkers, through their president Walter Reuther and vice president Olga Madar, pressed the government for the regulation of gasoline emissions, even if this meant loosing a number of jobs. In Madar’s opinion, workers were first and foremost American citizens, ‘neither they nor their children develop any immunity to automobile exhaust pollutants or any other’ (Dewey 1998, p. 52). Robert Gordon, in the same journal, highlighted how the conflict between labor and the environmental movement had developed during the eighties, and was a historical artifact that both labor and environmental historians had taken for granted; he also remarked on the leading role played by the labor movement during the 1960s and 1970s in raising awareness of environmental/health issues (Gordon 1998). A new imaginary and definition of environmentalism started to emerge from these accounts,

namely the idea that there had existed a form of environmental consciousness different from the mainstream, something defined as ‘expedient’ or ‘subaltern’ environmentalism. The former concept, as formulated by Chad Montrie in his study of coal mining in Appalachia, entailed an explanation of how ‘farmers and workers formulated their own versions of conservationism and environmentalism, grounded in their experiences tilling fields and working in factories’ (Montrie 2000). The latter, encompassing a broader category of issues concerning class, race and gender versions of environmental conflicts, has been proposed by Michael Egan as a way to look at the issue of social justice within environmental history.

The most complete examination of the jobs-vs.-the environment discourse comes from a recent study in political science: in *Labor and the environmental movement. The quest for common ground* (2004), Brian Obach observes how ‘workers are not typically the lead opponents of environmental measures. […] It is when industry seeks allies in opposition to environmental measures that workers are drawn into the fray’. It is a communication strategy: since a threat to corporate profits will not move the public, ‘a more sympathetic victim is necessary, and workers are the obvious group to serve this purpose’. The goal is to ‘shape the perception that environmental protection is antithetical to economic expansion’ (Obach 2004, p. 10). This discourse, however, clash with the growing evidence that ‘the working class bears a disproportionate share of the harm due to environmental destruction’, while environmentalists ‘bear a disproportionate share of the blame’ for the actual loss of jobs in the US, which is due to environmental regulation only in 3% of cases. The rationale for this corporate discourse is the aim at keeping the two most powerful social movements in the country separated, for their alliance holds a potential for radical reforms.

I will argue that it is precisely the alienation of labor and environmental movements that needs an historical explanation, as well as it was the alienation of man from nature that needed a historical explanation in Marx’s view (Foster 2000). The ‘jobs-vs.-the-environment’ discourse has been construed in the course of a historical process, connected with the international business cycle, and with socio-political processes as well: in ‘mature industrialized countries’, such as the US and western European countries, and in Italy as well, that discourse evolved and acquired a strong social hegemony between the end of the 1970s and the first 1990s, when it has been finally opposed by a recovery of social movements struggling for environmental justice and ecological democracy.

That rise and fall of the labor/environmental alliance also reflects the international dimension of the economic system. While ‘mature economies’ have begun to give a green façade to their industrial apparatus, by also shifting the most polluting industries and the dirtiest wastes to the ‘developing’ countries, those countries have been experiencing the worst forms of exploitation of both labor and the environment. There, again, the promises of modernization, the lack of alternatives, and the ‘job blackmail’, that had shaped the terms of the ‘jobs-vs.-the-environment’ discourse in the western world, have gained momentum and contributed to a new cycle of high toxicity and widespread of risks (Dembo et al, 1988; Martinez Alier 2003).

In the remaining part of this paper I will offer an examination of two interrelated pieces of this larger international picture. I will try to examine those stories in a dialectical way that, as suggested by David Harvey (1995), can give an account of the more relevant moments of the social process in their internal relations.

2. Italy 1958-78: the rise and fall of a ‘labor environmentalism’.

Between 1955 and 1970, three million people from southern Italy migrated to the Northern industrial regions, searching for a factory job. From 1960s onward, they were absorbed by a growing labor demand in the petrochemical, steel and mechanical sectors. By the end of the decade, and during the 1970s, the State began a politics of transfer of industrial jobs to the south itself, by locating a number of State controlled companies, mainly in the chemical sector, along the sea shores of the southern regions. The south was transformed from being a place of abandon and nostalgia, the beautiful and cruel homeland of millions of ex peasants looking for salaries and economic security in the modern industrial world, to being a place of disruption and wild pollution, where the dirtiest industries were being located without any consideration for environmental concerns, social costs and economic alternatives. A great transformation was taking place in the country in the space of a few years, a process of dislocation and redirection of labor from the agricultural to the industrial sector. From 1951 to 1971 the Italian agriculture sector expelled almost 5 millions people, 2,300.000 of which entered the factory gates; in the same period, industrial employment in different sectors grew of 40-55%. The core of this cycle of expansion, which soon become defined as the Italian economic boom, was the crucial five-year period of 1958-1963, the so

called “economic miracle”, during which the GNP doubled and industry surpassed agriculture as a source of income for the first time in the Italian history (Crainz 2001).

The expansion cycle of the Italian industry lasted not more than two decades. The decade 1971-1981 saw the starting of a process of de-centralisation from big business to the sector of small and medium sub-furniture, in which the cost of labor was significantly lower. The landmark in the Italian labor history is represented, though, by the early 1980s, during which employment in the high tech sectors decreased by 20%, and a short but intense period of relative strength of unions and labor came to an end. Like in other advanced industrial economies in the same period, a rapid shift to de-industrialization and the expansion of the tertiary sector (60% of employment in 1995) are the characteristics of the recent Italian economy, along with a persistent high percentage of un- and under-employment (Musso 1998).

This rapid picture of the economic cycle in the last decades, help us situate the story of the labor struggles for health and empowerment within the limits posed by powerful forces and processes of change. It also helps us to situate that story within a broader international context of economic, social and cultural change which shows high similarities among industrialised countries, and particularly, for the purpose of this paper, with the history of labor struggles for health in the US. The economic boom revealed itself soon as a moment of intensification of labor exploitation in the form of widespread mechanisation: in both countries, the period from late 1950s to late 1960s was marked by a sustained increase in accident rates and injuries, along with a remarkable increase in productivity. The rapid transformation of Italy from an agrarian to an industrial country during the fifties charged the workers with an amount of health injuries similar to that other nations had experienced in much longer periods. While in the US the accidents within the workplace increased by 23% in the years 1958-1967, Italian workers experienced an increase in accident rates of 80% from 1952 to 1962. The fifties were also a decade of disasters, particularly in the mining sector, testifying to a dramatic increase in the national economy’s demand for minerals in order to sustain the industrial production:

This phase of overexploitation of labor was reflected in Italy - by the practice of ‘job evaluation’, that is the inclusion within salaries of a fixed monetary compensation for the increased risks borne by the workforce in accomplishing their tasks: health became therefore a commodified good, which workers sold cheap to employers, in exchange for their lack of respect of safety and health

regulations. The costs of this system were to be borne, however, by society as a whole, and so by the workers themselves again, because the increased injuries and diseases were to be compensated through the national security system (INAIL), financed by the State through indirect taxation. In the late fifties, the Italian Industrial Hygiene, and unions as well, followed this principle of 'monetarisation of health, expressed by the slogan 'health shall not be sold for free', a formula that represented a clear violation of any health professional ethics.

