A WAY OF SEEING A TIME FOR LISTENING

Some Principles of Occupational Medicine

RACP Auckland 2019

Bill Glass

What did he see?
What did he hear?

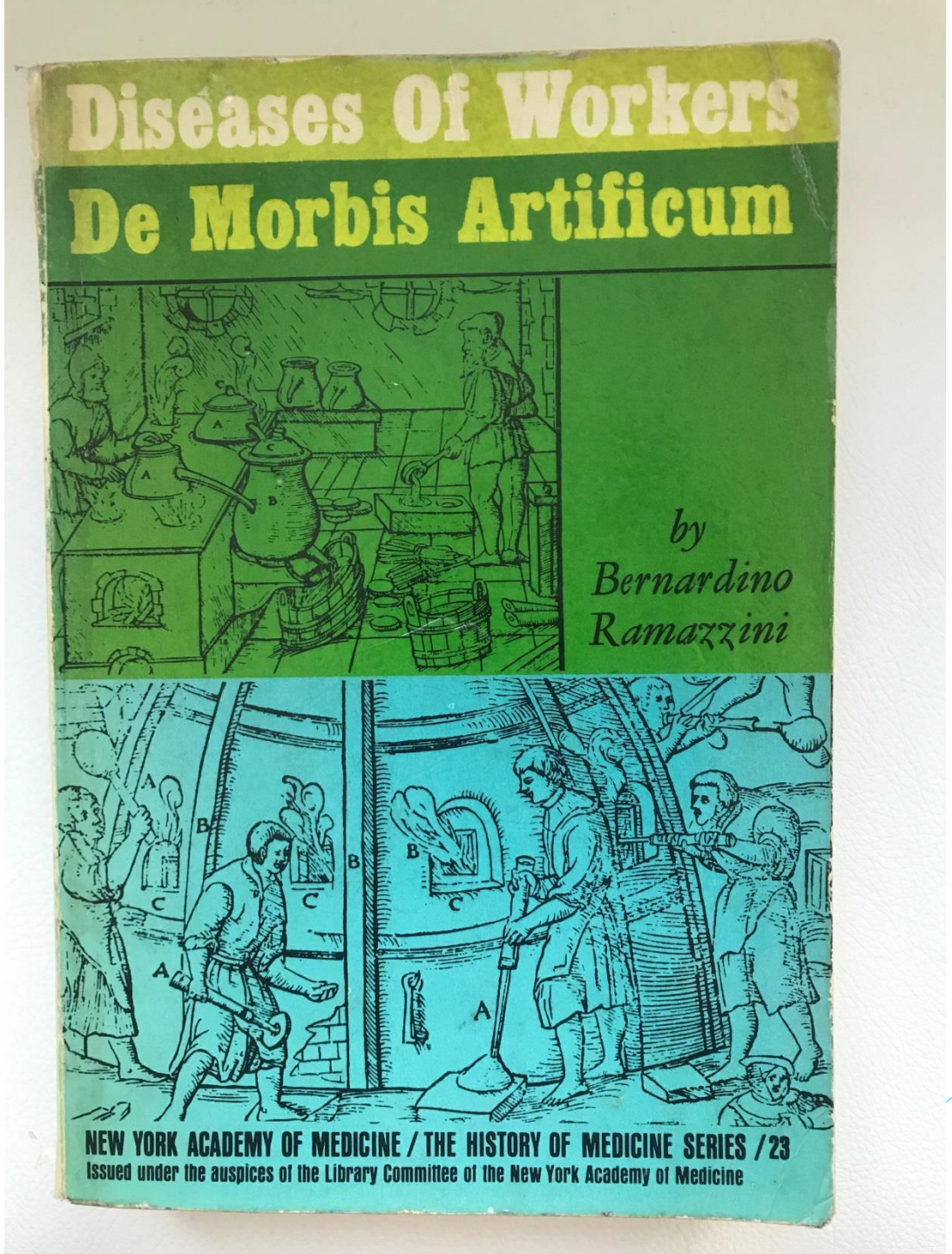
Bernardino Ramazzini by Anthony Stones, 2000

Women Bootmakers, Lindsay Crooks, 1991
One of a series celebrating the New Zealand worker, commissioned by Professor Bill Glass

This image was reproduced by Mike McKiernan in his series “ Art and Occupation” for *Occupational Medicine* 2012;62:240-241

What did he see?

