

NUTS AND BOLTS OF WATER FLUORIDATION

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Fluoridation and Public Health

- Deliberate Upward Adjustment of a Natural Trace Element, Fluorine
- Present in All Waters and Soils as the Compound Fluoride
- Extensively Studied

Water Fluoridation

- First Started in January, 1945 in Grand Rapids, MI
- Today 71% of all Americans on Public Water Systems Have Access to Fluoridated Water

Fluoride: A Bone Seeker

- 96% of the Body's Fluoride is Found in the Skeletal System [including the teeth]
- Occurs Mostly During Growth and Development
- Can Vary

Fluoride: A Bone Seeker

- In the Skeletal System the Fluoride Concentration can be:
 - In Non-Fluoridated Areas – several Hundred ppm of Fluoride
 - In Fluoridated Areas – several Thousand ppm of Fluoride

Fluoridated vs. Non-Fluoridated and the "Halo Effect"

- Even in Non-Fluoridated – Non-Adjusted Water Systems People Receive some Benefits of Fluoride
- Receive Fluoride from Food and Beverages Packaged in Fluoridated Areas - the "Halo Effect"



FLUORIDE
CHEMICALS
&
EQUIPMENT

Fluoride Compounds

- Three Most Common Compounds Used in the U.S.
 - Sodium Fluoride (NaF)
 - Sodium Fluorosilicate (Na_2SiF_6)
 - Fluorosilicic Acid (H_2SiF_6)

Sodium Fluoride (NaF)

- First to be Used
- White Odorless Salt
- Powder or Crystalline Form
- Produced by Neutralizing Fluorosilicic Acid with Caustic Soda (NaOH)

Sodium Fluorosilicate (Na_2SiF_6)

- Old Name "Sodium Silicofluoride"
- White Odorless Crystalline Powder
- Produced by Neutralizing Fluorosilicic Acid with Sodium Carbonate [Na CO_3]

Fluorosilicic Acid (H_2SiF_6)

- Straw-colored, Transparent
- Fuming Corrosive Acid
- Byproduct of Phosphate Fertilizer Manufacturing Process

Fluoridation Feeders

- Fluoride Chemicals Fed as Liquids
- Fluoride Feeders Same as for Other Water Supply Chemicals
- Fluoride Saturator Only Exception

