Vulnerability and the practice of environmental ethics

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PHILOSOPHY
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From the abstract…

- When we mitigate the vulnerabilities of the fisher to climate change, will we aggravate the vulnerabilities of the fisheries in which she fishes?
- But what is vulnerability?
- Getting clear on vulnerability is, in part, a philosophical enterprise at the heart of environmental ethics.
- This presentation will cover the role of environmental ethics in answering this and related practical questions.

Today's Plan

Part One: Philosophical Method.

- A typical philosophical method, particularly well suited to environmental problems.
- The Socratic elenchus, coupled with reflective equilibrium

Part Two: Environmental Vulnerability.

- Susceptibility to Harm
- System resilience

Part Three: Dealing with Complexity

- The Wisdom of Crowds
- Leopold
- Hubris

Part One: a typical philosophical method

"tell me your problem"

Common themes:

- Analysis and Synthesis
- Distinctions and Clarifications
- Application: Concepts Matter

Our method today:

The elenchus (the Socratic Method)

and reflective equilibrium (John Rawls)

First: The Socratic Elenchus

The standard model:

1. The interlocutor asserts a thesis, p, which Socrates considers false and targets for refutation

2. Socrates secures agreement to further premises, say q and r. The agreement is ad hoc, Socrates argues from q,r, not to them

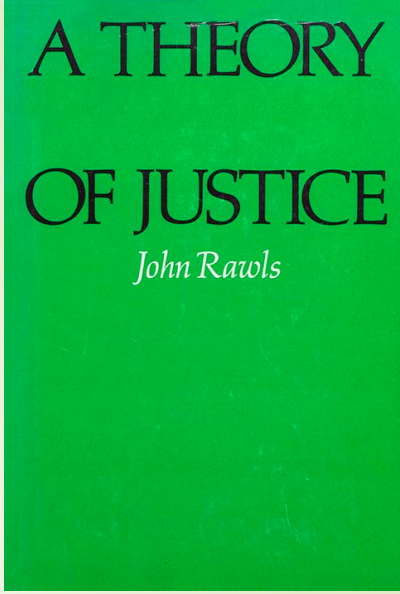
3. Socrates then argues, and the interlocutor agrees, that q and r entail not-p.

4. Socrates then claims to have shown that not-p is true, p false.

However, all that has been logically demonstrated is an inconsistency between thesis and the ad hoc inference.

A test for <u>inconsistency</u>

Second: Reflective Equilibrium



Mutual Adjustment of

Principles, general theories, definitions

and

Particular considered judgments:

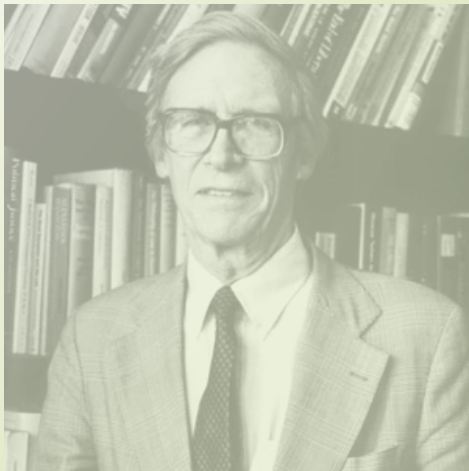
Intuitive judgments concerning particular cases.

Typically grounded in experience or common practice.

Reflective equilibrium is the process of adjusting principles and considered judgments such that they are consistent with one another.

… a continuous dialectical process.

A method for resolving inconsistency



PART TWO

What is Environmental Vulnerability?

Environmental Vulnerability

The Elenchus in practice:

- Definition of Vulnerability: susceptibility to harm
- But might we sensibly say that the estuary was vulnerable to an influx of plastic?
- If yes, and if the estuary is not the sort of things that can be harmed directly, then we have an inconsistency.

Environmental Vulnerability

Reflective Equilibrium at work:

- What are we presuming about vulnerability as susceptibility to harm that leads to this inconsistency with our considered judgments?

- Presumption about "Harm" may be problematic: Harm only applies to individuals.
- One option: perhaps systems (ecosystems, social systems, political systems, etc) can be harmed directly. Set this aside as work for another day.

- Alternatively, maybe there is a problematic presumption about the definition itself: Perhaps vulnerability is not just one thing.
- Let us pursue this option.

Two Faces of Vulnerability

1. Individual Vulnerability: Susceptibility to Harm
   - The fisher
2. Systemic Vulnerability: Threats to System Resilience
   - The fishery

Vulnerability: "The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt." (IPCC WG2 AR6, Glossary).

WIREs CLIMATE CHANGE

Focus Article | Open Access

Two faces of vulnerability: Distinguishing susceptibility to harm and system resilience in climate adaptation

Kenneth Shockley

First published: 13 August 2023 | https://doi.org/10.1002/wcc.856

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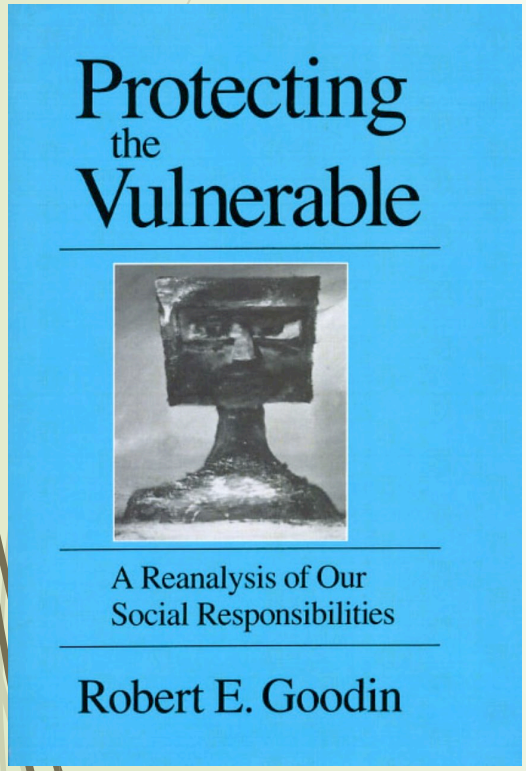
As we adapt to climate change, how should we support both fisher and fishery? Climate change will both increase individual susceptibility to harm and compromise the resilience of the economic and ecological systems on which we all depend. