Notes for Remarks

by

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PERSPECTIVE

It is becoming increasingly obvious that the health hazards which are now rapidly emerging from the workplace constitute a significant threat to the health and well-being of countless people throughout the world. Although much has been achieved in the past, there can be little doubt that societies have a long way to go before it can be said that the factory floor, the construction site, the farm, the mine, even the office, are as safe as they can be made.

In his book "The Growth Of Physical Science", the late Sir James Jeans stated:

> "We look on helpless while a material civilization carries us at breakneck speed to an end which no man can foresee or even conjecture, and the speed forever increases. The last hundred years has seen more changes than a thousand years of the Roman Empire, more than a hundred thousand years of the Stone Age."

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It is this breakneck speed of technological progress that has brought in its wake a host of challenging problems. If this increasing momentum is to be kept under check, it is essential that the full research and development potential of our disciplines be harnessed and that they be pursued in full cooperation at the local, national and international levels. To this end this important Congress has been convened.

We cannot slow down the technological advance at this stage in time, nor is it desirable that we do so, but we can attempt to make the workplace a more hospitable milieu for the worker, where all hazards to health are a matter of concern and priority. The dismal record of the industrialized countries cannot be allowed to be repeated in the Third World as they enter their own industrial revolutions.

The fact that we are all gathered here today is testimony to the international significance attached to occupational health and safety hazards. The leadership of the International Labor Organization (ILO) and the International Social Security Association (ISSA) has long been of paramount importance to the health of millions of workers throughout the world.

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They have made governments aware that if future occupational health and safety programs are to have a major global impact, it is imperative that international teamwork be utilized to deal with the circumstances which will challenge us in the 1980's and beyond.

In times gone by, in many fields of health, the tendency was to wait until a particular hazard became readily recognizable as a problem and only then to take appropriate corrective action. That is no longer adequate. Now, our priority and philosophy must combine and be directed to the early recognition of any potential threat before it has the opportunity to inflict harm. As in other fields of health, the thrust should be toward preventive measures to anticipate and deter health hazards as they emerge from the workplace.

In the distant period when our ancestors took their first primitive, tentative steps towards industrial development, they were subjected to a broad range of occupational dangers. In both the neolithic and bronze ages, man was already engaged in manufacturing and without doubt was exposing himself to hazards known and unknown. Interest in the health and well-being of working people is a relatively recent phenomenon, however;

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little evidence is found of specific problems in centuries long past, but that they existed there is little doubt. The physician Galen, who was born in 131 A.D. wrote:

> "For the lives of many men are involved in the business of their occupation and it is inevitable they should be harmed by what they do."

That was a fatalistic attitude, not accepted today, but one which confirms that all who toil in the workplace are exposed to various hazards.

It is obvious that the present economic climate, which so affects everything about us, has a bearing as well on the subject of this Congress. Occupational health and safety have always been linked to the prevailing economic scene. Nevertheless, I urge you not to allow this association to sway you unduly from your chosen path of controlling hazards in the workplace. Whenever economics and health are discussed, the question of "benefit-to-cost" ratios always comes up. The present economic recession is influencing heavily modern industrial practices. In the thrust for more cost-effective working practices, however, it should not be forgotten that health and safety are themselves major contributors to increased productivity.

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RELATIONSHIP OF INDUSTRIALIZATION TO HEALTH HAZARDS

Thomas Carlyle expressed the opinion:

"Man is a tool-using animal ... without tools
he is nothing; with tools he is all."

Such a view would today be regarded as over-simple or over-optimistic. Whichever, the simple hand tools of the past have now given birth to an awesome array of technological innovations, each of which brings its own specific risks. Sometimes these are virtually negligible but in other cases they are of a frightening order. In our love-affair with progress and with gadgetry, it must not be forgotten that the purpose of technology is to benefit humans, and not the reverse. One route toward such benefit is to employ the new technology in research and development programs in order to reduce or eliminate the risks found in today's workplace.

