

# Art Earth Tech – Primers

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# Chapter 1

## Introduction

### Why do research?

- To set out “What is to be done / What is doable?”
  - What is our vision of the future that *we* want to see — and how do they fit together
  - What actions do we want take
  - Why Art / Earth / Tech
- Create policies and recommendations e.g. in governance, in politics, in technology
- Answer specific questions we have - without it coming under a bigger theme
- Have a shared understanding [within Art / Earth / Tech]
- To do collaborative research and get experience of doing them without the normal incentive structures
- Answer practical questions e.g. what practical challenges are there to doing what we would like or what business model could we have?
  - This would likely come under other activities e.g. the working group looking at material sustainability would research business models

### Criteria

- Relate to why we do this

- Interesting to those who are going to contribute ...
- Not too hard
  - Will not take years to get anywhere
    - \* we may do big multi-year research at some point however probably would do that in its own working group
    - \* Will not require very deep specialist knowledge (e.g. quantum physics)
- Accessible - others can join in, others outside of Art / Earth / Tech could be interested
- Replicable - others can follow our findings and “repeat” them in appropriate manner

## Guidelines for Primers

- What are we trying to achieve with the primer items? Ans: **Have a shared understanding within AET group and community**
  - No need for originality - we can copy and paste from wikipedia!
  - They can be opinionated
  - Establish common ground
- Audience
  - Who is going to read it? AET community and the research group.
  - What prior knowledge is expected
    - \* Of the broader AET research effort: non especially
    - \* May be useful to understand these are part of AET research effort but not essential
    - \* Of the specific topic: can vary. Usually assume very little. On technical topics is fine to state pre-requisites e.g. please go and read this and this
- Length: 1-5 pages.
  - 1 page is great! 1 page exec summary if more than 2 pages.
  - \* further reading / references
- Style: friendly, succinct, informative, not too academic.

## Chapter 2

# Non-attachment to Views

*... Seeing that harmful actions arise from anger, fear, greed, and intolerance, which in turn come from dualistic and discriminative thinking, I will cultivate openness, non-discrimination, and non-attachment to views in order to transform violence, fanaticism, and dogmatism in myself and in the world.*

***Thich Nhat Hanh, First Mindfulness Training “Reverence for Life”<sup>1</sup>***

*The human understanding when it has once adopted an opinion draws all things else to support and agree with it. And though there be a greater number and weight of instances to be found on the other side, yet these it either neglects and despises, or else by some distinction sets aside and rejects, in order that by this great and pernicious predetermination the authority of its former conclusion may remain inviolate.*

***Bacon, 1620, Novum Organum Aphorism 46***

*“When the facts change, I change my mind. What do you do, sir”*

***John Maynard Keynes, Economist, (Apocryphal)***

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<sup>1</sup>The word ‘meme’ is coined by British evolutionary biologist Richard Dawkins in *The Selfish Gene* (1976) and it is derived from the greek word of mimeme (imitated thing) shortened to be a monosyllable word sounding a bit like ‘gene’.

Consider that one of the greatest obstacles to our well-being is our attachment to views — that we are right and others are wrong. As a result, we find it hard to change our views and to hear others. This can result in dogmatism, fanaticism and even violence both physical and emotional. At a personal level, our attachment to views may be one of the greatest obstacle to our own well-being and enlightenment because of the difficulty we face relinquishing deep-rooted beliefs in an inherently existing ‘self’ or ‘I’.<sup>2</sup>

In this primer we look at three areas related to this issue. First, we look at what we mean by attachment and non-attachment to views and their relationship to engagement and detachment. We clarify that non-attachment is not **de**-attachment but rather un-attached engagement and open-mindedness.

Second, we present the scientific evidence that we are attached to views: that we resist changing our views despite strong, contrary evidence. We discuss various reasons why that might be and the impact of this materially and spiritually.

Third, we explore the deeper connections with ontology and our ideas of self in philosophy and Buddhism.

## What are Attachment and Non-Attachment?

Ordinarily we think of attachment as something positive or even neutral: I’m attached to this old watch because my father gave it to me, or the boat is attached to the shore by a rope. And conversely to be unattached offers sounds a bit negative. For example, if you say “I’m unattached” it means you are without a romantic relationship — whereas to be attached is to have one (observe that common slang for getting married is to “get hitched” which roughly approximates to to “get attached”).

And this sense is still there when it comes to views. Not to be attached to a view is to be *de*-tached. Whilst there can be a positive sense of dispassionate and independent as in “the judge considered the arguments with a sense of detachment”, there is also the sense of uninvolved and uncaring: “the man watched the dogs attack the fox with an air of detachment”.

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<sup>2</sup>Unit or a part at the same time as a whole. Introduced by Arthur Koestler: “From the Greek *holos* = whole, with the suffix *on* which, as in proton or neutron suggests a particle or part.”

Thus our use of attachment may be surprising. In ordinary english attachment is often used in as positive context: we are attached to places, people and things that we like and care about. Conversely, the opposite of attachment — *detachment* — has a mildly negative sense of emotionless unconcern, anomie, lifelessness — “he kissed her with an air of detachment”, “he lived detached, absent, as if something were permanently missing”.

Our use of attachment and non-attachment are somewhat special and rather specific. It derives from a Buddhist tradition. In that tradition “attachment” is the translation for key concept around the way that we “cling” to things: experiences, things, ideas, even consciousness. It can be found as a key phrase in translations of the Four Noble Truths, the core teachings of the Buddha<sup>3</sup>:

1. Life involves suffering
2. Suffering arises from *attachment* [also translated as “craving”, > “clinging to” ...]
3. Suffering ceases when *attachment* ceases
4. Freedom from suffering is possible by practicing the Eightfold Path

The special usage also explains why we use *non*-attachment rather than *de*-attachment as the contrast to attachment. Non-attachment, which is our focus here, is not detachment. It is not simply an absence, a lack of attachment. Rather it is something positive, a positive choice that makes true engagement and commitment possible.