What do you see?


Diseases Of Workers
De Morbis Artificum
by
Bernardino
Ramazzini
NEW YORK ACADEMY OF MEDICINE / THE HISTORY OF MEDICINE SERIES / 23
Issued under the auspices of the Library Committee of the New York Academy of Medicine

Hippocrates

" When you come to a patients' house, you should ask him what sort of pains he has, what causes them, how many days he has been ill, whether his bowels are working and what sort of food he eats"

Ramazzini

I may venture to add one more question:

"What occupation does he follow?"

and Ramazzini goes on to say

"It should be particularly kept in mind when the patient to be treated belongs to the common people"

Case Study 1- A work history

The story

Her work history was as follows. There were three parts.

1. In 1950 when aged 37 she began working in the Christchurch City Council Restrooms, where she would dust the asbestos lagging on pipes in the boiler room. She continued in this job for the next 22 years.

2. 1950s: During this period she washed her son's work overalls during the three years he worked at Fletcher's asbestos cement Mandeville Plant.

3. For some 15 years she lived in a property that backed onto Fletcher's Plant.

Her estimated exposure index was 195.

Her Medical History

- In 1974 she was diagnosed with restrictive lung disease.
- In 1979 she was diagnosed with asthma.

- The cause of her restrictive lung disease was not clear, but it was suggested it could be due to obesity.
- There was a family history of asthma.
- She was a life-long non-smoker, although her husband had smoked.

- In 1989 (aged 76) she was admitted to hospital with increasing shortness of breath. She was discharged “cause uncertain”.
- In 1990 she was admitted to hospital for three days with an acute asthma attack.
- Later in the same year she was again admitted. Spirometry again showed a restrictive lung condition.
- Still the penny did not drop!