In the early fifties, the years of post-war reconstruction that immediately preceded the "miracle", the State was aware of what was going on within the workplaces, and the Parliament emanated a piece of legislation regarding labor Inspectorate, public health services and the prevention of accidents (1952-56). In 1956 the Government promoted an enquiry on the factory working conditions, which gave public opinion an approximate, although quite clear, picture of the gravity of the situation. Despite the initiation of discussion concerning more radical reforms within the legislature, these were momentarily put aside, for the "economic miracle" had started, and none of the political parties wanted to interfere with this exceptionally favourable trend.

In those same years, the country was experiencing the epidemiological shift typical of advanced industrial economies, namely from infectious to degenerative diseases. Yet, a clear vision of the new risk factors is hardly produced within medical science and public health institutions. Among occupational diseases compensated by the INAIL there was a gradual shift from silicosis and lead poisoning to the poisoning from mercury and benzene hydrocarbons. Nevertheless, national statistics suffered a severe underestimation of cases because often workers did not disclose their illnesses for they feared being fired. Compensation, however, was the very obstacle to the prevention of hazards: the law, in fact, still sanctioned the total non-liability of employers in the matter of industrial accidents and health hazards. Research in industrial hygiene began to be sponsored by the INAIL itself and the European Community for Carbon and Steel, so that it was mainly addressed toward risk insurance and clinical pathology, rather than prevention at the level of the work environment.

Confronting the impressive worsening of working conditions, the unions blamed the use of mechanisation as a mere tool for profit, with no regard for workers' safety or the improvement of working conditions, but they still adopted a defensive strategy based on the attempt to make compensation more expensive and strictly enforced, in order to indirectly encourage employers to

implement safety measures. This typically market-oriented approach was to be abandoned and completely revised during the 1960s, a period in which the union confederation was particularly strong in political terms, and gradually led to the passage of the Labor Statute (1970). Coming after a decade of tremendous changes in the cultural and political climate of the country, the Statute expressed the refusal of the 'job evaluation' practice, and sanctioned the right of workers to exercise a direct control on working conditions. To enforce this right, workers were granted the correlate right of having experts from outside the company enter the workplace, testing the environmental conditions and examining the workers' exposure to risks. This principle was revolutionary in the sense that emancipated workers from the oppressive control of 'company doctors', whose behaviour was strongly conditioned by their being on the company payroll. The Labor Statute introduced a radically new conception of workers as 'assigners' for physicians' services and entitled to a right of control on employers' choices (Menegozzo 2005). The unions' strategy also encompassed the self-production of enquiries and the publishing of reports as a means for conquering public opinion and fighting political battles. These were claims that unions not even imagined until a few years before, and now seemed irremissible. Still, more interesting is the fact that those 'experts', whom workers relied upon for their empowerment in the workplace, were mostly Medicine and Sociology students, coming from a student movement which was in Italy strongly hegemonized by the radical left and considered itself as an "intellectual army" at the service of the working class.

To understand this radical shift in the unions' strategy, we must look beyond the workplace, but not too far. The fertilisation ground of these changes was the early 1960s Turin, the core of the country's industrial triangle. The first non-official inquiry was accomplished in 1961 within a chemical plant of the Montecatini group (the company leader in the chemical sector), and it was accomplished by workers, union activists and 'independent' medical doctors. In 1962 the CGIL (General Federation of Italian Workers, namely the most representative of the three national unions later merged in the CGIL-CISL-UIL confederation) started a program of courses for union activists entirely focused on the work environment. The first course was to be held at the Turin FIAT plant, where representatives from a number of chemical, steel and mechanical companies from the industrial regions of central and northern Italy gathered to participate. A landmark new leading concept emerged for the first time during the course, namely the principle of non-delegation in

matters regarding health and safety (we will see what this was to practically mean in the context of the SMAL experience roughly a decade later). In 1965, the CGIL created a Centre for the documentation of working risks and injuries (CRD), which the following year was to be connected with a group of industrial hygienists at the Clinic of Labor of Milan University, with the goal of promoting a new comprehension of the workplace based on the workers' experience. Starting from 1968, the Centre was to publish a Worker's Medicine Review. These initiatives prepared the ground for what was to become a coherent alliance strategy between unions and the 'new' Industrial Hygiene emerged from the 1968 student movement. The basic principle of that alliance was the experts' acceptance of an undisputed hegemony by the working class in the struggle for safety and health in the workplace. During the 1968 university protests, students and researchers in industrial hygiene were invited by unions' representatives to collaborate with the confederation in order to break a history of subordination of medical doctors to employers. What was the keyword of the student revolt in general, that is 'socialising culture', became particularly meaningful in the case of knowledge concerning the workplace injuries and diseases. Medical students cheated university courses to go studying in the factories, by collecting workers' testimonies. A "workers' committee" was created in Milan with the goal of soliciting a radical change of behaviour within the Clinic of Labor.

This was the golden age for the movement for workers' health. A permanent workshop formed by sociologists and 'new' industrial hygienists under the unions' political hegemony elaborated an interpretative framework based on the translation of complex analysis in few simple principles of political action, namely the slogan 'health is not for sale' and the principle of non-delegation in the matter of health issues, that implicate the workers' direct control on knowledge and practices regarding the workplace environment. This group, soon renamed the 'environmental club', helped redefining the new confederate political strategy in the matter of safety and health, and supporting the work of the CRD within the union structure. Among unions' claims, those directly regarding safety and health shifted from 3% in 1969 to 16% in 1972. Most interestingly, however, this process did not concern the work environment only: it was directed toward a broader reform in the national public health policies. Unions and the left parties called for the institution of a new system of public health services directly controlled by the State, in order to abandon the old system based on mutualistic and corporative associations. The first, important step in this direction was the

recognition of scientific legitimacy that the movement gained from the most authoritative source of scientific knowledge regarding the work environment, namely the Italian Association of Industrial Hygiene. At its 36th congress held in 1972, the Association officially recognised the 'objective' value of the workers' experience and the utility of a 'participated' methodology for the collection/ recording of environmental and bio-statistical evidence at the work-group level. This was a methodology on which the 'environmental club' was working from a few years, based on the direct production of knowledge within the workplace through a series of practical measures that workers could accomplish during their workday (annotating levels of noise, quantity of dust, temperature, etc.). The most authoritative national newspaper, 'Il Corriere della Sera', published in 1973 a series of reports on environmental health conditions in Italian factories. In 1978, the National Research Council promoted workshops on the prevention of work related pathologies. A series of accidents occurring during the seventies, mainly in the petrochemical sector, and particularly the Seveso disaster of 1976, were instrumental in keeping public opinion alerted on this issue. Risk prevention, cancer epidemiology, exposure standards, right to know and participated decision making became widespread ideas, earlier elaborated within the 'environmental club', and later appropriated by grassroots 'experts' organisations such as the group 'Medicina Democratica', which included a few personalities from the world of clinical pathology and cancer epidemiology.

The importance of this particularly positive period of struggles and social alliances was represented by its major accomplishment, namely the National Sanitary Reform passed in 1978. The reform bill issued the creation of locally based public health services (USL), with the task of supervising both environmental and health quality within factories and communities. The principle of internal relationship between workers' and citizen's right to health obtained its higher institutional recognition. The most important meaning of the workers' health struggle, therefore, had been its being a primary test for a broader social reform, including the whole body of the Italian society. By struggling for a redefinition of pollution related diseases, factory workers not only searched for a greater safety for themselves, but they also aimed at a more comprehensive sanitary protection for their families and the whole national community. This story represents in some way the success of what unions, and the political left in general, defined as the political strategy of class alliances and solidarity.

Yet, it was not an unconditional victory, nor were all groups equally granted with its promises. Coming at the end of a decade of intensification of class conflicts and dramatic radicalisation in the political scenario (including the insurgence of terrorism), the Sanitary Reform was the ‘tears and blood’ result of five general strikes in the run of five years, and costed the workforce to abandon their claim for the employers’ liability in the matter of safety and health. (The liability principle was to be introduced in the Italian legislation only in 1992, under the pressure of the European Union, as one of the preconditions for being included in the Maastricht treaty). Once the law had passed, furthermore, unions’ leaderships considered their task in the matter of workplace environment as a closed chapter, and delegated the enforcement of the rights to health to public institutions, to be created within the new legislative framework. As in the case of the black lung story in the US (and many more in the same period), the effects of this strategy would be visible only a couple of decades later, when a generation of disabled workers retired from the plants (69), or died in their early fifties by rapidly degenerative forms of cancer.

Those changes have to be seen in the dialectics of the changing conditions of the Italian economy (and power relations among social groups), and within a broader international business cycle. Starting from 1976-77, economic stagnation and recession posed the conditions for the insurgence of the ‘job blackmail’, as a powerful employers’ strategy to lower business costs by shifting them on labor and society. Instead than launching alternative proposals for the recovery of the economy, unions chose to accept the job blackmail, by internalising its logic, and cut on the effort to improve environmental and health conditions in the factories. A congress of the Federation of Steel and Mechanical Workers (FIOM), the most representative of the Italian workforce at that time, sanctioned in 1977 the official putting aside of health struggles. From this very moment onward, union-employer agreements delegated the resolution of health issues within the factory to case by case arrangements within each factory, so practically sanctioning the recognition of power relations and inequalities within each company, and among different regions and economic sectors. The Sanitary Reform was also hampered by a strong resilience within bureaucracy and serious fund deficit. Lack of funds and personnel (1,35 health professionals every 10.000 workers) made the principle of prevention of risks in the workplaces a merely abstract right. Furthermore, by subordinating public health structures to the financing and supervision of regional governments, the bill finally produced a strong differentiation among rich and poor regions of the country.

In the next section I will tell two stories, both concerning the struggle for empowerment, the bodily experience of environmental/health hazards, and the self-production of knowledge. The first story is located at the very core of the industrial Northwest, in the Milan province, and also at the core of the golden age of the struggles for health, namely in the period 1972-76. It concerns a revolutionary experience of change in the production of knowledge and in the power relations within the factory. The second story, located in the south-eastern part of the country, at the periphery of the economic boom, encompasses a much longer period of time, and is concerned with the internal contradictions of the health/workplace relationship in the post-war era.

Health struggles North and South.

A Labor Republic.

In 1972, the Lombardia regional government decided the institution of the SMALs (Medical Services for the Work Environments), with the task of supporting the implementation of the 5th and 9th articles of the Labor Statute, those concerning the workers' right to control the enforcement of safety and health measures within the workplace (CGIL-CISL-UIL 1976). SMAL physicians had the task of entering the workplace, on demand of the factory board (a unions' representatives committee), investigating on the health conditions of the workers, measuring levels of hazard, compiling and updating 'environmental data' registers and personal sanitary journals for each worker. On the ground of their research, they had the faculty of soliciting nosological enquiries in collaboration with public health structures and giving instructions to the employers about compulsory risk prevention measures. Most importantly, both the results of their research and the countermeasures they proposed were to be formerly discussed with the workers, by consulting a health committee specifically issued by the factory board. The creation of the SMALs gives us an idea of the extent to which the ideas expressed by the new movement for workers' health in the late sixties had become widespread and politically feasible: the SMALs were not, in fact, a 'revolution committee' expressed by the radical left, nor were they that 'party advocate body' that the Labor Statute allowed entering the workplace on behalf of the workers. They were a public health institution issued by a regional government law with the purpose of integrating the work of existing public health services (namely the Labor Inspectorate and INAIL) as they had proved inefficient in the light of the worsening of workers' health conditions during the last two decades. Furthermore,

before the regional government passed the bill, a number of local administrations in the Milan province had issued the service on their own budget, as a response to a strong demand, coming from the workers themselves, for technical and professional support in their health grievances. The SMAL experience, therefore, was a locally based, low level initiative, later influencing the institutional evolution at the regional level, and finally becoming an experimental workshop for the national sanitary reform.

In 1970s Italy, the factory represented much more than a business institution. It was the material place where a new course of the national history had been shaped in the run of two decades, a course marked by widespread job opportunities, mass migrations, and a dramatic increase in GNP. The era of the miracle had also kindled the imaginations and social aspirations of millions of Italians, now finally seeing the possibility of entering modernity in the form of mass consumers. The factory had become the very symbol of the entire social life, and it was so also in the materiality of the factory/society relations. Within the workplace labor, health and environment were experienced as a whole, a work-ecosystem dominated by material risks and class relations. This can also explain why the struggle for health in the workplace finally became a struggle for a wide and comprehensive national public health reform (Carnevale and Baldasseroni 1998). A unions' confederation document in 1976, put it in this way: the struggle for health in the workplace was not a luxury, but an inherent necessity in the working class condition; plus, it was the basis on which the struggle for a national public health reform was to be built, in the general context of what the political left called the "reform strategy for a new way of development and a new way of life" (CGIL-CISL-UIL 1976, p. 180). Emanating from the workplace and workers' organisations was a consideration of health as a social right, connected to the workers' experience, in the perspective of what at that time was referred to as the avant-garde function of the working class. We do not need to look too left, however, to find the idea that the working class was the carrying force of the nation: it had been written in the first article of the 1946 Constitution, stating "Italy is a Democratic Republic founded on Labor".

The SMAL story resembles what David Harvey (and Raymond Williams before him), referred to as the experience of 'militant particularism' (Harvey 1995): that is the grounding of universal principles of social justice and the struggles for social empowerment in local/personal experiences. A militant medicine, in our case, encountering the concrete, bodily experience of labor exploitation,

had been the starting point to projecting new health institutions for the workers' protection, and then for the nation as a whole. On the ground of that militant experience of redefinition of disease in a dialectic relationship between workers and physicians, a new, 'stronger', objective knowledge was produced, encompassing a much broader and effective definition of the relation between labor, work environment, risk and disease. Furthermore, being supported by physicians and labor clinicians from the University of Milano, and issued by local and regional administrations, the SMALs were granted the authority of scientific rationality, and unions could use their directions as a solid base for labor disputes. The hegemony of the unions on the entire SMALs activity is clear. Unions pressed local administrations for their institution, and through the political parties which unions referred to, they lobbied for the passage of the regional bill. They also formed the material and logistic basis for the SMAL work, since that would have been impossible without the active participation of factory boards and the workers themselves. Generally, it was the factory board that called for a SMAL intervention and finally decided on the initiatives to carry out.

It was not only a practical and political hegemony, though. The language of the SMAL reports also shows how physicians fundamentally shared with the unions a militant conception of knowledge as a form of empowerment, and a militant conception of health as part of the broader labor/capital conflict. They did not interpret their relationship with employers in a defensive, but in a counter-active way. They entered the structure of production, starting at the plant scale, and discussing the scope and regulation of technological change, that is the very core of industrial production. At the Falck (a steel company) plant in Sesto S. Giovanni, for example, the very purpose of the SMAL intervention was testing the effects that the new electric power furnaces, substituting the old Martin Siemens, were having on the work environment and workers' health. Even if the electric furnaces had the positive effect of eliminating the presence of smoke and decreasing the level of dust and heat within the workplace, they nevertheless produced different injuries: they intensified the rhythm of non-stop labor cycles, provoked violent vibrations and a deafening noise, generated magnetic fields. The SMAL observed in their conclusive report as 'technological progress does not grant an improvement in the quality of human labor and life, it simply grants the employer an increase in productivity'(CGIL-CISL-UIL 1976, p. 73). Technology was not a black box anymore, in the physician's view, but a set of choices and opportunities that could, and must, be discussed in the light of values different from its own, namely human and environmental health.

Furthermore, in the SMAL vision, coherent with the insights of the ‘new’ industrial hygiene and the ‘club of the environment’, technical progress and economic growth had meant that in Italy, as in other advanced industrial countries, there was not a general improvement in health conditions, but a shift in the disease pattern. The kind of pathologies had changed, not their social incidence. This was also true within the factory, not their social incidence. This was also true within the factory, where the classic distinction among risk factors (dust, chemicals and physical conditions) was to be aggravated by new factors, such as rhythm and position of work, standardisation, repetition and automatisation. Furthermore, given that most occasional illnesses tended to become chronic, “the opinion that any health professional felt to give about the dangerousness of some work environment –the SMALs stated– would be insufficient and partial if not confronted with the opinion of those who live there eight hours a day”(CGIL-CISL-UIL 1976, 110).

The SMALs self-conceiving as a militant experience also is shown by their behaving as rank-and-file activists, rather than as impartial, distant science professionals. In Cinisello Balsamo, for example, the SMAL dealt with a complex social conflict, opposing local citizens against the Terzago (also a steel company) plant because of a noise issue. The SMAL proved in this case to be much more than a health professionals’ service, acting as an intermediary in the social conflict while accomplishing its task of mandating stricter health and safety measures. They quickly connected the noise pollution issue in the community with the existence of a serious health hazard within the workplace, and acted toward eliminating both at their source. That was not an easy task, however, since the situation was exacerbated by the employers’ response to citizens’ protests, that is forcing workers to close the plant’s windows, so aggravating the charge of noise at the workers’ ears, and the lack of ventilation within the plant. Furthermore, in this small scale factory the union’s presence was weak, so that the SMAL intervention had been called for by the local public health official on demand of a citizen’s anti-noise committee. The physicians’ official entrance the workplace as a bureaucratic agency could upset the workers, which were meanwhile worried about the employer’s menace to shut down the plant. The relations between workplace and environment, and between labor and community struggles in the matter of health, are clearly shown by this case in their internal contradictions. They requested a kind of intervention that was scientific and political at the same time, able to re-connect the two fundamental moments of the struggle (within and beyond the factory gates), and to act at different material and political scales. Reassuring the

workers and proposing to them and the citizens the possibility of eradicating the noise problem, required that the SMAL adopt a militant vision of their institutional and professional task: it required them to accomplish tasks not strictly inherent in their assignment record, such as setting up a series of community-workers meetings, with the participation of experts from the Othorinology Clinic of the University of Milano, and exponents from the local administration. In their final report from the workplace enquiry, the SMAL physicians diagnosed partial deafness in 30% of the workers and chronic acoustic shock in another 36%, mostly women. These results, based on 'objective' audiometric measurements and international standards (AAOO 1959), could not be denied by the employer. The SMAL intervention, though, did not stop at the enquiry on workers' health conditions: the physicians searched for the collaboration of "democratic technicians and engineers", as they wrote in their report, meaning the voluntary support of mechanics and physics experts in solving the interrelated problem of vibration and transmission of acoustic waves. As a result, the SMAL was finally able to suggest a whole variety of technical solutions for limiting the noise and preventing future injuries, while at the same time accomplishing the resolution of the community/workplace conflict.

Also, in the case of the Metal-Lamine (a metal-mechanical plant) of Assago, the connection between work environment, workers and community health was evident. There too, the SMAL intervention had been demanded by public administration offices at the local level, among which the Town Ecology Service, on the grounds of complaints coming from workers of a neighbouring plant concerning the smoke discharges from the Metal-Lamine. The SMAL physicians found the presence of lead dust within the workplace was ten times acceptable standards; they also gave instructions for the immediate hospitalization of eight out of thirteen smelters. It also came out during the enquiry that five dogs were already dead in the plant in the course of one year, and the workers suggested that maybe they had eaten lead dust deposited on the ground. The stopping of the foundry blocked the whole production, and the management threatened to shut down the plant; finally, however, they decided to implement all the requirements of the SMAL and the local administrations offices concerning the abatement of lead dust and smoke, and to install a water depuration system. The managers also asked the SMAL to become the company's consultant in the matter of health and safety regulation.

This last story also opens up the question of managerial and entrepreneurial behavior. Very little is documented in this respect within the SMALs records, nor has business history given any consideration whatsoever to the topic. Nevertheless, the only reported cases of opposition to the SMAL's work have been the ones within plants owned by the Montedison group, the most important chemical company in the country, controlling a number of chemical plants producing synthetic fibres and pharmaceuticals, partially State owned. This company was going to merge with the Eni group (the State Agency for Hydrocarbons), forming Enichem, a powerful petrochemical company, which came to own a number of plants for the production of fertilizers and plastics, spread along the Italian seashores. Montedison's behavior is symptomatic of the particular contradictions that marked the Italian experience in the matter of workers' and environmental health. In opposing the entering of the SMALs in the group plants, the Montedison management claimed that protecting the workers' health was a task of their own, which was accomplished within the group's medical service. The existence of such a service within the company, and its being under the partial control of the State, were, in the management's view, sufficient reasons to present the company's workers as a privileged category, which did not need any supplementary check. Such an idea of the Montedison-Enichem workers as a privileged group was grounded in the particular involvement of the State within the petro-chemical sector, its being perceived as a strategic production in the Italian economy, and the particular power relations between unions and the State that allowed Italian workers in the public companies to be protected from being fired. This complex mix of conditions gave the petro-chemical industry in Italy an immense social power, as we will see in the second story, concerning an Enichem plant in Manfredonia. While in the case of Milano the management found a socio-political environment, which was not easy to handle, given the high employment rate and income in the province, it found a much more ideal ground in the southern areas where the group was starting to locate its plants. In these cases, the State entrepreneur shall deal with a rampant conflict of interests and functions within itself, centred on the problem of risk definition and the distribution of social costs.

State Chemicals.

The ENI group first arrived in Manfredonia in the late sixties, in the form of ANIC (one of its associates) to prospect on the methane layer in the area, in order to build a plant for the production

of urea and ammonium sulphate (used as fertilisers), and caprolactam (a row material for synthetic fibres). Since the very beginning, the choice for the location of the plant was highly controversial. Manfredonia was a nice marine town of a few thousands people, surrounded by a Mediterranean landscape of olive trees and vineyards degrading from the hills to the sea, a few archaeological sites, and an enchanting fishermen bay on the Adriatic sea. The 'natural vocation' of the area was for recreation and tourism, although fisheries and agriculture still represented the most part of the income sources. Starting from the eighties, the whole cape area within which Manfredonia is located, the Gargano, has become one of the most attractive for tourism in the whole country, also thanks to a low profile development, which has left intact most of the landscape beauty. However, Manfredonia is not enjoying this same opportunity, since its surroundings have been irremediably ruined, and its soils and the sea have been contaminated by the State chemicals. As with many de-industrialising areas, after seeing a huge population increase in the year of the chemical boom, the town now suffers from high unemployment rates. The income that people do not get from the factory anymore cannot come from any other local source, since agriculture and the fisheries have been seriously compromised by contamination. Since 1988, the World Health Organization declared Manfredonia a highly risky area in terms of industrial pollution, whose food chain should be considered contaminated by industrial toxins, and called for the establishment of a permanent epidemiological observatory on the town population (Di Luzio 2003).

Risk positions. A number of public agencies and a few personalities from the environmental movement, the professions and Universities, expressed a strong opposition to the choice, which soon appeared to be due to political reasons: the area, in fact, corresponded exactly with the electoral base of a deputy in the government party, which was also a top manager within the ENI group. Besides being a beautiful land, furthermore, the Gargano is also a risky one, due to hydro-geological instability and seismic activity. To add a source of industrial risk on this territory was not a good idea, indeed: the possible consequences of the intersection of these two sources of risk, the 'natural' and the industrial, became evident a few months after starting production in July 1972, when a violent flood provoked the inundation of the plant, and the ammonia synthesis column threatened to explode for an electric power black out.

However, that opposition did not encounter a huge consensus base. As many other areas of the South, with unemployment close to 30% during the sixties Manfredonia was experiencing the

departure of many in the younger generations, who headed North in search of work. The possibility that they would be replaced by an affluent society drawn by factory jobs in a State industry was perceived as a miracle; it seemed that the "economic miracle" was finally coming to the South. A crucial factor in this story, however, was the lack of information: not only did Italian public opinion of the time have no clear ideas about what a petrochemical plant could do to people and the land, and the population of Manfredonia had only a vague idea of industrialization in general, but also local people was kept in complete obscurity about the ENI plans until the starting of the construction. The first signs of the company's impact were marked on the landscape when secular olive trees, ancient oil mills, the traditional dry-stone walls for delimiting the cultivation, and old cattle trucks began to disappear from a prospecting rural area immediately outside Manfredonia Manfredonia. It became clear the fact that the State Company felt it did not need any plan approval or licences at any level of the local administration. They had a rare commodity to exchange for impunity: jobs. Only two decades later, after the consequences of the plant activity had been already metabolised by every living organism in the town area, did the Mayor ask the company to prove that its production 'does not bring any damage to the health of the neighbourhood'.