Consider an analogy with listening. When we listen to another person we can listen in several ways. One way to listen is to do passively. It is listening just as not talking but without really engaging with what the person is saying. What they say comes in our ears but we do not really hear it or listen to it in a true sense. This is “detached” listening. On the other hand, there are times when we truly listen and listen deeply. This is an active not a passive act. Where actively engage ourselves with what they are saying, opening our mind to it, positively welcoming what they are saying.

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<sup>3</sup>Blackmore S.: Imitation and the definition of a meme — <http://www.baillement.com/texte-blakemore.pdf>

## Common garden examples of attachment

### Research on Attachment to Views

#### *Misinformation, False Beliefs and Cognition*

If we look around us: at newspapers, at our friends, even in our own lives, it becomes clear that misinformation is ubiquitous, and that false and erroneous beliefs are widespread and persistent.

For example, over half of all voters in Republican Primaries in 2011 were “birthers” who believed that President Obama was not born in the United States despite overwhelming evidence to the contrary. Or the fact that a sizeable minority in Britain and the United States now believe, erroneously, in a link between vaccination and autism thanks to a single 1998 study which was widely reported at the time but subsequently discredited. This has had a large impact for public health as parents refuse to vaccinate their children resulting in a significant number of preventable deaths and illness.<sup>4</sup>

There is now a sizeable body of scientific research on why false beliefs persist.

What are we interested in?

- Conclusive evidence that a) people have false beliefs b) that these > persist in face of presentation of contradictory evidence c) why > that is — what cognitive and ontological mechanisms are at work d) > what practical recommendations would come out of this for creating > open-mindedness and non-attachment to views
- Questions: framing in terms of “false” belief and misinformation
- People don’t change views -> they discard ignore or dismiss > contradictory evidence -> they do this because it conflicts > with / threatens the security of their identity (ego) -> leads > us into ontology -> buddhist attachment to views -> becoming > more open-mindedness

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<sup>4</sup>Lewandowsky et al 2012, TODO: add the others. For numbers see e.g. <http://www.jennymccarthybodycount.com/>. “For example, following the unsubstantiated claims of a vaccination-autism link, many parents decided not to immunize their children, which has had dire consequences for both individuals and societies, including a marked increase in vaccine-preventable disease and hence preventable hospitalizations, deaths, and the unnecessary expenditure of large amounts of money for follow-up research and public-information campaigns aimed at rectifying the situation (Larson et al., 2011; Poland & Spier, 2010; Ratzan, 2010).” [Lewandowsky et al 2012, p.107]

requires addressing our attachment -> > buddhist practice (e.g. meditation) as this generates awareness > and equanimity, which then can lead to a falling away of our > attachment

– Guarding the senses

A real world impact of “attachment” (Lewandowsky et al. 2012, pp. 106-107):

*On August 4, 1961, a young woman gave birth to a healthy baby boy in a hospital at 1611 Bingham St., Honolulu. That child, Barack Obama, later became the 44th president of the United States. Notwithstanding the incontrovertible evidence for the simple fact of his American birth—from a Hawaiian birth certificate to birth announcements in local papers to the fact that his pregnant mother went into the Honolulu hospital and left it cradling a baby—a group known as “birthers” claimed Obama had been born outside the United States and was therefore not eligible to assume the presidency. Even though the claims were met with skepticism by the media, polls at the time showed that they were widely believed by a sizable proportion of the public (Travis, 2010), including a majority of voters in Republican primary elections in 2011 (Barr, 2011).*

*In the United Kingdom, a 1998 study suggesting a link between a common childhood vaccine and autism generated considerable fear in the general public concerning the safety of the vaccine. The UK Department of Health and several other health organizations immediately pointed to the lack of evidence for such claims and urged parents not to reject the vaccine. The media subsequently widely reported that none of the original claims had been substantiated. Nonetheless, in 2002, between 20% and 25% of the public continued to believe in the vaccine- autism link, and a further 39% to 53% continued to believe there was equal evidence on both sides of the debate (Hargreaves, Lewis, & Speers, 2003). More worryingly still, a substantial number of health professionals continued to believe the unsubstantiated claims (Petrovic, Roberts, & Ramsay, 2001). Ultimately, it emerged that the first author of the study had failed to disclose a significant conflict of interest; thereafter, most of the coauthors distanced themselves from the study, the journal officially retracted the article, and the first author was eventually found guilty of misconduct and*



lost his license to practice medicine (Colgrove & Bayer, 2005; Larson, Cooper, Eskola, Katz, & Ratzan, 2011)<sup>5</sup>.

It is not just the facts, it is the narrative we tell about the facts (“I don’t want to be right”):

*Even when we think we’ve properly corrected a false belief, the original exposure often continues to influence our memory and thoughts. In a series of studies, Lewandowsky and his colleagues at the University of Western Australia asked university students to read the report of a liquor robbery that had ostensibly taken place in Australia’s Northern Territory. Everyone read the same report, but in some cases racial information about the perpetrators was included and in others it wasn’t. In one scenario, the students were led to believe that the suspects were Caucasian, and in another that they were Aboriginal. At the end of the report, the racial information either was or wasn’t retracted. Participants were then asked to take part in an unrelated computer task for half an hour. After that, they were asked a number of factual questions (“What sort of car was found abandoned?”) and inference questions (“Who do you think the attackers were?”). After the students answered all of the questions, they were given a scale to assess their racial attitudes toward Aboriginals.*

*Everyone’s memory worked correctly: the students could all recall the details of the crime and could report precisely what information was or wasn’t retracted. But the students who scored highest on racial prejudice continued to rely on the racial misinformation that identified the perpetrators as Aboriginals, even though they knew it had been corrected. They answered the factual questions accurately, stating that the information about race was false, and yet they still relied on race in their inference responses, saying that the attackers were likely Aboriginal or that the store owner likely had trouble understanding them because they were Aboriginal. This was, in other words, a laboratory case of the very dynamic that Nyhan identified: strongly held beliefs continued to influence judgment, despite correction attempts—even with a supposedly conscious awareness of what was happening.*

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<sup>5</sup>A summary of the evidence that the 1998 paper was defective and fraudulent can be found in <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3136032> which links to most of the other papers on the topic.