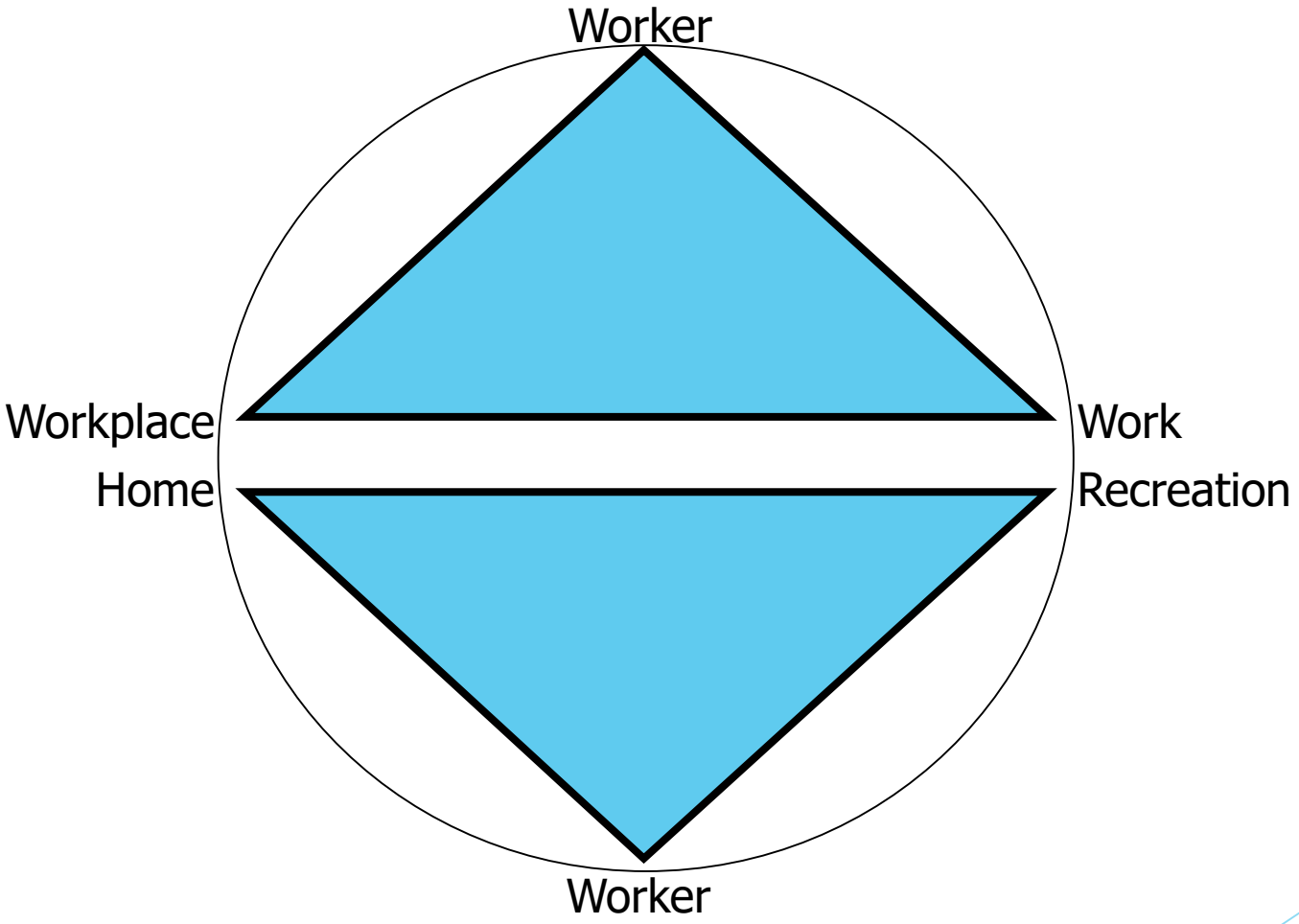
- At one stage in 1990 she was asked if she kept pets and the doctor recorded:

  “There is nothing else in the history which I could determine was likely to injure her lungs … we remain puzzled as to the cause …”

- He did not take a work history, perhaps because she was an elderly lady he thought she had not worked outside of the home.

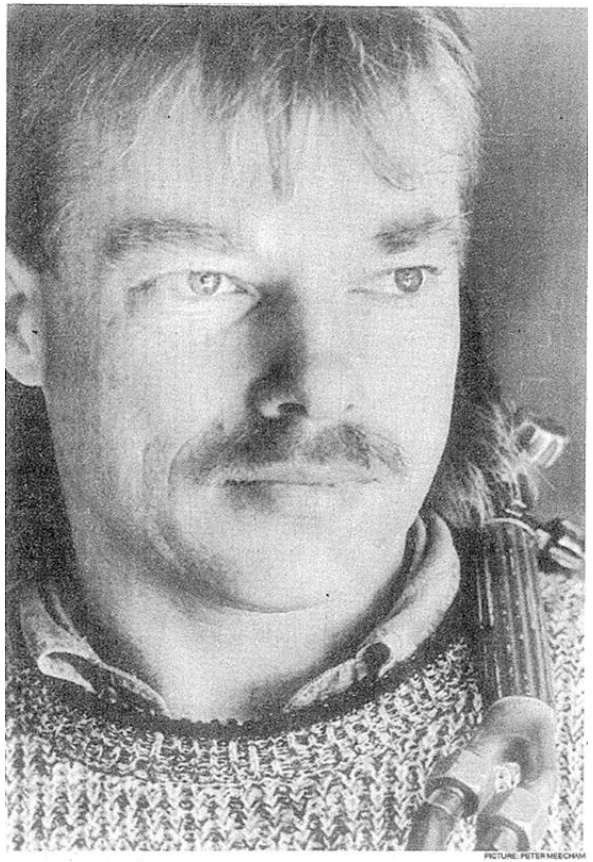
- Of course, hindsight is a wonderful tool. Even so, it was of concern that in the 1990s asbestos as a cause of restrictive lung disease was not even considered.
- She had classical asbestosis together with calcified pleural plaques.
- Her exposure began 40 years before and the disease developed slowly as the exposure was not great.