In the past there has been a tendency to relate health and safety problems primarily to a factory setting. Writers such as Dickens vividly highlighted the hazards which were commonplace in the European factories of his day. Now it is more common, and preferably so, to take a more panoramic view: one which encompasses

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agriculture, forestry, mining and a host of other productive activities. It is essential that such a perspective be adopted particularly by developing countries, for often much occupational concern arises far away from the well-demarcated confines of a factory floor.

Several hundred years ago relatively simple hand tools were used to make the majority of new products. Then came simple machinery, powered by various means. The new sources of energy only shifted the burden on workers from one kind to another. The number of hazards increased immensely. Poor ventilation, extremes of temperature, overcrowding, dampness, unprotected machinery, and dangerous working practices were all the order of the day. It would be comforting to think that such circumstances are a thing of the past. Yet we know they are not. Tragically, unwholesome working environments are becoming commonplace in all too many Third World countries. The price of national economic advantage should not be paid with the lives and health of individual workers. Fortunately, the skills and the determination of persons such as those at this Congress are leading the way to appropriate and effective health and industrial technologies.

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Thanks to the ILO and to activities of national bodies such as the Canadian Centre for Occupational Health and Safety, working conditions have improved considerably in recent years. Even so it is commonplace that the modern worker faces a myriad of occupational diseases and safety hazards many of them unknown even a few years ago. The pattern is in a constant state of change, and what is seen today may well be the tip of tomorrow's iceberg. At the same time we know that certain dangers may, from time to time, be magnified out of proportion, causing psychic trauma in the process. There is a continuing need, therefore, to develop basic epidemiological programs in order to obtain a balanced perspective. In time, the new discipline of industrial epidemiology will become broadly recognized and will be able to make increasingly important contributions to research and development programs.

The dimension of workplace health and safety hazards today is an exceedingly broad and formidable one. I am far from competent to be able to catalogue its contents. Instead, I hope you will permit me to look at a few facets of the problem. At one end of the occupational spectrum may be perceived the relatively "minor" threats, often mainly of a nuisance value. At the other end can be observed the stark reality of sudden trauma or death in the place of work. The number of risks is increasing every day, and there is little to suppose that the pattern will be different in years to come.

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Of all industrial occupations with which risk has been and continues to be associated, mining is most broadly known to the general public. The history of this endeavour has been marred in all countries in all centuries with major catastrophes and chronic disabilities. In the 16th Century men such as Paracelsus and Agricola documented some of the more serious hazards associated with the occupation of mining. Many of you are familiar with the classical work of Bernadino Ramazzini, the Father of Occupational Medicine, on the subject. In the intervening centuries there have been many major improvements relating to working conditions in mines. As a result, many mines of today are distant relatives of the mines of the ancients, or those in the 19th Century where abysmal working conditions were often the rule. In many countries important health and safety measures have been introduced to make the mine a safer place to work. Even as mining becomes safer, however, it continues to take its toll and particularly so in many developing countries.

The birth of organic chemistry followed closely upon the heels of the industrial revolution. Prior to its emergence, craftsmen and artisans were long familiar with a wide range of chemical processes involving copper, silver, gold, tin, lead, and mercury. It was the

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discovery of the first aniline dye in 1856, however, that formed a basis for the manufacture of synthetic chemicals. Since then a vast number of health and safety hazards have emerged as a result of the tremendous growth of the chemical industry. Dyes, pesticides, detergents, pharmaceuticals, flavour essences, preservatives, plastics and a host of other products have brought with them an increased risk to both the producer and the consumer. Although much of the toxicology of these products has been well-documented, there is reason to believe that we still remain ignorant of the more subtle long-term effects of many of these chemicals. While earlier profiles of these preparations revolved around the concept of acute and chronic poisoning, there is now an increasing awareness of the less obvious aspects, particularly those relating to carcinogenicity. More research on an on-going basis is essential if science is to move ahead of the problem. If it fails to do so, there is no doubt that community and social pressures, already acute in some countries, will become even more influential, and properly so.

