



MANDATORY SUPPLEMENTATION OF FOODSTUFFS

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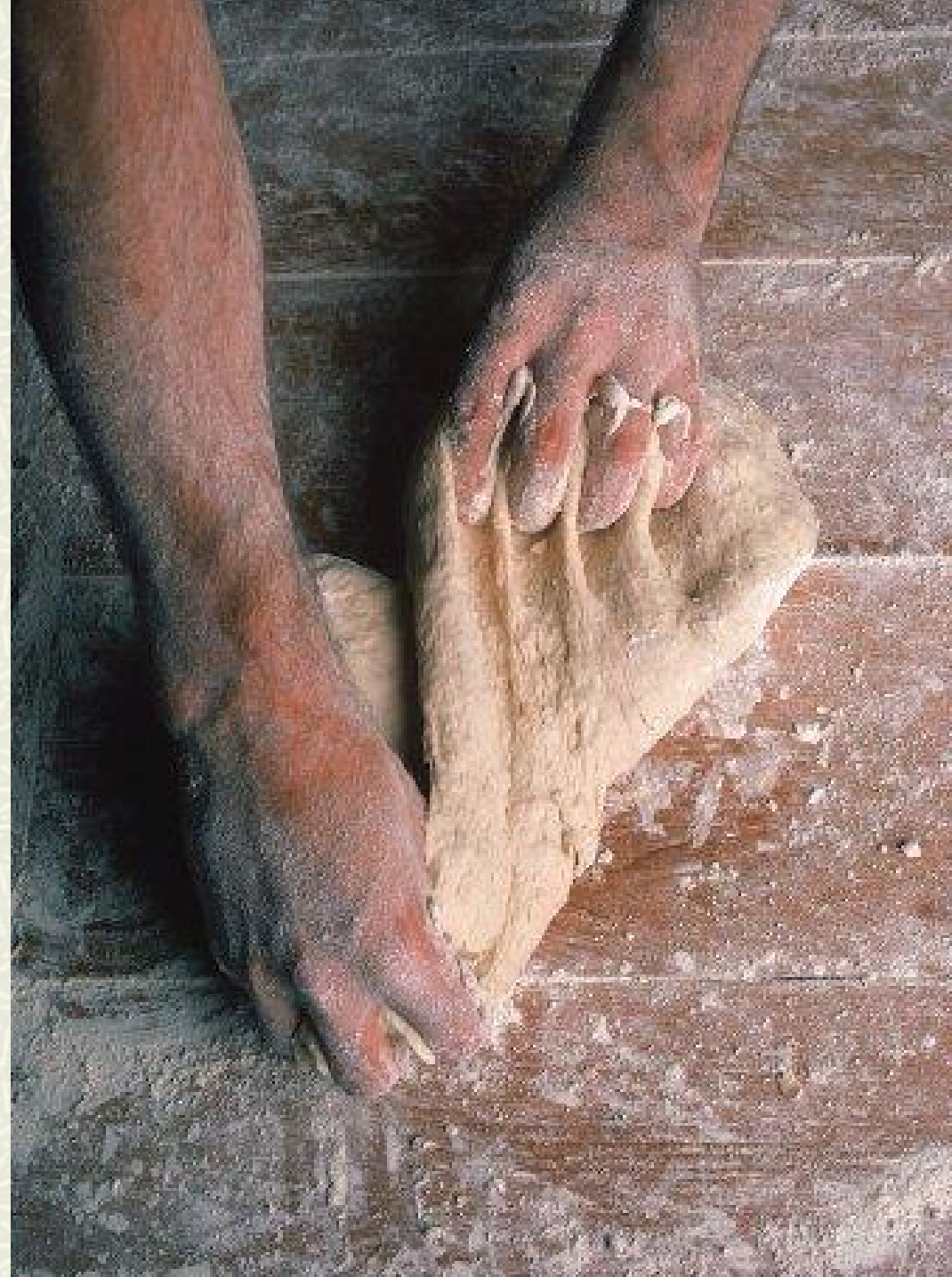


EARLY FORTIFICATION

- # 400BC-Melanpus-Iron filings added to wine to increase Persian soldiers strength.
- # 1833 – JB Boussingault-French mining engineer and agricultural chemist urged government to add iodine to salt to prevent goitre.

HISTORY

- # Unleavened bread – 10,000 years.
- # Yeast-risen bread – Egypt 4,000 years.
- # Roller milling – 100years-beri-beri and pellagra.
- # Missing vitamins and minerals – identified by researchers.



BENEFITS OF FORTIFICATION

- Fortified food is consumed by nearly all people in target population.
- Nutrients are physiologically available.
- Nutrients produce no toxic effects.
- Nutrients do not change characteristics of food.
- Is economically feasible.



FORTIFICATION EXAMPLES



Between 1924 and 1944...

- # Iodine was added to salt.
- # Vitamins A & D to margarine.
- # Vitamin D to milk.
- # Vitamins B1, B2, niacin and iron to flour and bread.