The Bill Glass Triangle



This views a worker as a whole person. Investigation of the cause of a work disease or injury and effective intervention requires a whole person approach.

Case Study 2 - the importance of dose



The effects of welding fumes have been devastating for Mr Peter Grant, of Mosgiel, who suffers from severe industrial lung disease and will never return to his trade.

The story

- Peter was a 32 year old welder, having commenced his trade as a 17 year old. In August 1989, he began welding galvanized steel mesh onto galvanized steel frames for sheep and cattle crates. Mig welding (the process) took place indoors with poor ventilation so that the work space was filled with smoke (the circumstances).

- Welding took place on a seasonal basis and was most intense during the months November to February. During this period, he would weld three frames an hour for a 12 hour day from Monday to Friday, and four hours on Saturday (**time**). Welds were carried out at 20 millimetre intervals around the perimeter of each frame. It was calculated that about 1,000 welds occurred each hour (**frequency**) or 64,000 welds each week.

- He was a fast worker, priding himself on his work speed (**personality**).

- Three months after beginning this job, he first noticed shortness of breath which worsened over the next year such that he could no longer carry out his evening six kilometre run. One and a half years later, he had to stop work as he said he would "run out of puff".

- He was assessed regularly by a respiratory physician who at examination noted inspiratory crepitations at both lung bases. His lung functions resulted in a diagnosis of restrictive lung disease, with marked reduction in diffusing capacity which was temporally related to his work stabilising on stopping work.

- Causative factors in the welding fume could include zinc fumes, ozone and oxides of nitrogen. However, given that welding fumes are a mixture of combustion products, gases, fumes and particulates, his lung response was to a mixed "fume of combustion".

- Importantly, the factors of work- circumstances, time, frequency, personality, led to a significant "dose" of exposure which resulted in the clinical outcome.