*In a follow-up, Lewandowsky presented a scenario that was similar to the original experiment, except now, the Aboriginal was a hero who disarmed the would-be robber. This time, it was students who had scored lowest in racial prejudice who persisted in their reliance on false information, in spite of any attempt at correction. In their subsequent recollections, they mentioned race more frequently, and incorrectly, even though they knew that piece of information had been retracted. ...*

### **Relation to self-identity**

*False beliefs, it turns out, have little to do with one's stated political affiliations and far more to do with **self-identity**: What kind of person am I, and what kind of person do I want to be? All ideologies are similarly affected. [emphasis added]*

Denial vs healthy scepticism

### **A Loving Father Rejects His Son**

*From The Art of Power by Thich Nhat Hanh, pp.87-89*

The Buddha told the story of a merchant, a widower, who went away in a business trip and left his little boy at home. While he was away, bandits came and burned down the whole village. When the merchant returned, he didn't find his house, it was just a heap of ash. There was the charred body of a child close by. He threw himself on the ground and cried and cried. He beat his chest and pulled his hair. The next day, he had the little body cremated. Because his beloved son was his only reason for existence, he sewed a beautiful velvet bag and put the ashes inside. Wherever he went, he took that bag of ashes with him. Eating, sleeping, working, he always carried it with him.

In fact, his son had been kidnapped by the bandits. Three months later, the boy escaped and returned home. When he arrived, it was two o'clock in the morning. He knocked on the door of the new house his father had built. The poor father was lying on his bed crying, holding the bag of ashes, and he asked, 'Who is there?' 'It's me, Daddy, your son.' The father answered, 'That's not possible. My son is dead. I've cremated his body and I carry his ashes with me. You must be some naughty boy who's trying to fool me. Go away, don't disturb me!' He refused to open the door, and there was no

way for the little boy to come in. The boy had to go away, and the father lost his son forever.

After telling the story, the Buddha said, ‘If at some point in your life you adopt an idea or a perception as the absolute truth, you close the door of your mind. This is the end of seeking the truth. And not only do you no longer seek the truth, but even if the truth comes in person and knocks on your door, you refuse to open it. Attachment to views, attachment to ideas, attachment to perceptions are the biggest obstacle to the truth.’

## Links

- I Don’t Want to Be Right - New Yorker > <http://www.newyorker.com/science/maria-konnikova/i-dont-want-to-be-right>
- Memory for Fact, Fiction, and Misinformation: The Iraq War 2003 > Psychological Science March 2005 16: 190-195
- Nyhan, Brendan, Jason Reifler, and Peter A. Ubel. 2013. ‘The Hazards > of Correcting Myths About Health Care Reform’: *Medical Care* 51 > (2): 127–32. doi:10.1097/MLR.0b013e318279486b. > [http://journals.lww.com/lww-medicalcare/Abstract/2013/02000/The\\_Hazards\\_of\\_Correcting\\_M](http://journals.lww.com/lww-medicalcare/Abstract/2013/02000/The_Hazards_of_Correcting_M)
  - Context: Misperceptions are a major problem in debates about > health care reform and other controversial health issues.
  - > Methods: We conducted an experiment to determine if more > aggressive media fact-checking could correct the false belief > that the Affordable Care Act would create “death panels.” > Participants from an opt-in Internet panel were randomly > assigned to either a control group in which they read an > article on Sarah Palin’s claims about “death panels” or an > intervention group in which the article also contained > corrective information refuting Palin.
  - > Findings: The correction reduced belief in death panels and > strong opposition to the reform bill among those who view > Palin unfavorably and those who view her favorably but have > low political knowledge. However, it backfired among > politically knowledgeable Palin supporters, who were *more* > likely to believe in death panels and to strongly oppose > reform if they received the correction.

> Conclusions: These results underscore the difficulty of > reducing misperceptions about health care reform among > individuals with the motivation and sophistication to reject > corrective information.

- Misinformation and Its Correction: Continued Influence and > Successful Debiasing Psychological Science in the Public Interest > December 2012 13: 106-131, > <http://psi.sagepub.com/content/13/3/106.full>
- Lord C, Lepper MR, Ross L. Biased assimilation and > attitude polarization. The effects of prior theories on > subsequently considered evidence. *Journal of Personality and > Social Psychology* 1979; 37: 2098-2110.
  - <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.372.1743&rep=rep1&type=pdf>
  - People who hold strong opinions on complex social issues are > likely to examine relevant empirical evidence in a > biased manner. They are apt to accept “con- firming” evidence > at face value while subjecting “discontinuing” evidence to > critical evaluation, and as a result to draw undue support for > their initial posi- tions from mixed or random > empirical findings. Thus, the result of exposing contending > factions in a social dispute to an identical body of relevant > em- pirical evidence may be not a narrowing of disagreement > but rather an in- crease in polarization. To test these > assumptions and predictions, subjects supporting and opposing > capital punishment were exposed to two purported studies, one > seemingly confirming and one seemingly disconfirming their > exist- ing beliefs about the deterrent efficacy of the > death penalty. As predicted, both proponents and opponents of > capital punishment rated those results and procedures that > confirmed their own beliefs to be the more convincing and > probative ones, and they reported corresponding shifts in > their beliefs as the various results and procedures > were presented. The net effect of such evaluations and opinion > shifts was the postulated increase in attitude polarization.
- Hart, P. Sol, and Erik C. Nisbet. 2012. ‘Boomerang Effects in > Science Communication How Motivated Reasoning and Identity Cues > Amplify Opinion Polarization About Climate Mitigation Policies’. > *Communication Research* 39 (6): 701–23. > doi:10.1177/0093650211416646.