Occupational cancers continue to carry a relatively high profile and to pose a problem in certain industrial settings. Percival Pott's classical description in 1775 of chimney-sweep's cancer focused attention on occupations which were associated with cancer of the skin. Then came the discovery that some organic dyes

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were associated with bladder tumours. Now, in the 1980's, society is faced with a legion of chemicals and compounds of potential carcinogenicity. Hopefully, the establishment of "acceptable" and "safe" exposure limits, exposure monitoring, development of appropriate protective equipment, handling apparatus and clothing will all help to modify the pattern emerging in the 1980's. Again, however, more research into the epidemiological aspects will be required.

Ionizing and non-ionizing radiation continue to be at the focus of many industrial controversies. This area of modern physics has had a tremendous impact on all our lives, whether we relate to the workplace or not. Yet somewhat ironically, the radiation industry has proven to be a relatively safe working place so far. This demonstrates that well-designed health and safety preventive programs pay rich dividends. Needless to say, an even tighter control of the situation will be more important as new technologies evolve. One such, spreading with lightning-like speed, is the video display terminal. Attached to word-processors and computer terminals, it is suddenly a commonplace feature in offices worldwide.

For many years the psycho-social aspects of work have tended

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to be ignored; it is a subject which will likely become more important in years to come. The concept takes in a wide range of topics ranging from alcoholism to industrial boredom. Because automation has become a significant feature of many industrial processes, its introduction has far-reaching implications for the pattern of industrial health hazards.

In recent years increasing attention has been focused on the particular problems faced by women, and especially pregnant women in the workplace. Although there have been significant advances in many countries, it is clearly obvious that in many industrial settings women do not receive adequate consideration or attention to reduce potential threats to their health and safety. Happily, most authorities now recognize the importance of this issue. I hope it may be assumed that the situation will improve significantly in the 1980's.

Obviously, my list is incomplete. It was drawn up with the intention only of signalling that, in this post-industrial era in which many Northern countries find themselves, novel health hazards are appearing to take their place alongside of those many risks and difficulties which have lurked in the workplace for centuries.

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THE SITUATION IN DEVELOPING COUNTRIES

For many years, the topic of occupational accidents and diseases received relatively little attention in many developing countries. This was not surprising in view of the fact that most of the resources of these countries had to be directed to other priorities by virtue of necessity. However, with increasing industrialization, there can be little doubt that the subject will gain more prominence in the 1980's. It is very encouraging to see an increasing number of developing countries becoming more actively involved both in the assessment and the control of occupational hazards. This increased concern is reflected in the presence of delegates from developing countries attending this Congress. I hope they will all participate in the scheduled Workshop which is dedicated to those special facets of occupational health and safety which are of concern to them.

A good number of the problems now appearing in Third World countries are essentially similar to those observed in the industrialized North in the 19th Century. Unfortunately, however, underlying diseases in the South often compound the problem. Malnutrition, tuberculosis and various parasitic diseases all take their toll and multiply the hazards to which workers in a wide

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variety of trades are exposed. The concept of "Health for all by the year 2000" becomes even more important when it is realized that in many instances workers are ill-equipped to carry out any tasks at all. A goal for the 1980's should be to address such with resources adequate to permit significant improvement.

Agriculture and numerous small industries are the places of work of the great majority of workers in developing countries. Agriculture, the mainstay in many economies is not without its share of hazards. Sadly, however, the plight of the agricultural worker is often overlooked by governments. Most agricultural holdings in the Third World are of the small-farm type and are relatively labour-intensive. Nevertheless, in many countries there is evidence of larger farms and increased mechanization. In an attempt to increase crop yields, technologies and substances are imported from abroad, sometimes with harmful or little-understood side-effects. Pesticides are one example. Many are relatively toxic, even when only used for relatively short periods of time. Experience in the North indicates that many cases of poisoning with such compounds go unnoticed, unreported and untreated, with important health implications for both the worker and the local community. It is not uncommon for large scale spraying programs to be implemented where

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little or no attention is given to the question of the protection of the worker or the local population. Again, monitoring procedures are often sadly lacking. Local, national and international "Health and Safety Committees" are needed in order to contribute, among other elements, the necessary educational element as a forerunner to better ecological and health practices.

