



Ingredients	<p>Active pharmaceutical ingredient (API e.g. antibiotic ciprofloxacin) + excipients (the pharmacologically inactive substances that carry APIs).</p> <p>Excipients: e.g. <i>coatings</i> like hydroxypropyl methylcellulose (protects tablet from moisture and makes large / unpleasant tablets easier to swallow); <i>lubricants</i> like talc (prevents tablets from sticking to packaging or tablet-making machinery), <i>fillers</i> like plant cellulose (creates size of tablets) and <i>flavours</i> like vanilla (improves the taste of medicines) (link).</p>
Justice issues	<ul style="list-style-type: none"> - worker exposure to APIs: human health & environmental consequences; - lung disease cause by dust inhalation among talc miners; - human rights concerns about inequitable access to pharmaceuticals.
MoCC event/ place	
Information resources	<ul style="list-style-type: none"> - Anon (nd) Photo journal: talc miner. <i>BBC News</i> (link) - Mason, M. (2009) 'Ecological sacrifice zone' in India. <i>LA Times</i> 8 Feb (link) - Schneider, A. (2000) Generations of talc miners were fiber's victims. <i>Seattle Post-Intelligencer</i> 22 June (link) - Thom, A. (2012) South Africa: patents vs access to drugs. <i>allafrica.com</i> 14 May (link) - Wigmore, D. (2009) <i>Pharmaceuticals manufacturing: what do we know about the occupational health and safety hazards for women working in the industry?</i> Toronto: Women & Health Protection (link)
Art / activist events & resources	<ul style="list-style-type: none"> - <i>Cradle to Grave</i>: art installation made from medicine (2003- link); - Freeman, S., Critchley, D. & Lee, L. (2009) 'Cradle to grave', in <i>Sickness & in Health</i>. <i>pharmacopoeia-art.net</i> (link); - <i>Pharmacy</i>: art installation by Damien Hirst (first shown in 1992: link). - The Pill (a.k.a. a female issue). <i>followthethings.com</i> Feb 2011 (link) - Cyborg information leaflet: Thyroxine 50 microgram tablets <i>followthethings.com</i> May 2011 (link)

READING 1: We take pills to treat unhappiness, obesity, smoking addiction, to control natural events such as the menopause and these are important issues that our society needs to debate. ... As the body begins to fail, we turn to pharmaceutically active chemicals to preserve and extend life. We minimize the suffering of old age by medicating it. ... prescription drugs ... are both wonderful and dangerous. They allow us to live longer, they allow us to suffer less, but they may also offer false promises of happiness and health and immortality that they cannot possibly deliver. In this they are more like the spirits and gods of other cultures ... (Freeman et al 2009 [link](#)).

READING 2: PATANCHERU, INDIA: "When researchers analyzed vials of treated wastewater from a plant where about 90 Indian drug factories dump their residues, they were shocked. Enough of a single, powerful antibiotic was being spewed into one stream each day to treat every person in a city of 90,000. And it wasn't just ciprofloxacin being detected. The supposedly cleaned water was a liquid medicine cabinet - a soup of 21 different active pharmaceutical ingredients, used in generics for treatment of hypertension, heart disease, chronic liver ailments, depression, gonorrhea, ulcers and other ailments. Half of the drugs measured at the highest levels of pharmaceuticals ever detected in the environment, researchers say. ... Some locals long believed drugs were seeping into their drinking water, and data from [the] study ... confirmed their suspicions. Ciprofloxacin and the popular antihistamine cetirizine ... had the highest levels in the wells of six villages tested. Both drugs measured far below a human dose, but the results were still alarming. ... Ciprofloxacin was once considered a powerful antibiotic of last resort, used to treat especially tenacious infections. But in recent years many bacteria have developed resistance to the drug, leaving it significantly less effective. (The more bacteria is exposed to a drug, the more likely that bacteria will mutate in a way that renders the drug ineffective.) "We are using these drugs, and the disease is not being cured - there is resistance going on there," said ... a medical doctor and environmental activist who has treated people for more than 30 years near the drug factories. He says he worries most about the long-term effects on his patients potentially being exposed to constant low levels of drugs. And then there's the variety, the mixture of drugs that aren't supposed to interact. No one knows what effects that could cause" (Mason 2009 [link](#)).

READING 3: GOUVERNEUR, N.Y.: "The tombstones ... tell the story. Beneath them lie generations of talc miners, and the numbers carved in the marble and granite stones show that generations here run short. Many of the men who took their living from this soft white rock died young - in their late 40s and 50s. Mining has always been a perilous profession, but few of these men died from caved-in shafts or runaway ore cars ... Far more of them died the excruciating death of suffocation - from lungs made uselessly rigid by scarring from deeply embedded mineral fibers, lungs with cancerous tumors, lungs filled with muddy-yellow fluid the consistency of honey. ... A foot-high stack of the documents - autopsy reports, medical records, pathology studies and death certificates - show that miners, millers and mine supervisors have died or are dying from disease caused by fibers - mostly asbestos - in their lungs. The depositions, medical records and company documents show repeated examples of company doctors telling workers for years that they were healthy, when X-rays locked away in company files showed lungs filled with asbestos or tumors. If the miners had known this medical information, they could have halted the deadly exposures, doctors say. ... Surviving is not easy. ... What sparks their fury more than anything, they say, is that company doctors hid the illness from them. "It wasn't as if they didn't know," [Retired miner Charlie] Minckler said. "Hell, just look at our fingers. They're clubbed. Everybody's are like that. It's a sign the lungs aren't working." Clubbing, a bulbous distortion of the fingertips and nails, is caused by a prolonged state of inadequate oxygenation (Schneider 2000 [link](#)).