This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike License. Your use of this material constitutes acceptance of that license and the conditions of use of materials on this site.
Illness etiologies,
levels of causality

Peter Winch

Health Behavior Change at the Individual,
Household and Community Levels,
224.689
Recap
## SBI Core course sequence

<table>
<thead>
<tr>
<th>TERM</th>
<th>Courses</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>224.689 Health Behavior Change at the Individual, Household &amp; Community Levels, 4 units</td>
<td>Tues-Thur 8:30-10:20</td>
</tr>
<tr>
<td>3</td>
<td>224.690 Qualitative Research Theory &amp; Methods, 5 units (Lab)</td>
<td>Tues-Thur 8:30-10:20</td>
</tr>
<tr>
<td>4</td>
<td>224.691 Qualitative Data Analysis, 5 units (Lab)</td>
<td>Mon-Wed 8:30-10:20</td>
</tr>
<tr>
<td></td>
<td>224.692 Formative Research for Behavioral and Community Interventions, 4 units</td>
<td>Mon 10:30-12 &amp; Fri 8:30-12</td>
</tr>
</tbody>
</table>
What’s in a name?

Health Behavior Change at the Individual, Household and Community Levels
CoursePlus website

- 150 articles posted already
- Impossible to read them all
- Be selective in your reading
  - Past experiences
  - Previous disciplinary training
  - What interests you
Course evaluation

- No midterm exam
- No final exam
- Grading is based on:
  - 25%: Online quizzes in CoursePlus due the night before each discussion group
  - 75%: Written assignments
<table>
<thead>
<tr>
<th>Assignment</th>
<th>Due date</th>
<th>Percent of final grade</th>
<th>Pages (Double-spaced)</th>
<th>Grading process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response paper on discussion 1 &amp; 2 or 1st 2 modules</td>
<td>Thur 10 Nov</td>
<td>15%</td>
<td>5-6</td>
<td>Graded with form in syllabus</td>
</tr>
<tr>
<td>Final assignment: Q1 plus outline for Q2 &amp; Q3</td>
<td>Tues 06 Dec</td>
<td>10%</td>
<td>5-6</td>
<td>Graded with form in syllabus</td>
</tr>
<tr>
<td>Final assignment: Revised Q1 + Q2 &amp; Q3</td>
<td>Wed 21 Dec</td>
<td>50%</td>
<td>10</td>
<td>Graded with form in syllabus</td>
</tr>
</tbody>
</table>
Response paper

- Object is to get you thinking and reading, learn what we are looking for when grading
- Not necessary to look up additional articles, there are more than enough already on CoursePlus
- Go into more detail on a question of interest that came up during discussion or lecture
- Should clearly describe the issue/concept and a response from your own perspective
Final assignment: Scenarios

- Over-use of antimalarials by health workers in low-transmission setting
  - Tanzania (or other country)
- Micronutrient home fortification in humanitarian relief
  - Damak Refugee Camp, Nepal
  - Dadaab Refugee Camp, Kenya
- Reducing household energy consumption
  - USA or other high or middle-income country
**1140 pounds**: Total monthly coal consumption for an average US household resulting in 3369 pounds of carbon dioxide emissions

Who needs to change?

High-income
- Unsustainably high consumption of
  - Fossil fuels
  - Soil, water, forests
  - Animals & fish
- Inhumane methods of animal production
- Obesity and chronic disease

Low-income
- Malnutrition
- Infectious diseases
- Population growth
- Low literacy rates
- BUT: More sustainable levels of consumption
Assembling your expertise as a behavior change specialist

- Undergrad & other training
- Professional associations
- Exposure to other cultures and languages
- Public health training, course assignments
- Reading widely
- Work experiences
- Expertise in behavior change
# Relations between the 4 terms

<table>
<thead>
<tr>
<th></th>
<th>“Universal”, not specific to one language or culture</th>
<th>Specific to one culture or language</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sounds</strong></td>
<td>Phonetic symbols</td>
<td>Phonemes</td>
</tr>
<tr>
<td><strong>Terms, concepts, categories</strong></td>
<td>Etic terms, concepts and categories</td>
<td>Emic terms, concepts and categories</td>
</tr>
</tbody>
</table>
Two scenarios for emic-etic correspondence

1. Many different emic terms for one etic term
2. Many different etic terms for one emic term
Today’s lecture:

Illness etiologies, levels of causality
Terms and concepts

- Personalistic and naturalistic etiologies
- Equilibrium model
- Levels of causality
  - Efficient or ultimate cause versus
  - Instrumental or immediate cause
- Divination
Etiology (Aetiology)