WORLD WAR II

EAT THE RIGHT FOOD

America needs you strong

Follow the rules of good nutrition—eat these foods every day:

MILK—at least a pint for everyone, more for children—or cheese, or evaporated or dried milk.



ORANGES, TOMATOES, GRAPEFRUIT, OR RAW CABBAGE—at least one of these.



VEGETABLES—GREEN, LEAFY, AND YELLOW—one big helping or more—some raw, some cooked.



POTATOES AND APPLES—and other vegetables and fruits.



LEAN MEAT, POULTRY, OR FISH—or sometimes dried beans or peas.



EGGS—at least 3 or 4 a week, cooked any way you choose or in "made" dishes.



BREAD AND CEREAL—whole grain products or enriched bread and flour.



FATS, SWEETS, and seasonings as you like them.

DO YOUR PART in the National Nutrition Program · Work With Your Local Nutrition Committee

Office of Defense Health and Welfare Services, Washington, D. C.

- Concern by British and US governments by 1940 about nation's nutritional status.
- US government recommends voluntary fortification of flour and bread.
- Army leads the way by not purchasing any flour not fortified.
- UK adds calcium, thiamine, niacin and iron to bread.
- Poorly absorbable powdered iron from old railway lines!



THE AUSTRALIAN EXPERIENCE

- # 1956 iodine added to Canberran's bread to prevent goitre and cretinism- half successful
- # Tasmania followed in 1966.

Fluoridation

The addition of a trace amount of fluoride to the water supply, which strengthens teeth, first commenced in Australia at Beaconsfield on the 30th September 1953. Mr Frank Grey, chemist in charge of the water filtration plant, with the support of the Beaconsfield Municipal Council, was instrumental in obtaining permission from the Director of Public Health, installing the equipment and monitoring the levels of fluoride.

Following the success of fluoridation at Beaconsfield in the prevention of dental decay, other regions followed. Today most Australians enjoy the benefit of fluoridated water.

Plaque erected by the Australian Dental Association in gratitude to Mr Frank Grey, the Beaconsfield Municipal Council and the people of the West Tamar in their role in the introduction of fluoride to Australia.