The importance of the small-industry sector in developing countries cannot be over-estimated. The very number and variety of these small enterprises contribute to the difficulty of obtaining adequate hard data to assess them. It is nevertheless fair to say that in all too many cases there is inadequate supervision of the worker, working conditions are unhealthy or dangerous, and many health problems go unidentified and unreported. Even when relevant legislation exists, its application at the level of small industries is far from effective. When one realizes that in the majority of Third World countries, as much as three-quarters of the working force may be employed in small industrial plants, the magnitude of the problem becomes apparent. It is very difficult to change working conditions at the level of small industry, and especially so in an increasingly competitive marketplace. The success of some countries in doing so should be encouragement to others.

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One example is the growing interest in the problem of respiratory diseases. It is now known that byssinosis may be a relatively common problem in many rural populations, particularly at the small-industry level. Unfortunately, although there have been many studies into industrial-dust diseases in developed countries, the topic is still in its infancy elsewhere and needs encouragement.

And it must be emphasized that the percentage of women in the labour force is, if anything, larger in developing than in industrialized countries. The same need for study of the physical and social implications, the introduction of monitoring and control mechanisms and the raising of awareness of the breadth of the issues involved in this fact are as necessary in the South as in the North.

Increasingly, as new industrial and agricultural technologies are imported by the developing countries, greater emphasis must be laid on the need for adequate preparation - worker training, environmental impact studies, legislative and regulatory requirements. There is no simple formula for the transfer of technology. It must be adopted and absorbed; there is need for a "settle down" period to eliminate unexpected difficulties and to

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smooth out unintentional risks. Failure to understand the necessity of this transitional phase will lead to increasingly unwholesome situations, where the spectre of major occupational accidents and diseases threatens.

As governments and industries demand better training programs, the institution of pre-employment and periodic health examinations, the early detection of the main occupational hazards, and the elimination of the underlying diseases which affect many of the workers, a more encouraging picture will emerge. By applying the knowledge gained from the mistakes of industrialized countries, developing countries should be able to avoid some of the growing pains associated with industrialization.

In this respect, IDRC is playing a modest but effective role in supporting research projects in the occupational health field in several developing countries. It is our hope that these activities, led as are all IDRC projects by developing country scientists, will both enhance the indigenous competence of the research community and find answers to problems facing these and neighbouring countries.

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FUTURE TRENDS

In the area of occupational health and safety, as in so many others, the ingredients of stamina and confidence are required of all who participate. Stamina to wait out the necessary delays, even though impatiently, as new methodologies and standards are introduced; confidence to engage in the studies necessary to assure a preferred future.

Confidence must always contain a future ingredient. It means that societies undertake today activities which cannot mature for some time to come. It means we understand that development in both North and South is investment - the postponement of advantage today in favour of enhanced benefit tomorrow. Should that confidence be replaced with doubt or fear - fear of economic uncertainty, fear of war, fear of famine, fear of the unknown - then development ceases. Crops are not planted, buildings are not constructed, songs are not composed, research is not conducted. Of all known endeavours, research is surely one of the essentially future-oriented pursuits. Research seeks answers to problems; answers which will permit wise development or investment decisions to be taken.

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If the ultimate goal of society is to enhance the dignity of the men and women who form it, surely few endeavours are more lofty than those of you who dedicate yourselves to making the workplace a safer and healthier one for all. You are contributing a new degree of humanism to the concept of work, and making more meaningful the age-old prayer of thanks to God:

".... thou art merciful, for thou rewardest
every man according to his work."

It is your goal, as it is surely God's, that those rewards not include sickness and injury. I congratulate you on your dedication and offer you every good wish for a successful Congress.