- <http://crx.sagepub.com/content/39/6/701>
- The deficit-model of science communication assumes increased > communication about science issues will move public opinion > toward the scientific consensus. However, in the case of > climate change, public polarization about the issue has > increased in recent years, not diminished. In this study, we > draw from theories of motivated reasoning, social identity, > and persuasion to examine how science-based messages may > increase public polarization on controversial science issues > such as climate change. Exposing 240 adults to simulated news > stories about possible climate change health impacts on > different groups, we found the influence of identification > with potential victims was contingent on participants' > political partisanship. This partisanship increased the degree > of political polarization on support for climate mitigation > policies and resulted in a boomerang effect among > Republican participants. Implications for understanding the > role of motivated reasoning within the context of science > communication are discussed.
- Fishing a Superfund Site: Dissonance and Risk Perception of > Environmental Hazards by Fishermen in Puerto Rico
  - <http://onlinelibrary.wiley.com/doi/10.1111/j.1539-6924.1991.tb00603.x/full>
  - Risk perception studies show that individuals tend to > underestimate significant risks, overestimate negligible ones, > and distrust authorities. They also rely on a variety of > strategies or heuristics to reach decisions regarding their > risk-taking behavior. We report on a survey of fishermen and > crabbers engaged in recreational and subsistence fishing in a > Puerto Rican estuary (near Humacao), which has been declared a > “Superfund site” because of suspected contamination by > mercury, and at ecologically similar control sites. Nearly > everyone interviewed at the Humacao site was aware of the > mercury contamination, but either denied its importance, > believed the contamination was restricted to a distant part of > the estuary, or assumed that the estuary would be closed by > the authorities if the threat was real. All site-users > consumed the fish and crabs they caught
- Garrett, R. Kelly, and Brian E. Weeks. 2013. ‘The Promise and Peril > of Real-Time Corrections to Political Misperceptions’. In >

*Proceedings of the 2013 Conference on Computer Supported > Cooperative Work*, 1047–1058. CSCW '13. New York, NY, USA: ACM. > doi:10.1145/2441776.2441895.

– <http://dl.acm.org/citation.cfm?id=2441895>

– Computer scientists have responded to the high prevalence of > inaccurate political information online by creating systems > that identify and flag false claims. Warning users of > inaccurate information as it is displayed has obvious appeal, > but it also poses risk. Compared to post-exposure corrections, > real-time corrections may cause users to be more resistant to > factual information. This paper presents an experiment > comparing the effects of real-time corrections to corrections > that are presented after a short distractor task. Although > real-time corrections are modestly more effective than delayed > corrections overall, closer inspection reveals that this is > only true among individuals predisposed to reject the > false claim. In contrast, individuals whose attitudes are > supported by the inaccurate information distrust the source > more when corrections are presented in real time, yielding > beliefs comparable to those never exposed to a correction. We > find no evidence of real-time corrections > encouraging counterargument. Strategies for reducing these > biases are discussed.

- Lewandowsky, Stephan, Michael E. Mann, Nicholas J. L. Brown, and > Harris Friedman. 2016. ‘Science and the Public: Debate, Denial, > and Skepticism’. *Journal of Social and Political Psychology* 4 > (2): 537–53. doi:10.5964/jspp.v4i2.604.

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#### General Cognitive Mechanisms

- Belief in the Law of Small Numbers. AMOS TVERSKY and > DANIEL KAHNEMAN. Hebrew University of Jerusalem. *Psychological > Bulletin*, 1971, Vol. 76, No. 2. 105-110.
  - *Abstract* - People have erroneous intuitions about the laws > of chance. In particular, they regard a sample randomly drawn > from a population as highly representative, that is, similar > to the population in all essential characteristics. The > prevalence of the belief and its unfortunate consequences for > psycholog-

ical research are illustrated by the responses of > professional psychologists to a questionnaire concerning > research decisions.

– [http://pirate.shu.edu/~hovancjo/exp\\_read/tversky.htm](http://pirate.shu.edu/~hovancjo/exp_read/tversky.htm)

#### Buddhism and Ontology

- The Emerging Role of Buddhism in Clinical Psychology: Toward > Effective Integration > [PDF] > \*\*\* TODO - finish reading

#### Appendix: Braindump

- **Central role of Buddhism in all of this**
- **Buddhism and non-attachment and misunderstandings**
- **Addiction: extreme pathological attachment. Substance and > behavioural addiction. What about “ontological addiction”:** the > unwillingness to relinquish an erroneous and deep-rooted belief in > an inherently existing ‘self’ or ‘I’ as well as the ‘impaired > functionality’ that arises from such a belief

#### Buddhism, non-attachment and misunderstandings ...

People seem to hear the 4NT and attachment part as: “life is about the cessation of suffering, detachment is the way to do, just hook yourself up to a morphine drip”. And normally react to that like: “No, i don’t want to have a lobotomy, I want to live and experience and i accept suffering etc etc. See e.g. for a fairly nuanced look at this which still seems to go down this route: [http://gretachristina.typepad.com/greta\\_christinas\\_weblog/2010/03/secular-buddhism.html](http://gretachristina.typepad.com/greta_christinas_weblog/2010/03/secular-buddhism.html)

E.g. you have translations like:

- Life is suffering.
- The origin of suffering is attachment.
- The cessation of suffering is attainable.
- The path to the cessation of suffering is eightfold path

In my view, this is an misinterpretation. It equates non-attachment with detachment rather than engagement.

Mis-interpretation

- Getting a lobotomy
- Living in a hut in the forest
- Having no possessions
- Never doing what you enjoy because you get attached to it ...

The truth is *peace and the ultimate freedom can be obtained right here within everyday life*. So then if stripping yourself of all possessions and worldly responsibility isn't the point of non-attachment, what is?

## Metaphors

Clench / unclench

*Hands\_in\_action\_-\_fist\_1*

*Hand reach*

Attachment  $\leftarrow \rightarrow$  Detachment

V

Engagement

People think of non-attachment = opposite = detachment = apathy, disengagement, absence etc ...

Not so!