- Technical term in pathology for cause of disease
- Preferred by many anthropologists to denote local knowledge of causes
  - "logy" implies that there is a body of knowledge, knowledge is systematic
“Etiology obsession” in public health

- On every questionnaire, we ask people about causes of the disease in question
- Informing people of the causes of disease is seen by many as a key task for health education
- Lack of knowledge of the cause often cited as evidence that the population is ill-informed or “ignorant”
Reasons for “etiology obsession” in public health

- If people know the cause:
  - They will understand their own susceptibility to disease
  - They will practice preventive measures

- “If I am bitten by mosquitoes, that means I am at risk for malaria, and need to sleep under a net”

- Knowledge of cause seen as proxy for exposure to health education: “If people have heard the messages, they should know the cause”
Anthropological interest in etiology

- Etiology occupies a key role in the ethnomedical systems
- Etiology is key to understanding:
  - Illness taxonomies
  - Healing practices, and types of healers
- Glick quoted by Foster p 774
  - “most diagnoses prove to be statements about causation, and most treatments, responses directed against specific causal agents”
A methodological comment before we proceed

- How do we translate “what is the cause of X?”
- In many languages, there is no single term to translate the medical meaning of “cause”
- Contemporary meaning of cause in English is a recent development
Etiology and Cause

- Both Greek άιτία and Latin causa were legal terms in ancient times
  - Charge against a person, legal case against a person
- As biomedicine has identified more causes of disease, the meanings of etiology and cause have evolved
- Use of "cause" to denote causative microbe, carcinogenic agent, toxin etc. that produces the disease is recent
Translation example #1: Mali

- English: What is the cause of malaria?
- Bambara: Mùn bɛ́ sumayabana bila mɔgɔ la?
  - Literally: What leaves the disease of cold sweats (chills) with people?
  - No exact translation for “cause” in Bambara
Personalistic and naturalistic
A word on dichotomies

- Dichotomies like naturalistic-personalistic are always false dichotomies, in reality there is a continuum.
- Need to be suspicious of these dichotomies, understand their limits.
- But, I present them because they are a good way to get you thinking about a concept – like training wheels on a bicycle.
Personalistic etiology

- “...disease is explained as due to the active purposeful intervention of an agent, who may be human (a witch or sorceror), nonhuman (a ghost, an ancestor, an evil spirit), or supernatural (a deity or other very powerful being)
- Sick person literally is a victim
- Little room for accident or chance
Translation example #2: Mali

- English: Has the disease worsened?
- Bambara: Bana juguyara wa ?
- Literally: Has the disease become nasty?
  - Juguyya = Nastiness, hatred, enmity, evil, deceit
Naturalistic etiology

- Disease results from natural conditions: heat, cold, dampness
- Equilibrium model
  - Humors (Galenic/Yunani medicine, Ayurvedic medicine)
    - Hot and cold
    - Yin and Yang
- The stated etiology is an explanation of how equilibrium was disturbed
### Summary: Foster p 781

<table>
<thead>
<tr>
<th>Foster’s terms</th>
<th><strong>Personalistic</strong></th>
<th><strong>Naturalistic</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Young’s terms</strong></td>
<td><strong>Externalizing</strong></td>
<td><strong>Internalizing</strong></td>
</tr>
<tr>
<td>Causation</td>
<td>Active agent</td>
<td>Equilibrium loss</td>
</tr>
<tr>
<td>Illness</td>
<td>Special case of misfortune</td>
<td>Unrelated to other misfortune</td>
</tr>
<tr>
<td>Religion, magic</td>
<td>Intimately tied to illness</td>
<td>Largely unrelated to illness</td>
</tr>
<tr>
<td>Causality</td>
<td>Multiple levels</td>
<td>Single level</td>
</tr>
<tr>
<td>Prevention</td>
<td>Positive action</td>
<td>Avoidance</td>
</tr>
<tr>
<td>Responsibility</td>
<td>Beyond patient control</td>
<td>Resides with patient</td>
</tr>
</tbody>
</table>
Whose terms to use?