Allegations Made by Opponents of Fluoridation

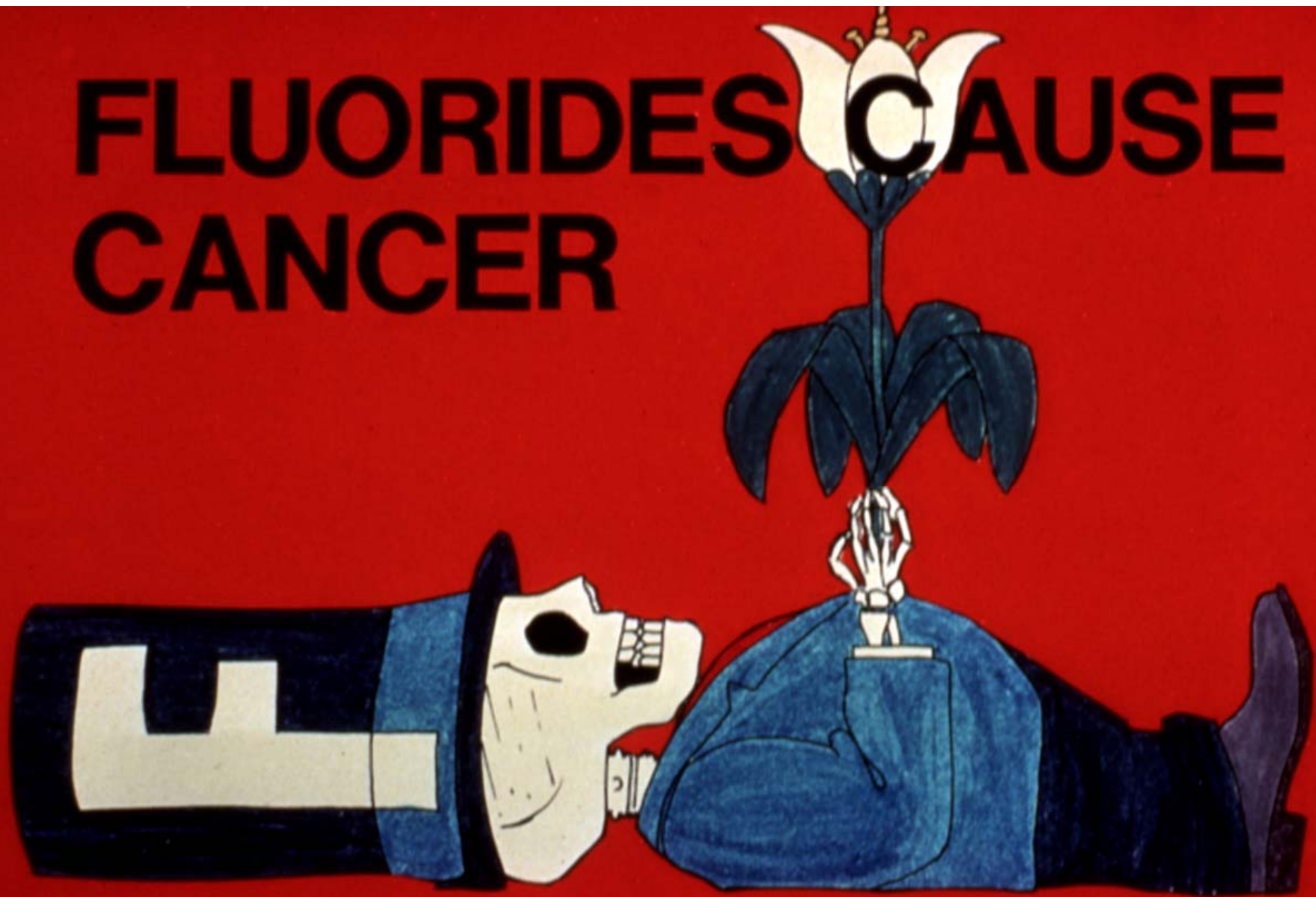
NATURAL F VS F ADJUSTED



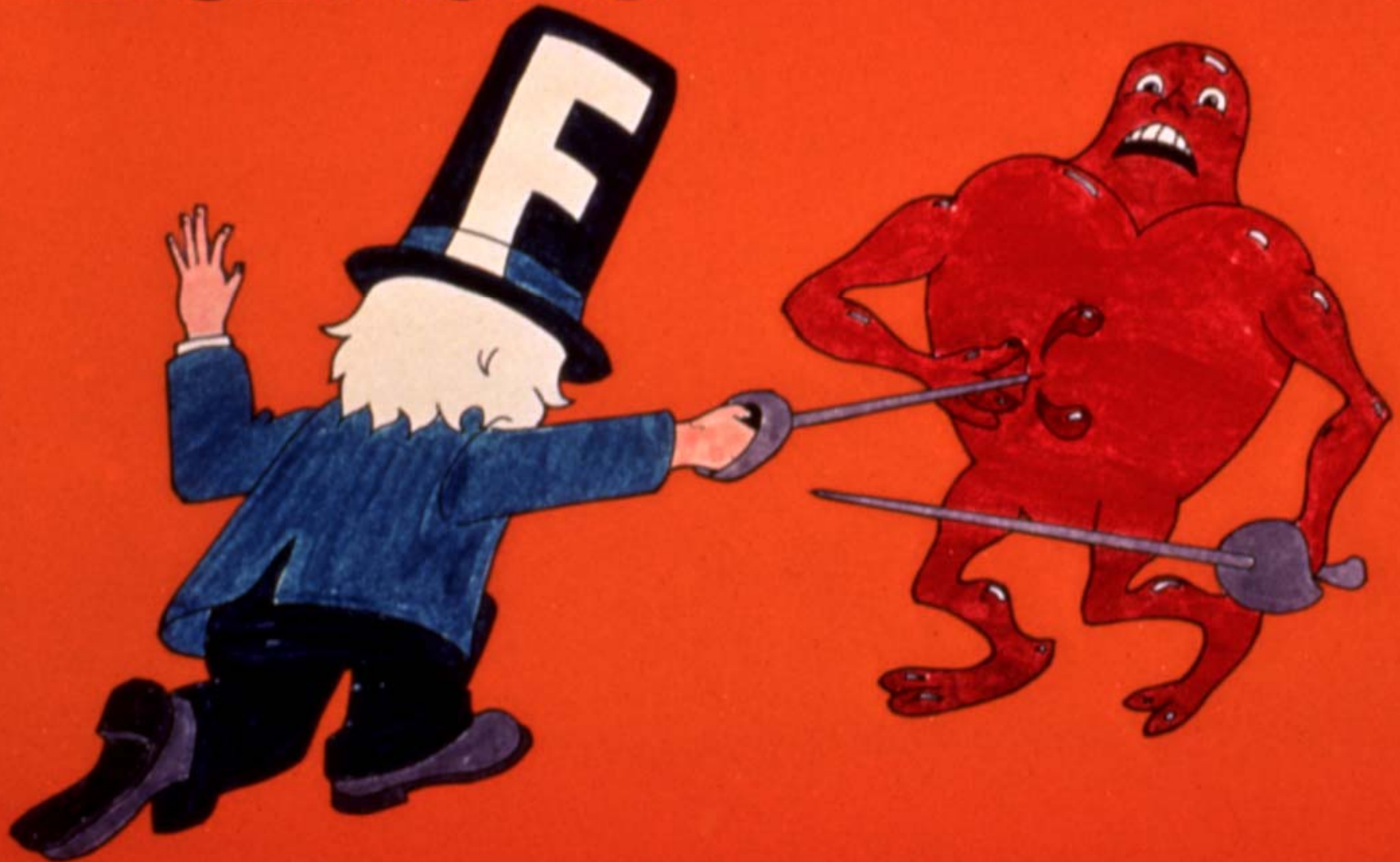


**FLUORIDES
CAUSE
CORROSION**

**FLUORIDES CAUSE
CANCER**



FLUORIDATION CAUSES DISEASES



Anti-Fluoridationist Tactics

- Attach Water Fluoridation to the Latest Health Issue
- Cancer [Dr. Y, Dr. Kennedy, etc]
- Low IQ in Children (Neurotoxicity) [Mullinex, China Studies]
- Increase Children Uptake of Lead (Silicofluorides) [Coplan & Masters]
- NRC Report

Anti-Fluoridationist Tactics [continued]

- Fluoride Toxicity [EPA Union]
- ATSDR *Toxicological Profile* [Frech]
- Radioactivity of Fluorosilicic Acid [Glasser]
- Pass State or Local Law Requiring the FDA to Approve Fluoride Chemicals

Anti-Fluoridationist Tactics

- Challenge All Pro Statements
- Claim Fluoride is Not Effective
- Debate
- Try to get a "Vote of the People"
- Etc, Etc, Etc

Water Fluoridation

- Under challenges like never before
 - Anti F are very focused
 - Anti F on the internet
 - Very connected
 - Especially strong west of the Rockies

FLUORIDATION COSTS

EQUIPMENT
CHEMICALS
INSTALLATION

Water Fluoridation

- Has increased in the world
 - South Korea
 - South Africa
 - Japan
 - UK

Summary

- Water Fluoridation is still safe and effective
- It is continuing to expand especially in the U.S.

Discussion



THE END