Non-attachment != Detachment but rather = Engagement without attachment

## Random Stuff

[http://gretachristina.typepad.com/greta\\_christinas\\_weblog/2010/03/secular-buddhism.html](http://gretachristina.typepad.com/greta_christinas_weblog/2010/03/secular-buddhism.html)

In the world of clinical psychology and social work, among attachment theorists and clinicians who study crying and grief, there are some who make a distinction between “sad crying” and “protest crying.” “Protest crying” expresses the refusal to accept loss. It treats the fact of loss as a terrible



injustice, and demands an immediate return of whatever it is that's been lost. It says, "I don't want this, and I don't accept it." (Not coincidentally, "protest crying" is more likely to elicit a hostile or irritated reaction from others, since it's out of proportion, disconnected from reality, and makes people feel manipulated.)

"Sad crying," on the other hand, expresses despair over loss. It expresses our recognition that whatever's been lost is really gone, and expresses our feelings of grief about it. It says, "I don't want this, but I understand that this is how it is." (And it's more likely to elicit sympathy and compassion and attachment from other people... the good kind of attachment, the clinical-psychology "connecting with others" definition of attachment, not the bad Buddhist definition.)

## Appendix

### Cognitive Dissonance

*<http://psychclassics.yorku.ca/Festinger/index.htm>*

### Einstellung Effect

Crudely: Prior experience gets in the way of finding new ways of doing things? (Attachment to existing knowledge)

The counter-intuitive possibility that prior knowledge can have a negative effect on

future performance is a theme in a range of areas of psychology that at first sight

might seem unrelated. For example, in negative transfer paradigms previous experience make it more difficult to adapt to a new setting than it would be without such experience.

*<http://dspace.brunel.ac.uk/bitstream/2438/2276/1/Einstellung-Cognition.pdf>*

Why Good Thoughts Block Better Ones: The Mechanism of the Pernicious Einstellung (set) Effect

## Nice Example of Retained Beliefs

*<http://www.quackwatch.org/01QuackeryRelatedTopics/ideomotor.html>*

Some years ago I participated in a test of applied kinesiology at Dr. Wallace Sampson's medical office in Mountain View, California. A team of chiropractors came to demonstrate the procedure. Several physician observers and the chiropractors had agreed that chiropractors would first be free to illustrate applied kinesiology in whatever manner they chose. Afterward, we would try some double-blind tests of their claims.

The chiropractors presented as their major example a demonstration they believed showed that the human body could respond to the difference between glucose (a "bad" sugar) and fructose (a "good" sugar). The differential sensitivity was a truism among "alternative healers," though there was no scientific warrant for it. The chiropractors had volunteers lie on their backs and raise one arm vertically. They then would put a drop of glucose (in a solution of water) on the volunteer's tongue. The chiropractor then tried to push the volunteer's upraised arm down to a horizontal position while the volunteer tried to resist. In almost every case, the volunteer could not resist. The chiropractors stated the volunteer's body recognized glucose as a "bad" sugar. After the volunteer's mouth was rinsed out and a drop of fructose was placed on the tongue, the volunteer, in just about every test, resisted movement to the horizontal position. The body had recognized fructose as a "good" sugar.

After lunch a nurse brought us a large number of test tubes, each one coded with a secret number so that we could not tell from the tubes which contained fructose and which contained glucose. The nurse then left the room so that no one in the room during the subsequent testing would consciously know which tubes contained glucose and which fructose. The arm tests were repeated, but this time they were double-blind – neither the volunteer, the chiropractors, nor the onlookers was aware of whether the solution being applied to the volunteer's tongue was glucose or fructose. As in the morning session, sometimes the volunteers were able to resist and other times they were not. We recorded the code number of the solution on each trial. Then the nurse returned with the key to the code. When we determined which trials involved glucose and which involved fructose, there was no connection between ability to resist and whether the volunteer was given the "good" or the "bad" sugar.

When these results were announced, the head chiropractor turned to me and said, “You see, that is why we never do double-blind testing anymore. It never works!” At first I thought he was joking. It turned out he was quite serious. Since he “knew” that applied kinesiology works, and the best scientific method shows that it does not work, then – in his mind – there must be something wrong with the scientific method. This is both a form of loopholism as well as an illustration of what I call the plea for special dispensation. Many pseudo- and fringe-scientists often react to the failure of science to confirm their prized beliefs, not by gracefully accepting the possibility that they were wrong, but by arguing that science is defective.

## **Speculation on Why We Are Attached to Views [Game Theory and Evolutionary Biology]**

Why do we have such strong commitment to views. In particular, why do we seem to be emotionally involved in what we believe: finding ourselves angry and upset when our beliefs are threatened? (Think of that common agreement to have no religion or politics at the dinner table or in bars because it leads to unpleasant disagreements — even violence).

Here I’m going to offer up some suggestions. These are a bit tongue in cheek:

### **Commitment problem**

Basic idea: emotional “attachment” to our views is a solution to a commitment problem of credibility with others.

Abe and Ben are hunter gatherers. Abe says to Ben: I’ve seen lots of nice Moose over that hill.

Should Ben believe Abe and spend a day trekking over the hill to find the Moose? After all:

#### **A. Mistaken**

- a. Abe could be talking out of his ass (he just says stuff like > this all the time)
- b. Yes, he has some evidence but not a lot

#### **B. Lying**

If “talk is cheap” then Ben probably should not believe Abe as there is no reason that Abe has very high credibility — one of those three options is probably true.

However, suppose instead that talk is not cheap: that Ben knows that Abe really likes to be right. That he gets upset and angry when he is wrong, or, that gets really guilty and stressed. Then that fact really adds weight to Abe’s claim. After all if Ben does go over the hill and finds no moose there will be an emotional cost for Abe.

=> This makes Ben more likely to believe Abe.

And, of course, this emotional cost to being wrong and payoff to being right will not just be limited to the location of Moose. It will naturally spread to include all beliefs and opinions we hazard.

This will quickly become a barrier to updating one’s views and opinions if it is associated with “being wrong”. Such commitments to one’s pre-existing views and opinions will even spread to abstract ideas like belief in God. It may become so emotionally welded to our sense of identity and self that it is strong enough that we will kill for our views and opinions — and admire those who do.