- Young’s terms are widely used in medical anthropology
- Foster’s terms are now rare, only found in older articles
Levels of causation

- Lower level: Instrumental or direct cause
  - "What made you sick?"
  - Malaria, AIDS, a curse
  - Treated symptomatically

- Higher level: Ultimate or indirect cause
  - "Who made you sick?", "Who sent this sickness to you?"
  - Jealous or angry neighbors or relatives, malevolent spirits
Illness etiologies and traditional healers
General types of healers

- Healers who treat the direct cause of illness
  - Traditional birth attendants
  - Herbalists
  - Bone-setters

- Healers who treat the ultimate cause of illness
  - Exorcists or specialists in spirit possession
  - Diviners
Implications of type of healer for program managers

- Healers who treat the direct cause of illness
  - Include TBAs, bonesetters and herbalists
  - Practice limited to “medical” problems
  - Diagnosis made by symptoms/clinical presentation
  - Diagnostic categories closer to biomedical definitions
  - More interested in collaborating with formal health services and using modern treatments
  - Often practice part-time and/or not-for-profit
Implications of type of healer for program managers

- **Healers who treat the ultimate cause of illness**
  - Include diviners, exorcists, spiritual healers
  - Practice includes "medical" and "non-medical" problems e.g. bad luck, desire to get a promotion
  - Clinical presentation often not considered during diagnosis e.g. divination
  - Diagnostic categories far from biomedical definition
  - Less interested in collaboration, suspicious of formal health services
  - Often practice full-time and for-profit
Issues raised by the Foster article

1. What is “non-western”?
   – Issue in Foster and Young articles
2. “Africa”
3. Personalistic and naturalistic systems
4. Knowledge and beliefs
Issue #1: “Non-western medical systems”

- What is biomedicine? Where did it come from?
  - **Galen** 129-216 AD (Asia Minor and Rome)
  - Translation of 129 works of Galen into Arabic 830-970 by Hunayn ibn Ishaq
  - Abū Alī al-Husayn ibn Abd Allāh ibn Sīnā (Avicenna) in Persia (981-1037): 'Qanun fi-l-Tibb' (immense encyclopedia of medicine)
  - Translation in Spain from Arabic to Latin and Spanish of works of Galen, Avicenna and others ➔ Large influence on subsequent evolution of medicine in Europe
Issue #1: “Non-western medical systems”

Alternative terms to “Western Medicine” (each with its own problems):

1. Cosmopolitan medicine
2. Biomedicine
3. Modern medicine
4. Allopathic medicine
   – Common term in South Asia
“The ethnologist analyzing medical beliefs and practices in an African community can scarcely avoid dealing with witchcraft, oracles, magic, divining, and propitiation, all of which are categories of only modest concern to the student of Indian Ayurvedic medicine”
The five language families in Africa

Approximate number of languages in Africa = 2088

Niger-Congo or Niger-Kordofanian
- Green
- 1514

Nilo-Saharan
- Red
- 204

Afro-Asiatic
- Blue
- ~325/375

Khoisan
- 27

Austronesian or Malayo-Polynesian
- Grey
- ~18/1268

Related languages in Kalimantan, Indonesia!!
African examples in Foster article

1 = p775 Mano (Liberia)
2 = p775 Abrom (Ivory Coast)
3 = p777 Tiv (Nigeria)
4 = p777 Kaguru (Tanzania)
5 = p777 Xhosa (SA)
6 = p778 Bambara (Mali)
7 = p778 Nyima (Sudan but Niger-Congo language isolate)

7/7 examples from Niger-Congo group
Analogous generalizations for Europe

- Based on studies in Denmark, Sweden, Norway and Iceland, we can see that Europeans prefer X and Y...
- Based on studies in Portugal, Spain, and Italy, Europeans are like this...
Dispersal of Bantu peoples from Nigeria/Cameroon border region to eastern and southern Africa

Observed similarities along this axis encourage generalization about Africa
Two reasons for concern with generalizations about Africa

- Human relations
  - May be a sign of disrespect

- Technical
  - May lead us to formulate the wrong policies, implement the wrong interventions, and/or otherwise mess things up
Issues raised by the Foster article

1. What is “non-western”
2. “Africa”
3. Personalistic and naturalistic systems
4. Knowledge and beliefs
Issue #3: Personalistic and naturalistic medical systems (see caution on p 776)

- Common to have both herbalists (naturalistic) and healers who treat conditions with personalistic etiologies in the same community.
Issues raised by the Foster article

1. What is “non-western”
2. “Africa”
3. Personalistic and naturalistic systems
4. Knowledge and beliefs
Issue #4: Knowledge and beliefs

- Pelto and Pelto p148:
  - Anthropologists (e.g. Foster) see knowledge and belief as complementary terms
  - Health educators and other public health professionals (many of our colleagues and collaborators) see knowledge and beliefs as contrasting terms
My personal approach