Actually, from 1972 onward, the plant caused a series of incidents, some of which were to leave a concrete and material sign in the history of the town, while all of them were to change the collective psychology, gradually transforming local people into citizens of the 'risk society' (Beck 1992). In the course of these accidents, the city population could see and clearly perceive, by their noses, ears and hands, what was being produced within the factory, besides salaries and income. Ammonia, arsenic, nitrous acid, sulphuric acid and other pollutants were visibly released in a series of fall-outs amounting to several tons each, provoking collective intoxication, mass escapes and panic. The most serious accident occurred in a Sunday morning of September 1976, two months after the more famous Seveso accident, when an explosion in the arsenic column made the dome fly over the whole plant, falling on a shed on the opposite side. Soon after, people walking in the streets from the town centre could see a wide brown cloud coming from the plant, moving toward them, and then a sort of yellow slush gently falling like snow all around. That snow was arsenious dioxide, and it was later calculated that some 32 tons of it had fell on the entire town area. The most streaking fact, in this story, was the way in which the company and public authorities handled the situation, by impeding any real spread of information among the population, and minimising the

risks with incredible irresponsibility. The symptoms of a widespread contamination became soon apparent from the living world: the day after the explosion, many barnyard animals dyed and large quantity of arsenic dust were found on the leaves. In the following hours, the first 100 people were hospitalised with strong signals of arsenic intoxication. These were mostly workers from the plant and residents from the Monticchio neighbourhood, an ex rural area surrounding the factory, which had become a crowded (12.000 residents) and poorly housed settlement for people who had migrated from the countryside in search of jobs. The ANIC direction denied the existence of any risk, and put the employees at work regularly, as if nothing had happened. The only countermeasure they took, was the one of sending a special team of maintenance workers, soon after the accident, to clean up: with no protection, nor any idea of what they were handling, these workers kept sweeping away the arsenic dust all day and night, so as the plant could regularly work on the next Monday.

Justice: soon after the accidents, in October 1976, 6 top managers from the ANIC plant were investigated for 'negligent slaughtering', but the preliminary inquest did not even come to the tribunal. Actually, the slaughtering was not evident, yet: it would be so only a couple of decades later, when a number of workers which had entered the factory gates in the early seventies came to illness and death by a variety of serious affections related to the accident of 1976.

There was no SMAL, in Manfredonia, nor public health officials, students, or even unions willing to counteract the ANIC powerful contamination of both human bodies and social values. Manfredonia was not the Milano province, and it was also far from the core of that movement for workers' health and the new industrial hygiene that had developed in the North. It was far even from Naples, where some grassroots organisations and a student's movement, however politically isolated, existed and acted. Yet, something happened in Manfredonia, something that is of a great relevance to my narrative. In 1995, a disabled and retired worker from the Enichem plant, Nicola Lovecchio, casually met a physician at the Labor Clinic of the University of Bari, Maurizio Portaluri. From this fortuitous encountering, a huge enquiry on the environmental and health crimes connected to the Enichem plant would take place, finally leading to a huge trial, with hundreds of plaintiffs, which is still going on.

When Lovecchio met Portaluri for a medical check, he was already paying the consequences of the denying strategy among company doctors at the plant, which had given false diagnosis to all the workers for decades, by underestimating their tests results, and declaring them 'able to work' in the

most hazardous tasks even if their bodies were already contaminated. So, Lovecchio had a lung cancer which, if diagnosed a couple of years before, when it was already visible by an accurate X-rays, could have been reduced. Lovecchio, instead, was declared ‘able to work’ until the cancer was widespread, and died at age 49, 21 years after the plant accident of September 1976. Portaluri represented the kind of ‘democratic physician’ that the movement for workers’ health in the seventies had called for being allied with the workforce against employers and company doctors. He had read, some years before, a dossier filed by the organization Medicina Democratica about another Enichem plant, located in Porto Marghera, near Venice. The dossier documented the struggle for justice that another worker, Gabriele Bortolozzo, was fighting against the same group, to document the criminal responsibility of the management and company doctors in causing the death and disability of many workers from various forms of cancer, all related with the production of VCM and PVC. That struggle was for justice, not compensation. It called for the social recognition of crimes against the bodies and the dignity of workers, and against the environment. The Porto Marghera trial, after many years and contradictory judicial sentences, has come to an end with the recognition of guilty for all the accused, and yet the prescription of many crimes for decadence (an Italian law’s kind gift to all powerful criminals who can afford long and costly processes till the time expires for their liability). After meeting Lovecchio, the physician decided to start an enquiry about the causes for his illness, considering him too young for having a lung cancer of that dimension, also being a non-smoker. That personal investigation became the start for a much broader one, which Lovecchio decided to make on his own, by interviewing his colleagues (and colleagues’ widows), by collecting data and recording stories, by soliciting his fellow workers to ask the company for their clinical files. The result of this work, which Lovecchio carried on until his death is the judiciary enquiry of Justice Lidia Giorgio.

Between the two enquiries, however, there has been a sentence, pronounced by the European Court for Human Rights in Geneva, in February 1998. Ten years before, the Court had been invested of the Manfredonia case by a group of 40 local women, who had denounced the ENI group for the dangers correlated to the presence of the plant in their territory. The Court declared the company guilty, by highlighting the relations between the toxic wastes and emissions from the plant and the women’ private/familiar life. The core of the sentence, though, was the ‘right to know’, that is the idea that the plaintiffs were entitled of a right of access on information strictly concerning their and

their relatives' properties (their house and body), and that the company had illegally retained that information. The Court also declared the Italian State guilty for not accomplishing its task of protecting the plaintiffs from the violation of their private life. The 'right to know' theory, however, does not imply the liability of the company (or the State) for the direct consequences of production. While the women from Manfredonia had asked a huge, collective compensation for 'biological damage', the Court granted each plaintiff an individual sum as compensation for 'moral damage', for a total amount of 1/50 of that requested. Furthermore, the Court rejected the request of the plaintiffs that the Italian State were compelled to clean the area, to establish an epidemiological study of the whole Manfredonia population, and to start an enquiry about the environmental impact of the Enichem plant. (Who protects humans from the Court for Human Rights' violation of their dignity?)

Community: after the 1976 accident, no wide or significant reaction came from the community. The attempt to minimise hazards, by delaying the test results, and by recalling almost all the workers to their regular tasks, had the effect of reassuring a population still largely unaware of the real consequences of the accident. Only a radical left, grassroots organization, DP (Proletarian Democracy), tried to keep public opinion alerted against the public authority and company 'lock-on-information', such as in the Seveso experience. A few hundreds persons participated in a public demonstration set up by DP some weeks after the explosion; the participants were not mere observers, but people directly involved in the environmental consequences of the ANIC productions. Those protests did not represent the voice of some isolated and elitist environmentalist, but came from the world of work. Factory employees denounced having been sent to work with high level of arsenic in their urine and no protection against the environmental contamination within the plant. Also, the Manfredonia fishermen, a group which had been in the past strongly representative of the community identity, and which continued to form a significant part of the town income despite the growing threat coming from the ANIC plant, denounced that the Harbour Office had kept evidence of marine pollution in the bay area secret, in order not to create alarm and disturbance in the local economy. Most interestingly, however, those voices came from the Monticchio neighbourhood, where finally a Citizens' Committee for the Defence of Health was created, and from where a demonstration of more than 10.000 persons started its march toward the City Hall in October 17 and 18. Nevertheless, DP was not a powerful organization with thousands

of affiliates, neither its social influence could grow much, given its clearly declared loyalty to the extra-parliamentary Marxist left. Other political forces, mass parties and the unions kept largely absent from the social construction of a community opposition to the plant, in that as well as in later occasions. In understanding such a position, the 'job-vs.-the-environment' discourse is probably the most relevant narrative: no party or union wanted in fact to be identified as the one who contested a job-offering agency, even if only 850 people effectively worked in the plant in 1976, and the total number in the following decades will never exceed one thousand (on a population of 50,000).