Opened on the 50th Anniversary of Fluoridation in Australia by

Cr. Barry Easther
Dr. David Houghton

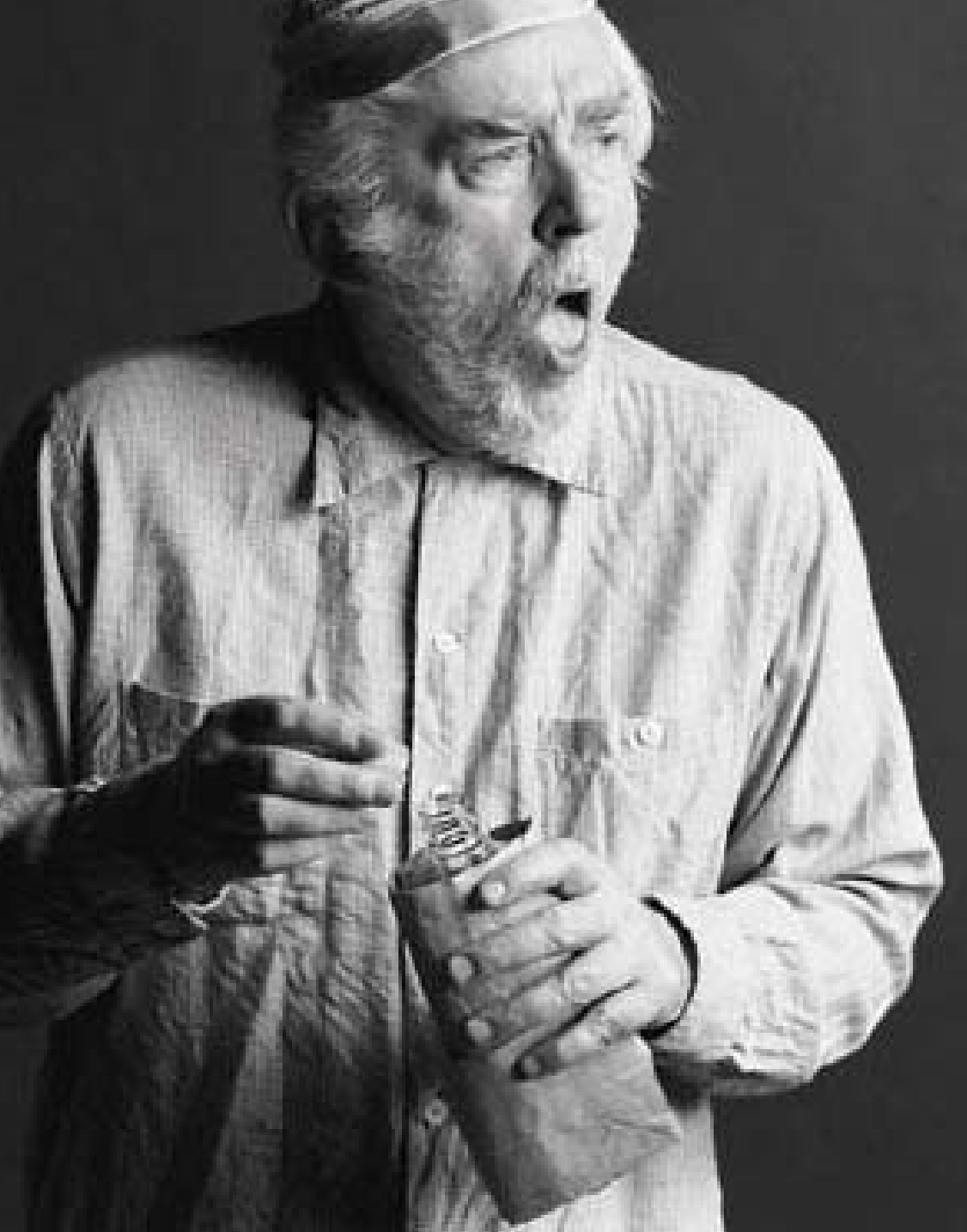
Mayor
Federal President

West Tamar Council
Australian Dental Association



AUSTRALIAN DENTAL
ASSOCIATION INC.





OUT of SIGHT, OUT of MIND

In 1959 NHMRC states:

“It was unable to locate any evidence that any section of the population apart from alcoholics were suffering from an insufficient intake of thiamine.”



“SECRET BREAD TESTS” OF BOURKE 1971

- # One case of kwashiorkor
- # Three cases scurvy
- # Many cases of riboflavin and niacin deficiency 1970's



- ✦ Research showed white bread contributes to 30% protein and 35% calories of Aboriginal.
- ✦ 1920-50, Government ration 8 lbs flour, 2lbs sugar and quarter pound

OBJECTIONS to Iron Fortification of Bread

- # Harm health of those with haemochromatosis, haemolytic anaemias.
- # Increase intake of iron masks early diagnosis of bowel cancer.
- # Education preferable to fortification.

“ABORIGINAL MIX” sent to Central Australia.



Drs. YELLOWLEES, TRUSWELL



- # 1986 Adelaide psychiatrist, Peter Yellowlees+nutritionist Stewart Truswell
- # Wernicke-Korsakoff a major Australian public health problem.
- # National policy for thiamine fortification of flour, bread and alcoholic beverages.

OBJECTIONS



- 1989, NHMRC recommends addition of thiamine to beer, flagon wine.
- Brewers opposed – change flavour of beer, affect export industry, advantage imported beer.
- Anti alcohol groups opposed – make alcohol into a ‘super food’ encourages consumption
- Mandatory thiamine fortification bread only in 1991.

FOLIC ACID AND NEURAL TUBE DEFECTS

- # Brian Hibbard
1964
- # Higher incidence
low socio-
economic
populations



PROSPECTIVE STUDIES

- # Bower and Stanley 1989
- # 1991 British Medical Research Council Vitamin Study.
- # Hungary 1992.

CONSUMPTION OF FOLIC ACID

- # At least 400ug folic acid per day.
- # Improve dietary habits.
- # Folic acid tablets before conception.
- # Most pregnancies are unplanned.
- # Seems to have reached only 50% of population.

FORTIFYING STAPLE FOODS

- # 1994 NHMRC expert panel recommends voluntary fortification of bread.
- # 2001 only a few of recommended foods being fortified with folate.
- # Mandatory fortification prevents 240 babies per year from neural tube defects.
- # ANZ Food Regulation Council recommends folate supplementation.
- # Mandatory in flour ? End 2006

OBJECTIONS TO FOLIC ACID FORTIFICATIONS

A man in a white lab coat and blue apron is working in a kitchen. He is leaning over a counter, possibly preparing food or a drink. The kitchen has wooden cabinets and a white countertop. There are various items on the counter, including a kettle and some bottles. The background is slightly blurred, focusing on the man.

- # Masks development of pernicious anaemia.
- # Leads to neurological damage.
- # Geriatricians – folic acid fortification adversely affects 15-20% elderly patients with low B12 levels.
- # Nutritionists oppose on grounds of education being preferable.

HISTORICAL PATTERNS

- # Overall history is positive:
- # Iodine in salt
- # Fluoride in water
- # Vitamin D in milk
- # Thiamine, niacin and riboflavin in bread

Patterns of Objection

- # Nutritionists- Education better than fortification
- # Supplement industry- multivitamins better
- # Medicos- will harm 'my disease'
- # Is it ethical to medicate people without their informed consent?

Democracy & Ethics

- # Do benefits outweigh the risks
- # Autonomy v help most in need
- # How much are the objections motivated by self interest or tunnel vision?
- # Is it ethical to address questions of science through theory and rhetoric rather than research?
- # Is it ethical to deny potential benefits to populations at risk?
- # Self interest and disease ownership should not outweigh the potential benefits to the population.

Iodine-the next supplement?

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

- # The intelligent nation - IQ 100 +/- 14
- # IQ and Iodine deficiency in Australia
- # FSANZ recommends iodised salt
- # 17c per person/year
- # August 2006-Australian Food & Grocery Council says “too expensive”