- If I am working with anthropologists, I am very comfortable with the terms belief and culture
  - They have a nuanced understanding
- If I am working with or writing for medical and public health professionals, I spare no effort to avoid the terms belief and culture
  - They commonly have an understanding I am uncomfortable with
Knowledge and beliefs: Use in public health (Pelto p148)

- **Knowledge**
  - Refers to people knowing modern biomedical information: Mosquitoes cause malaria, what is good nutrition, unprotected sex causes AIDS
  - “Carries the assumption that information is scientific fact, based on universal, cross-culturally valid truths”
  - Knowledge means understanding etic terms and concepts
Knowledge and beliefs: Use in public health (Pelto p148)

- **Beliefs**
  - “Connote ideas that are erroneous from the perspective of biomedicine, and constitute obstacles to appropriate behavior”
  - “Notion of ‘progress’ still consists of replacing people’s beliefs (emic terms and concepts) with useful (i.e. etic) knowledge”
The problem of “belief”

“Although there was greater awareness of germs as causative factors in illness than previous studies had demonstrated, beliefs in multiple causes, including religious beliefs about disease causation, persisted. There was an apparent lack of understanding of specific causes of various illnesses or of the rationale for preventive measures. This lack of understanding may be related to the low education levels and/or deeply ingrained cultural beliefs.”
<table>
<thead>
<tr>
<th>“Cultural belief”</th>
<th>“Scientific knowledge”</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Irrational</td>
<td>▪ Rational</td>
</tr>
<tr>
<td>▪ Not based on evidence</td>
<td>▪ Based on evidence</td>
</tr>
<tr>
<td>▪ Linked to religion</td>
<td>▪ Separate from religion</td>
</tr>
<tr>
<td>▪ A contributor to underdevelopment</td>
<td>▪ A contributor to development</td>
</tr>
<tr>
<td>▪ Associated with lack of education, ignorance</td>
<td>▪ Associated with education</td>
</tr>
<tr>
<td>▪ A cause of undesirable practices</td>
<td>▪ A prime motivator of healthy practices</td>
</tr>
</tbody>
</table>
Pelto’s view on beliefs and knowledge

- All people (with or without formal health training) have cultural belief systems about health and illness
- In both cases, these systems are supported by observation and revised in the light of new information
- Beliefs and knowledge are equivalent concepts, not to be distinguished by their truth value
Transition in perspectives on beliefs and culture (Pelto p 153)

- Transition from
  - Traditional view: Culture and cultural beliefs as barriers, people as somewhat passive to
  - Culture as adaptive: People as active decision-makers, working to manage available resources and social networks to produce the desired health outcomes

- Explanatory models capture their map for managing these resources
More traditional view of culture often found in public health

Culture: Rules for how to prevent/ avoid illness, causes of illnesses, sources and kinds of treatment, etc.

“Culture is the root of the problem”
More traditional view of culture often found in public health

“Educators must pay attention to the elements of culture and incorporate useful aspects into the curriculum. At the same time, cultural beliefs that hinder good health habits, and counterproductive superstitions must be eradicated. Cultural factors that have hindered educational efforts in this district include: strong ties with the past, a noncompetitive spirit, a high divorce rate, female circumcision coinciding with the age of school entry, a subsistence existence, a need to use children for domestic chores, and a lack of sex education.”
Alternative view of culture: Culture as adaptive, not a barrier

Larger social, political, economic and environmental forces determining availability and cost of health care, living conditions of people etc.

Culture helps people respond/adapt to these forces: “to do the best with what is available”

Culture includes knowledge, practices, social structures, material culture etc., all part of the adaptive response
# Two views of “culture”

<table>
<thead>
<tr>
<th>More traditional view often found in public health</th>
<th>Culture as holistic and adaptive</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Primarily cognitive</td>
<td>- Broad, all-encompassing</td>
</tr>
<tr>
<td>- Essentially conservative, resistant to change, “ingrained”</td>
<td>- Innovative, constantly changing in response to changing conditions</td>
</tr>
<tr>
<td>- The cause of many other problems in health and development</td>
<td>- Adaptive response to larger conditions</td>
</tr>
<tr>
<td>- Change is very slow, a long-term process</td>
<td>- Change is almost immediate if necessary conditions are present</td>
</tr>
</tbody>
</table>
My personal approach to terminology
Questions I ask about terminology