Case study 3- Temporality

The Story

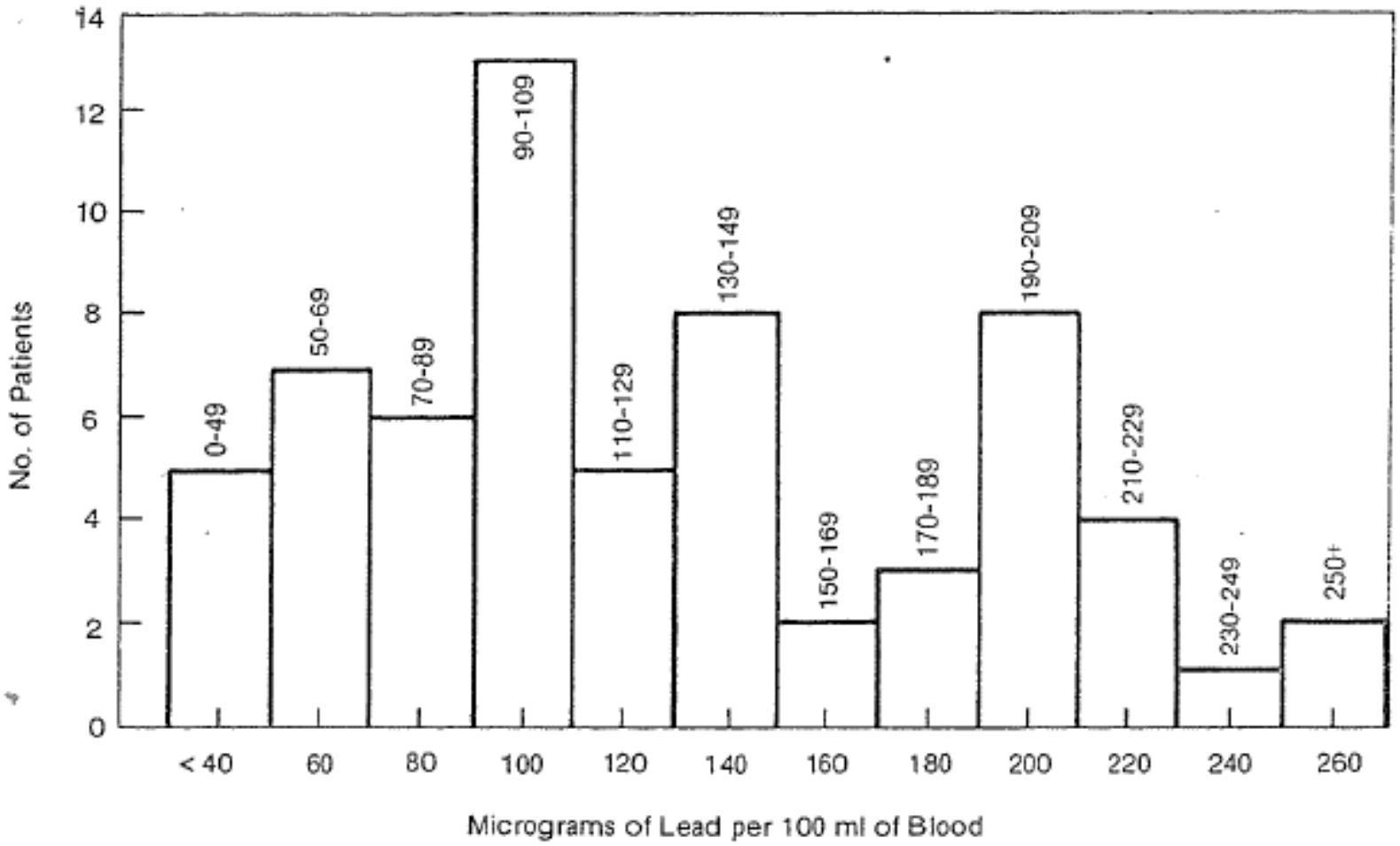
- Murray worked in a brass foundry - a continuous casting process. His job was to work the furnace and he was exposed to lead fumes during tipping the furnace into the ladle and its transfer to the holding furnace.
- A health department nurse visited twice a year, did a blood test and told him his lead levels were "normal".
- In 1985, his weekly hours increased to 52 - he worked the night shift. He recalled that at the end of that year, he was suffering intermittent stomach pains.
- In 1986, his hours reduced to 40 a week, he had no stomach pains.

- In 1987, his hours reverted to 52 a week, he was relocated to day shift, he said work was more intensive on day shift. By May, he visited his doctor with acute stomach pains, a blood lead of 38 ugm/100 ml. He was treated symptomatically.

- Two days later, he, again, visited his doctor and was admitted to hospital - ? appendicitis. In hospital, his symptoms resolved and he was discharged two days later and returned to work. However, a week later the same pattern recurred and he was readmitted to hospital - his blood lead was 42. Eight days later he was again discharged - no diagnosis.

- By this time, his GP was of the view that his abdominal pain was related to a rise in his blood lead even though it was regarded as "relatively low". His GP initiated an ACC claim which was declined on the grounds that his blood lead was "normal". Murray challenged this decision in Court. Evidence was produced at the review - see graph.

LEAD CONCENTRATIONS IN BLOOD—BERITIC



Graphic representation of the distribution of patients suffering with lead colic, according to the frequencies of the occurrence of lead in their blood in the concentration ranges indicated at the tops of the bars.

- Murray won his case in the District Court.
- The opinion of his GP was preferred by the Judge over the opinion of the insurance company occupational specialist, who didn’t see Murray, didn’t visit the workplace and didn’t have a work history, but based his opinion on the “normal” blood lead.