However, the lay production of knowledge, and the bodily experience of risk/disease, were to produce an evolution in the community's perception of the plant/environment/health relationship. That was to become clear a decade later, in September 1988, when the Italian Government announced its intention to allow the Deep Sea Carrier, a ship carrying toxic wastes, to enter the Manfredonia harbour. Although it was not clear the reason for that decision (there was no facility for the collection/treatment of hazardous wastes in the entire Puglia region), people immediately connected the Sea Carrier with the presence of the ANIC plant. In that occasion, the town entered a 'public order' emergency situation, with a four-day demonstrations, fights, the Mayor ordering the closing of schools, citizens assaulting the Town Hall, urban mobs, and various forms of civic protest. Once again, however, political parties and unions seemed completely absent from the scenario of the struggle. The love affair of Manfredonians with the ANIC (which in the meanwhile has become part of the Enichem group), seemed to be a story of the past. It is not clear yet what the community/workers relationship was in that particular situation: we only know that, given the state of emergency, many workers found themselves blocked inside the factory, and some of them later joined the protest. We also know, however, that 400 workers' families denounced a climate of psychological violence exercised on their children within the local schools. The 'toxicity' of that struggle, or maybe that which citizens had become accustomed to during a decade of chemical pollution, had also contaminated social relations, while nothing seemed to even resemble the discourse of class solidarity that had been deployed in earlier health struggles.

Body/knowledge/power: on the bodies of those workers, whose high intoxication became apparent as early as in 1976, and many of whom were to develop mortal forms of cancer in the following two decades, we can read the very story of the health/job blackmail in Italy, as well as in other industrialised countries. Workers' bodies are often meta-texts, whose interpretation in their social

and power dimension can help us build a different narrative from the traditional ‘man/nature’ discourse. The first chapter of that narrative would be named ‘rational lies’: these were the delayed and misinterpreted data coming from the laboratory tests taken on those workers, and the deliberate manipulation of scientific standards with the aim of altering the test results. Responsible for those crimes had been some well known and respected industrial hygienists, both at the Bari (the closest city) and the Milan Labor Clinics, all employed as professional consultants on the payroll of the ENI group. They denied public access to the tests’ results for nine precious days, then revealed levels of urine contamination from arsenic from 20 to 50 times the maximum standard for several hundreds of cases. Local hospitals, however, were not able to receive so many people at once, and a number of them were sent home without having received any kind of care. In this contingency, the company doctors decided to arbitrarily raise the levels of allowable urine contamination of 100 and 200 times, so as to declare most of the employees ‘able to work’.

When Portaluri and Lovecchio started their joint investigation in 1995, they were in some ways reproducing the earlier experience of the SMALs, but at the individual scale. The inquiry revealed a 20-year story of denials and systematic violation of workers’ rights, accomplished by a State company with the complicity of official science. One worker told how, when he and his colleagues took a shower after the job, blood leaked from their noses and their mouths, because of the laceration of mucous membranes by the effect of the chemical substances they handled. This was a signal from their bodies, clearly contrasting with the doctors’ pretension that it was a form of cold. As the same worker sarcastically remarked: ‘How could we all have got the cold at once?’ (Di Luzio 2003, p.) Nevertheless, workers were afraid to speak about their illnesses. The company, a worker said, ‘has always done what it wanted to, and also has done a lot of favours to the families hit by the deaths, so they won’t speak ever’ (Di Luzio 2003, p.). Another worker remembered the one ‘smart’ doctor they had ever had in the factory, who stayed only two months before being fired. Other workers also thought that many silences had been purchased by the company. Someone, however, suggested a further explanation for the social acceptance of risk: ‘I am sure there is something more – a worker said –, that people want to forget. It is a psychological self-protection’ (Di Luzio 2003, p.).

Though isolated and frightened by the company’s power, Manfredonia workers still shared a common story of ‘situatedness’ and knowledge. Maybe the best representation of the workers’

experience of work/health/environment internal relations is the story told by Michele, a disabled, early retired worker, synthesising the relevant moments of the process of risk construction in Manfredonia.

> *I was there for the first time in 1969. There was a hilly seaboard all covered with olive and almond trees, there were plenty of sandy inlets around, there was an old convent and a water spring that we used for drinking. When they built the plant, hundreds of secular trees were abated, and the seaboard was levelled. Then came the power plant, the ammoniac department, the one of urea, the 10th isle, the 13th isle… I entered the factory in 1974, as a maintenance worker. Then came the accident. On the plant's ground there was a layer of yellow dust one centimetre thick, and no one minded that much. It was arsenic. We used to eat lunch with all that dust around. When you came to Manfredonia by car, in the early morning, you could see from the highway a yellow cloud of nitrous over the town. It was waste from the manufacturing of caprolactam, which was not allowed to be discharged in air. So, the company did it during the night.*

That landscape that Michele describes is a familiar one to many people around the world, experiencing toxicity and power relations in the course of their life. It is a familiar landscape to environmental historians too, that have narrated many times the story of pollution and the changes occurred in the land. What is still missing from those narratives is Michele himself, and the many workers who have embodied the history of the environment.

References

Allen, B., *Uneasy Alchemy. Citizens and Experts in Lousiana's Chemical corridor Disputes*, MIT Press: Cambridge (MA) 2004

Barca, S., 'Lavoro e salute in Italia. Intervista a Massimo Menegozzo', I Frutti di Demetra 5 (2005)

Bartrip, P.W.J., *The Way from Dusty Death. Turner and Newall and the Regulation of Occupational Health in the British Asbestos Industry, 1890-1970*, The Athlone Press: London and N.Y. 2001

Beck, U., Risk Society. Toward a New Modernity, Sage: London 1992

Berlinguer, G., *Storia e politica della salute*, Milano: Angeli 1991.