- Does it establish a hierarchy between different groups?
- Does it privilege the knowledge of one group over that of another?
- How does it position the researcher vis-à-vis the research participants?
Terminology typically employed asymmetrically

- Belief
- Misconception
- Superstition
- Taboo
- Myth
- Ingrained
- Ignorance
- Conservative, closed, resistant to change
Alternative terminology

- Instead of:
  - Cultural beliefs & scientific knowledge

- Alternatives are:
  - Ethnomedical models of illness etiology & biomedical models of illness etiology
  - Local understandings of illness occurrence & understandings of illness occurrence held by epidemiologists
Standards of efficacy

Peter Winch

Health Behavior Change at the Individual, Household and Community Levels, 224.689
Terms and concepts

- Rationality
- Empirical
- Scientific, empirical and symbolic efficacy
- Self-limiting illnesses
- Externalizing and internalizing systems
- Symptom perceptualization
- Nosological fusion
Rationality

- Original meaning of ratio is calculation or computation
- Idea of rationality is that people are aware that they have choices, and they calculate the advantage to them in selecting each choice
- People have agency, they make active choices, rather than passively following social and cultural rules
Relations between words derived from Latin word ratio

Original meaning in Latin:
Calculation, computation

Latin Ratio/rationem

Spanish Razón

Indirect via French

French Raison

Direct from Latin

English Reason, reasoning

English Ratio, rational, rationale, rationality
Young’s questions

- What is the reasoning process (rationale) people employ to decide whether an action or intervention is beneficial in preventing or treating a disease?
- Why do people believe a given medical practice produces its putative effect?
- Given a choice of practices, why do people choose one over another?
Examples of scientific and empirical efficacy
Scientific and empirical efficacy

- **Scientific efficacy**
  - Your probability of contracting HIV and STDs is higher if you have multiple sexual partners

- **Empirical efficacy**
  - “I know a guy who goes out with a different woman every night, he has never got sick”
Scientific and empirical efficacy

- **Scientific efficacy**
  - Cigarette smoking is associated with an increased risk of lung cancer

- **Empirical efficacy**
  - “I know a guy who is 80 years old, he has been smoking since he was 12, he has never got sick”
Scientific and empirical efficacy

- **Scientific efficacy**
  - Sleeping under a treated mosquito net is associated with a decreased risk of malaria

- **Empirical efficacy**
  - “I never sleep under a net, I get bitten by mosquitoes all the time, and I never get a fever”
Scientific and empirical efficacy

- **Scientific efficacy**
  - In a clinical trial, patients given herbal remedy X did not do better than patients who received a placebo

- **Empirical efficacy**
  - “Last week I had a fever, I took herbal remedy X, and the next day I felt fine”
Differences between scientific and empirical efficacy

<table>
<thead>
<tr>
<th></th>
<th>Scientific efficacy</th>
<th>Empirical efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample size</td>
<td>Sufficient for statistical analysis</td>
<td>N = 1</td>
</tr>
<tr>
<td>Length of observation</td>
<td>Short and long term</td>
<td>Short term, esp immediate</td>
</tr>
<tr>
<td>Rules for data interpretation</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
### Differences between scientific and empirical efficacy

<table>
<thead>
<tr>
<th></th>
<th>Scientific efficacy</th>
<th>Empirical efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>View of causation</td>
<td>Probabilistic</td>
<td>Deterministic</td>
</tr>
<tr>
<td>How is knowledge stored?</td>
<td>Probabilistic statements</td>
<td>Narratives and anecdotes</td>
</tr>
<tr>
<td>Link to behavior</td>
<td>Weak</td>
<td>Strong</td>
</tr>
</tbody>
</table>
Standards of efficacy: Scientific efficacy/proof (P 103)

- Treatment produces observable improvement
- Temporal relation between treatment & outcome is necessary BUT NOT sufficient
- Ability of treatment to produce improvement verified in a double-blind placebo-controlled trial
- Scientifically plausible mechanism for efficacy of treatment
- Observations/information shared with wider scientific community and subjected to scrutiny
Standards of efficacy: 
Empirical efficacy (P 103)

- Treatment produces observable improvement
- Temporal relation between treatment & outcome is necessary AND sufficient
- N=1 (personal experience) is sufficient
- Observations not shared, knowledge is esoteric
- Self-limited nature of most illnesses basis for much empirical efficacy
- Examples: Antibiotics and vitamins for common cold
Standards of efficacy: Symbolic efficacy (p 104)

- “Symbolic efficacy is at the opposite pole, where critical concern about objects and events is absent.”