Furthermore, such strong feelings create problems for changing our views especially when combined with the inevitable uncertainty of life. To to back to our story: perhaps the moose are not always in the same place, so the moose being absent when Ben goes over the hill does not necessarily mean that Abe was mistaken and Abe has a strong reason to interpret the data that way. With uncertainty we all now we have a valid reason to ignore and even discard new data points that are inconsistent with our pre-existing beliefs.

**Aside: lying.** The above explanation talks more to option (A) case of genuine mistake. However, the logic also applies in the lying case. Lying would also potentially have evolutionary benefits — Abe wants Ben to go to the wrong place so that Abe gets food and Ben does not etc. However, to lie well requires you to be credible. Once again either having or being able to fake a real emotional cost to being wrong is valuable. In addition, with lying the ability to deceive yourself is very valuable — the best liars are the ones who believe their own lies. Thus, the lying option would also encourage a mechanism for deceiving ourselves. This mechanism would contribute even more to our tendency to ignore or dismiss evidence which contradicts our pre-existing views.

### Background: Commitment Problems

Suppose two robbers Abe and Ben rob a jewellery store. After the robbery they need to split up to reduce their risk of being caught. In addition, it is best if only one of them looks after the loot. In addition, Abe has all the contacts needed to sell it.

However, Ben is worried that if Abe has the loot then he may just run off it with himself. What can they do?

The issue here is what game theorists like to call a time inconsistency problem: at the moment just after the robbery the best thing is for them to split up and only one of them to hold on to the loot. But once they have done that, whomever has the loot has an incentive to make off with it all themselves. If they cannot solve this issue they may be forced to do something less optimal: split up the proceeds right now even though that exposes them to more risk and they won't get as good a price, or to stay together to sell the proceeds together which is even riskier.

What is really wanted here is way for Abe to make a **credible** commitment to Ben that he will not run off. This is good for both Abe and Ben — they will both end up with less risk and get more money.

A credible commitment for Abe needs to involve something with a greater cost than the benefit of ripping Ben off and taking all the loot for himself. One option might be that Abe's daughter is married to Ben's son. In that case, ripping Ben off will cause huge harm to his family. Another option might be that Abe knows Ben is a crazy guy who will stop at nothing if he is taken advantage of, that Ben would track him down and kill him — even if that meant risking huge jail time — just to get even if Abe ripped him off. Though it might sound bad, Ben being crazy in this sense would actually be good for Abe as it would provide a way for Abe to make a credible promise to Ben — Ben would know that Abe knew that he is a crazy guy and would trust Abe not to rip him off.

*The other classic example is nuclear weapons. Remember Dr Strangelove and the Russian's Doomsday Machine*

A classic issue in game theory is how to solve commitment problems.

## Chapter 3

# Mindfulness

Literally mindfulness means being mindful. That is, to be aware and present to what is occurring in you and around you, from your breathing to the fluttering of the leaves on the trees.

More specifically, mindfulness is the name for a set of practices and a way of approaching and being in the world. It has deep roots in ancient spiritual traditions, most notably Buddhism.

Mindfulness involves a depth and quality of awareness and being that is different from our ordinary everyday state. Ordinarily we are occupied with our thoughts, or with sensations, lost in them – and often without self-conscious awareness of them even though they entirely occupy us. Our thoughts jump from place to place. Mindfulness involves creating perspective, truly attending to what is happening.

Cultivating it involves becoming aware of ourselves and our thoughts whilst remaining with them. Metaphors help: mindfulness is the state where we can watch our thoughts wander across our minds like clouds across a sky. Or, that our minds are like a glass of water with sediment. If you keep shaking the glass the sediment is churned up and the water is muddy and opaque. If you allow the glass to become still then the sediment can settle allowing the water to become clear. So mindfulness and meditation allow our minds to settle, bringing clarity and equanimity.

At its most profound, mindfulness is a practice that enables us to realise – and experience – important truths: that we are not our thoughts, that we are all interconnected(interbeing), that there is no permanent self.

Mindfulness is less an idea and more a practice or set of practices. Its most basic and essential practice is meditation. Meditation is both a way to create mindfulness in the moment and to develop our capacity for mindfulness.

Mindfulness is not intellectual, it is not thought, in fact it involves us seeing that we are not (only) our thoughts, that like clouds crossing the sky, they travel across the mind but are not the mind.

## Background

Mindfulness is an idea that can be traced back millenia into ancient Buddhism – and beyond. However, its recent usage in English and the West can be traced to the last few decades where it has been used as a term for secularized version of these traditional practices. Major promoters of mindfulness have intentionally sought to distance mindfulness from its origins in Buddhism in order to keep it separate from religion. This allows for it to be seen as neutral and more scientific. This, in turn, enables broader adoption both in specific sectors such as healthcare and education and also societally where its neutrality makes it acceptable to all groups whether devout or anti-religious.

In this context, mindfulness becomes a practice done for its near-term (mental) health benefits without any deeper spiritual context. This is similar to the way in which yoga has become a fitness and exercise practice, shorn of its original spiritual purpose and context.

Whilst this can be valuable, we think it is important to retain the deeper spiritual context. In any case, Buddhism, is less a religion and more a philosophy or way of being – especially in its Zen form. Mindfulness need not have any religious overtones, but it would be a mistake to see it in isolation from its richer spiritual and philosophical context and the approach to being and mind associated with it.

## Practices

- Awareness of the breath and body
- Sitting meditation
- Walking meditation

- Deep listening: attending and listening to others without your thoughts, judgments and filters interposing themselves (as much). A way of hearing in which we are fully present with what is happening in the moment without trying to control it or judge it.

## Meditation

*There are many excellent introductions to meditation. This section only seeks to offer a very short summary for beginners.*

*We also emphasize that meditation is a practice. You need to do it to learn it. Furthermore, it is a physical exercise and it is beneficial to see guidance from practitioner, and if possible an expert.*

Meditation is possible in any circumstance. However, it is much easier in some circumstances than others: for example, in quiet surroundings rather than noisy ones. It also requires practice, in keeping with this tradition highlights two major ways of doing meditation: sitting, walking, eating.