Brooks, P., *Rachel Carson. The writer at work*, Sierra Club: S.Francisco, 1989

Carnevale, F. and A. Baldasseroni, *Mal da lavoro. Storia della salute dei lavoratori*, Roma-Bari: Laterza 1999

Castronovo, V., *Storia economica d'Italia. Dall'Ottocento ai giorni nostri*, Torino: Einaudi 1995

Clarck, C., *Radium Girls. Women and Industrial Health Reform, 1910-1935*, University of North Carolina Press: Chapel Hill, 1997

Cohen, J. and Federico, G., *Lo sviluppo economico italiano, 1860-1960*, Bologna: Il Mulino 2002

Crainz, G., *Storia del miracolo italiano. Culture, identità, trasformazioni fra anni cinquanta e anni sessanta*, Roma: Donzelli 2001 (1996)

Crepas, N., 'Industria', in M. Firpo, N. Tranfaglia and P.G. Zunino (eds.), *Guida all'Italia contemporanea, 1861-1997*, Milano: Garzanti, 1998.

Crepax, N., *Storia dell'industria in Italia. Uomini, imprese, prodotti*, Bologna: Il Mulino 2002

De Felice, F., "Nazione e sviluppo: un nodo non sciolto", in *Storia dell'Italia repubblicana*, vol. 4. *La trasformazione dell'Italia: sviluppo e squilibri*, Torino: Einaudi 1995

De Matteis, G., "Le trasformazioni territoriali e ambientali", in *Storia dell'Italia repubblicana*, vol. 4. *La trasformazione dell'Italia: sviluppo e squilibri*, Torino: Einaudi 1995

Dembo, D., C.J. Dias, A. Kadwani and W. Morehouse, *Nothing to Loose but Our Lives. Empowerment to Oppose Industrial Hazards in a Transnational World*, New Horizon Press: New York 1988

Dewey, S., ‘Working for the environment. Organized Labor and the origins of Environmentalism in the United States, 1948-1970’, Environmental History, 1 (1998)

Di Chiro, G., *Nature as Community. The Convergence of Environment and Social Justice*, in Cronon, W. (ed.), *Uncommon Ground. Rethinking the Human Place in Nature*, W.W. Norton & Co., New York 1996

Di Luzio, G., *I Fantasmi dell’Enichem. La lezione di civilta’ di un operaio del petrolchimico di Manfredonia*, Milano: Baldini Castoldi Dalai 2003

Elling, R.H., *The Struggle for Workers’ Health: A Study of Six Industrialized Countries*, Baywood: New York 1986

Faber, D., *The Struggle for Ecological Democracy: Environmental Justice Movements in the United States*, New York: Guilford Press 1998

GCIL-CISL-UIL, *Salute e ambiente di lavoro. L’esperienza degli SMAL*, Mazzotta: Milano 1976

Ginsborg, P., *Storia d’Italia dal dopoguerra ad oggi*, Torino: Einaudi 1989

Gordon, S., ‘Shell No! OCAW and the Labor-Environmental Alliance’, Environmental History, 4 (1998).

Gottlieb, R., *Forcing the Spring. The Transformation of the American Environmental Movement*, Washington: Island Press, 1993

Harvey, D., *Justice, Nature, and the Geography of Difference*, Cambridge (Mass.); Oxford: Blackwell Publishers, 1996

Hurley, A., *Environmental Inequalities: Class, Race and Industrial Pollution in Gary, Indiana, 1945-1980*, Chapel Hill: University of North Carolina Press, 1995

J.B. Foster, *Marx’s Ecology. Materialism and Nature*, Monthly Review Press : New York 2000.

Johnston, R., and A. McIvor, *Lethal Work. A History of the Asbestos Tragedy in Scotland*, Tuckwell: The Mill House 2000

Judkins, B.M., *We Offer Ourselves as Evidence. Toward Workers‘ Control of Occupational Health*, Westport (CT): Greenwood Press 1986, p ix.

Kapp, W., *The social costs of private enterprise*, Shocken Books: New York 1971 (1950)

Leventein, C., G. DeLaurier and M.L. Dunn, *The Cotton Dust Papers. Science, Politics and Power in the “Discovery” of Byssinosis in the U.S.*, Baywood: New York 2002

Markowitz, D., *Deceit and Denial: The deadly Politics of Industrial Pollution*, Ewing (NJ): University of California Press 2003

Martinez Alier, J., The Environmentalism of the poor. *A study of ecological conflicts and evaluation*, Northampton (MA), Edward Elgar Pub., 2002

McEvoy, A. 'Working Environments. An Ecological Approach to Industrial Health and Safety', Technology and Culture 2 (1995)

Meisner Rosen, C. and C. Sellers, 'The Nature of the Firm: Towards an Ecocultural History of Business', Business History Review, 73 (1999)

Melosi, M., *Equity, Eco-Racism and the Environmental Justice Movement,* in D. Hughes (ed.), *The Face of the Earth. Environment and World History*, M.E. Sharpe, New York 2000

Mittman, G., M. Murphy, C. Sellers, 'A Cloud Over History', in Mittman, G., M. Murphy, C. Sellers (eds), *Landscapes of Exposure. Knowledge and Illness in Modern Environments*, Osiris n. 19 (2004)

Montrie, C., 'Expedient environmentalism. Opposition to surface coal mining in Appalachia and the United Coal Workers of America, 1945-1975', Environmental History 1 (2000)

Musso, S., 'Lavoro e occupazione' in M. Firpo, N. Tranfaglia and P.G. Zunino (eds.), *Guida all'Italia contemporanea, 1861-1997,* Milano: Garzanti, 1998.

Nash, L., 'The Fruits of Ill-Health. Pesticides and Workers' Bodies in Post-World War II California', in Mittman, G., M. Murphy, C. Sellers (eds), *Landscapes of Exposure. Knowledge and Illness in Modern Environments*, Osiris n. 19 (2004)

Obach, B.K., *Labor and the Environmental Movement. The Quest for Common Ground*, The MIT Press, Cambridge (MA), 2004

Rosner, D. and G. Markowitz, *Dying for Work. Workers' Safety and Health in Twentieth-Century America*, Indiana U.P.: Bloomington 1986

Sellers, C., *Hazards of the Job. From Industrial Hygiene to Environmental Health Science*, University of North Carolina Press: Chapell Hill and London 1997

Signorelli, A., "Movimenti di popolazione e trasformazioni culturali", in *Storia dell'Italia repubblicana,* vol. 4. *La trasformazione dell'Italia: sviluppo e squilibri*, Torino: Einaudi 1995

Smith, B.E., *Digging OurOwn Graves. Coal Miners and the Struggle over Black Lung Disease*, Philadelphia: Temple U.P. 1987.

White, R., ‘Are You an Environmentalist, or Do You Work for a Living? Work and Nature’, in W. Cronon (ed.), *Uncommon Grounds. Rethinking the Human Place in Nature*, W.W. Norton: New York, 1996.