- “At the symbolic pole, efficacy is largely equivalent to ordering objects and events, and practices persist because they enable people to manage sickness episodes and orient themselves to threats of illness.”
Standards of efficacy: Symbolic efficacy (p 104)

- Treatment does not produce observable improvement
- Treatment does give patient/family increased sense of control over the illness:
  - Understand the cause
  - Understand reason for falling ill at this time
  - Know actions that need to be taken to deal with the illness
- Examples:
  - Diagnosis of multiple sclerosis,
  - Traditional treatment/ritual with many symbolic elements
Standards of efficacy: Symbolic efficacy (p 104)

- Persistence of symbolically efficacious practices depends on how they affect all people who participate in management of sickness episodes:
  - Kin
  - Friends and neighbors
  - Healers

- Definition of roles, validation of each person’s contribution
Empirical efficacy in practice (p 105)
Empirical efficacy in practice (p 105)

“In less-developed countries it is generally the case that:

1. Sickness patterns are dominated by infectious and parasitic diseases, malnutrition and traumatic injuries;
2. A major portion of sickness episodes consist of self-limiting sicknesses;
3. Medical rationality is not determined by scientific standards of proof.”
Empirical efficacy in practice (p 105)

“In less-developed countries it is generally the case that:

1. Sickness patterns are dominated by infectious and parasitic diseases, malnutrition and traumatic injuries;
2. A major portion of sickness episodes consist of self-limiting sicknesses;
3. Medical rationality is not determined by scientific standards of proof.”
Self-limiting conditions (p 105)

Onset of symptoms \(\rightarrow\) Resolution of symptoms

Onset of symptoms \(\rightarrow\) Intervention \(\rightarrow\) Resolution of symptoms
Self-limiting conditions (p 105)

“Empirically efficacious interventions against self-limiting sicknesses is an example of medical practices which take credit for events that are going to happen anyway; the fact that many sick people recover is evidence of the intervention’s efficacy.”
Self-limiting conditions (p 105)

- “Included here are the prophylactic practices (e.g. amulets, propitiatory behaviors, dietary regimens) which consume a large portion of health-related expenditures and efforts in many traditional societies.”
Prevention with amulet (p 105)

No symptoms $\rightarrow$ 90% remain well

No symptoms $\rightarrow$ Amulet $\rightarrow$ 90% remain well
Dog bites (Young 1979, p 71) before nosological fusion

- Rabid bite → Symptoms → Death
- Non-rabid bite → No one gets sick
Dog bites (Young 1979, p 71) after nosological fusion

- "Rabid" bite
- Traditional treatment
- Symptoms → Death
- Pathogen eliminated → Cure
Caveats re empirical efficacy (p 106)

- Persistence of practices may owe more to absence of alternatives than to empirical efficacy
- Because management consists of a series of practices, lack of observed benefit doesn’t immediately raise questions about a specific practice
- Clash of forces, can’t be predicted which will turn out to be stronger in a specific case
Symptom perceptualization (Pages 108-109)

- Symptoms are perceived and managed individually, not seen as part of a larger process – “perceived as following one another adventitiously over a period of several months”, years or decades.
- Disappearance of individual symptoms
  - is proof of efficacy (empirical efficacy),
  - although the larger process is unaffected (scientific efficacy).
- Examples: Schistosomiasis, tuberculosis, syphilis, AIDS.
Which kind of efficacy is used?

<table>
<thead>
<tr>
<th></th>
<th>Health professionals</th>
<th>Patients, communities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scientific efficacy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Empirical efficacy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Symbolic efficacy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Health professionals</td>
<td>Patients, communities</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Scientific efficacy</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Empirical efficacy</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Symbolic efficacy</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>
More accurate

<table>
<thead>
<tr>
<th></th>
<th>Health professionals</th>
<th>Patients, communities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scientific efficacy</strong></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Empirical efficacy</strong></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Symbolic efficacy</strong></td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
Factors that increase gap between scientific and empirical efficacy

- Differences in terminology: fusion and splitting of terms
- Unobservable phenomena: viruses, parasites, immune system
- Sample size needed to observe an effect
  - Some effects only observable at the population level
- Length of observation
How people respond to the gap

“...It may be true where you come from, but here it is different. We see that....”
Addressing the scientific-empirical efficacy gap

- Accept the validity of the observation
- Complement people for being observant
- Offer other explanations of the phenomena observed
- Perform demonstrations
- Anticipate what people will experience