Sitting: TODO

Walking: TODO

Eating: TODO

## Philosophical viewpoints

- Compassion and Loving Kindness (relation to Empathy?)
- Respect for all beings - Universalism. Reverence for Life.
- Open mindedness. Non-attachment to views. Guarding of the senses.
- Prudent consumption. You are what you eat. You are what you watch.

## Buddhist - 4 noble truths

*“I teach suffering, its origin, cessation and path. That’s all I teach” - Buddha*

The Four Noble Truths contain the essence of the Buddha’s teachings. It was these four principles that the Buddha came to understand during his



meditation under the bodhi tree<sup>1</sup>.

1. The truth of suffering (Dukkha)
2. The truth of the origin of suffering (Samudāya)
3. The truth of the cessation of suffering (Nirodha)
4. The truth of the path to the cessation of suffering (Magga)

<https://thebuddhistcentre.com/text/four-noble-truths>:

**1. All existence is dukkha.** The word *dukkha* has been variously translated as ‘suffering’, ‘anguish’, ‘pain’, or ‘unsatisfactoriness’. The Buddha’s insight was that our lives are a struggle, and we do not find ultimate happiness or satisfaction in anything we experience. This is the problem of existence.

**2. The cause of dukkha is craving<sup>2</sup>.** The natural human tendency is to blame our difficulties on things outside ourselves. But the Buddha says that their actual root is to be found in the mind itself. In particular our tendency to grasp at things (or alternatively to push them away) places us fundamentally at odds with the way life really is.

**3. The cessation of dukkha comes with the cessation of craving.** As we are the ultimate cause of our difficulties, we are also the solution. We cannot change the things that happen to us, but we can change our responses.

expressed as follows:

**4. There is a path that leads from dukkha.** Although the Buddha throws responsibility back on to the individual he also taught methods through which we can change ourselves, for example the Noble Eightfold Path.

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<sup>1</sup>The word ‘meme’ is coined by British evolutionary biologist Richard Dawkins in *The Selfish Gene* (1976) and it is derived from the greek word of mimeme (imitated thing) shortened to be a monosyllable word sounding a bit like ‘gene’.

<sup>2</sup>Unit or a part at the same time as a whole. Introduced by Arthur Koestler: “From the Greek holos = whole, with the suffix *on* which, as in proton or neutron suggests a particle or part.”

## Ethics

- No: killing, stealing, adultery, lying, using immoral language, gossiping, slandering, giving vent to anger, holding wrong views (ten evil deeds)

Buddhist emphasises non-attachment above all else, even around ethics. Of course, avoid doing those things which are prohibited. At the same time, do not get attached to these things and certainly avoid *judging* others.

The story of 2 monks who come to a river. There is a beautiful woman who cannot cross. The older monk carries her across and puts her down on the other side. The two monks walk on. An hour later the young one bursts out: you broke our precepts by carrying that young woman. The older one says: I put her down an hour ago but you are still carrying her.

## Recommended Reading & Watching

- Three Pillars of Zen - really solid introduction on the practical side. Oriented to Japanese Rinzai zen so emphasis on zazen (sitting meditation), koans, satori (enlightenment, self realization), sesshin (intensive retreats), dokusan (private encounter with a teacher)
- Thich Nhat Hanh (??)
  - 4m video - *What is > Mindfulness*
  - 1h video - *the art of mindful > living*
  - Mindful living techniques - > <http://www.lionsroar.com/mindful-living-thich-nhat-hanh-on-the-practice-of-mindfulness-march-2010/>
- Wonders of Natural Mind, Tenzin Wangyal Rinpoche
- Suggest we include this article - [http://palousemindfulness.com/docs/JKZ\\_thinking.pdf](http://palousemindfulness.com/docs/JKZ_thinking.pdf)
- Great article on mindful eating - [http://www.nytimes.com/2012/02/08/dining/mindful-eating-as-food-for-thought.html?pagewanted=all&\\_r=1](http://www.nytimes.com/2012/02/08/dining/mindful-eating-as-food-for-thought.html?pagewanted=all&_r=1)

## Chapter 4

# Mememes

A *meme*<sup>1</sup> is an idea, behavior, style or anything that spreads from person to person within a culture. Meme carries cultural ideas, symbols, or practices that can be transmitted from one mind to another through writing, speech, gestures, rituals, or other imitable phenomena with a mimicked theme. Examples of memes: skills, stories, songs, fashion, melodies, catch-phrases, methods of engineering, mindful practices.

Large groups of memes that are occurring, being copied and passed on together are called co-adapted meme complexes, or memplexes. Examples of such can be cultural or political doctrines, political systems or religions and cults – Christianity, Buddhism, Capitalism, Socialism, ...

Culture, complexes of behaviors, rituals are not easy to understand by looking at their smaller parts. Therefore is hard to talk about meme as a unit as it can be either a part of something larger or it can be something composed of smaller parts. The distinction between meme and memetic complex can not be always obvious and might depend on multiple factors and point of views. Because of that, we can consider a meme to be a *holon*<sup>2</sup> – a part and a whole at the same time. When we are using word ‘meme’ in this text we might mean either an unit or a complex, as almost all of the discussed

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<sup>1</sup>The word ‘meme’ is coined by British evolutionary biologist Richard Dawkins in *The Selfish Gene* (1976) and it is derived from the greek word of mimeme (imitated thing) shortened to be a monosyllable word sounding a bit like ‘gene’.

<sup>2</sup>Unit or a part at the same time as a whole. Introduced by Arthur Koestler: “From the Greek holos = whole, with the suffix *on* which, as in proton or neutron suggests a particle or part.”

concepts can be applied to both.

Meme can be thought as a combination of an *idea*, and its *behavior* which requires context of *carrier*, *environment* and *observer*. It also requires a condition that the behavior has effect on the *environment* observable by the *observer*. “Memes” are not just any ideas or thoughts – they are ideas with outward expression. We can compare the outward behaviour and actions as a result of inward realisation of a meme to a phenotype of a gene. The effect of the behavior on the environment or the expression of the meme can be thought as a “phenotype” of a meme in a similar way as an animal is a phenotype of a gene. Thus we can consider a dam as the extended phenotype of a beaver or culture as the extended phenotype of the collective memeotypes of humanity.