The Bus Stop 1967

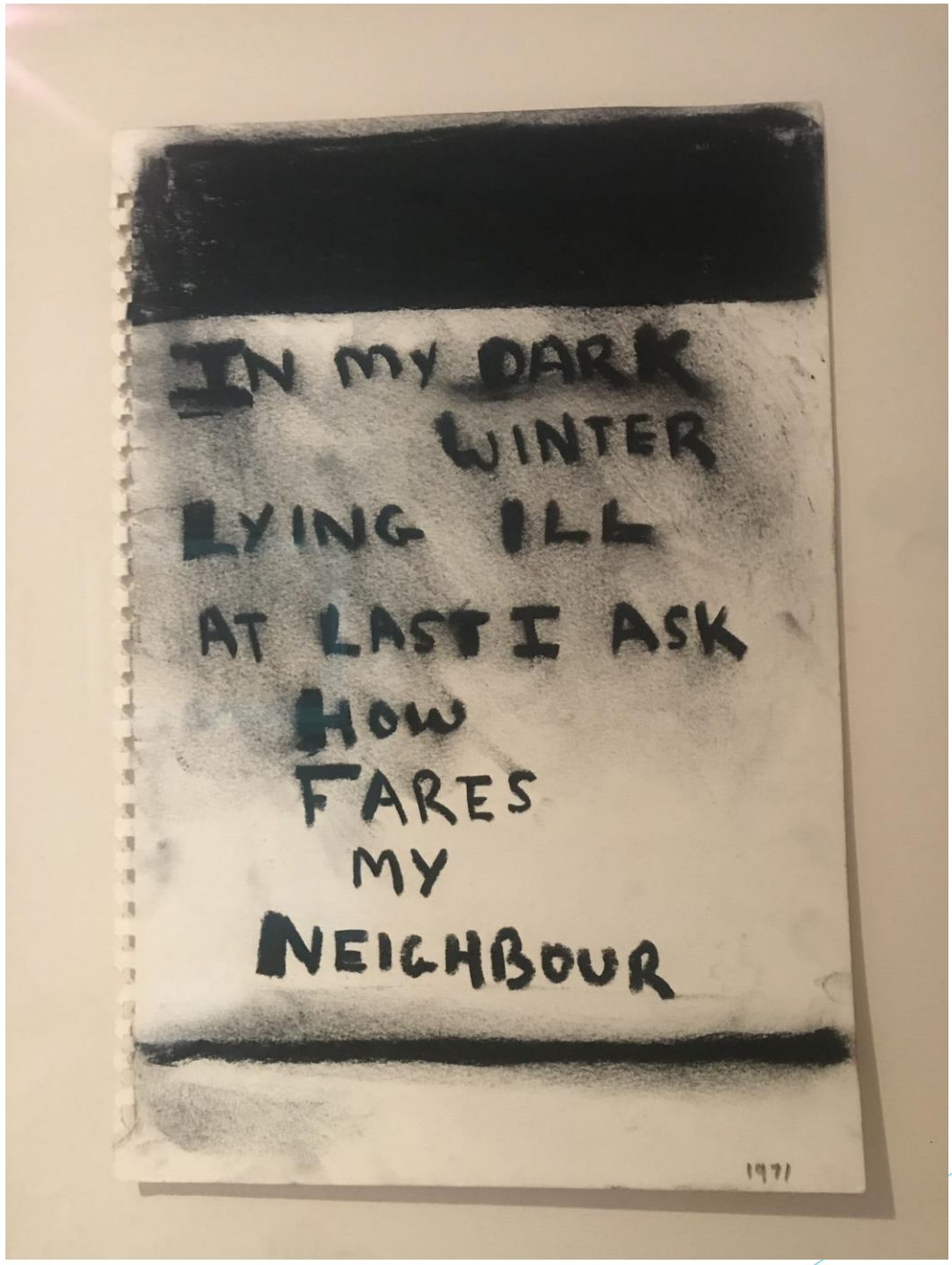
Old Man and Street Cleaner Chatting, 1976

Despair, 1967

A Postscript

In the present time, it is very difficult to paint for other people – to paint beyond your own ends and point directions as painters once did. Once the painter was making signs and symbols for people to live by; now he makes things to hang on walls at exhibitions.

From an exhibition " word and number paintings" by Colin McCahon, Auckland City Art Gallery


IN MY DARK
WINTER
LYING ILL
AT LAST I ASK
HOW
FARES
MY
NEIGHBOUR
1971