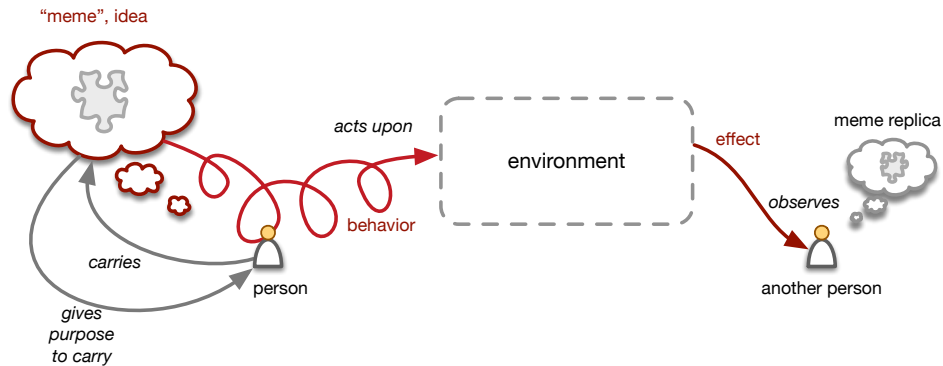


Figure 4.1:

Understanding of this concept of memes and their expression/phenotypes helps us to understand effects of teachings and beliefs, understand importance of how we carry out our actions – how are they observed? how are they copied?.

## Replication

Memes are copied by teaching, imitation, sharing through digital media and other methods. They generally replicate through exposure to humans, who have evolved as efficient copiers of information and behavior. The copies of memes does not have to be perfect and variation might be introduced either

intentionally or not. We can think of replication of a meme as of a process of preservation of the meme through time.

The psychologist, Thorndike defined imitation as “*learning to do an act from seeing it done*”. In imitation a new behaviour is learned by copying it from someone else. We are distinguishing between simple or spontaneous contagion and other kinds of learning or direct knowledge transfer.

Memes persistence depend on replication, therefore the indivisible part of the concept is the imitation. That excludes from memes things such as perceptions, emotional states, cognitive maps, experiences in general, or “anything that can be the subject of an instant of experience”.<sup>3</sup>

It is important to note that reproduction might happen without intention. Even economic systems or political doctrines can spread through spontaneous contagion which might be misinterpreted for conspiracies with a person or a group of people driving the process of replication.

## Evolution

Original idea of memes was described from the point of view of cultural evolution analogous to a genetic evolution. Memetic or cultural transmission is analogous to genetic transmission in that, although basically conservative, it can give rise to a form of evolution.

- Spontaneous evolution – accidental changes that give rise to new > qualities of memes
- Aided or engineered evolution – intentional modifications of the > memes

We are not going to spend time here with the evolutionary aspect of the memes. We just want to note that it can be observed and influenced. If the reader is interested, we suggest reaching out for a literature which discusses the topic in more depth.

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<sup>3</sup>Blackmore S.: Imitation and the definition of a meme – <http://www.baillement.com/texte-blakemore.pdf>

## Mememes and Immunity

Immunity is important concept of the memetic framework. There are two kind-of competing immunity mechanisms: immunity of a meme or immunity of a meme carrier (usually a person).

Complexes of memes, such as social systems, doctrines, religions might include memes which purpose is to prevent foreign memes to alter core structure and content of the complex. Example of such immune mechanism might be written recommendation for distinction between “believers” and “non-believers” where the later would be considered not trustworthy.

Person’s ability to recognize, evaluate and then potentially reject inclusion of memes into one’s repertoire is the opposite side of the immunity mechanism.

It has to be noted, that this might be result of very complex memetic inventory of the person, however if can’t clearly attribute the reason for rejection or non-acceptance, we can say that it is the person’s ability to do so.

Examples of immunity mechanisms that might lead to rejection of foreign memes:

- Decreased trust towards foreign meme carriers as members of “the > other” group
- Increased assurance about superiority of one’s own memes are immune > mechanisms
- Rule for not questioning the meme itself as it is.
- Practice of non-attachment

## Application

The framework of memes can be applied or used in multiple domains, such as viral marketing, cultural evolution, history of ideas or social analytics.

Mememes are good explanatory framework. It get us thinking about why some ideas or behaviors are successful or what makes them good at replication. Also helps as to recognize feedback mechanisms in relation to mememes.

## Conclusion

If we want to have effect on the world that goes beyond generation or two, understanding this mechanism is valuable. We might have a great idea about how the world should look like. But how we make sure that the idea will persist in time over generations? Part of the answer is in understanding mechanisms beyond “memes”.

## Reading

- <https://en.wikipedia.org/wiki/Meme>
- <https://en.wikipedia.org/wiki/Memeplex>
- <https://en.wikipedia.org/wiki/Memetics>
- Richard Dawkins – Selfish Gene
- <http://www.baillement.com/texte-blakemore.pdf>
  - From the conclusion:
  - *My argument has been that the definition of the meme depends > on, and should depend on, the concept of imitation. Therefore, > only those things that can be passed on by imitation should > count as memes.*
    - >
    - > *This means we can immediately exclude many things that a few > authors have confusingly included as memes, such as > perceptions, emotional states, cognitive maps, experiences in > general, or “anything that can be the subject of an instant > of experience”. Furthermore we can build on the long history > of research in animal behaviour to distinguish imitation from > contagion, and from individual and social learning, and so to > eliminate from memetics the catching of yawns or all the many > things we each learn for ourselves, by ourselves.*
- <http://pespmc1.vub.ac.be/Papers/Memetics-Springer.pdf> > (from Principia Cybernetica)
  - Rufus: A short review article arguing for the value of memes and > summarizing some of the more detailed concepts as well as >

elaborating some (very limited) empirical evidence for > meme models.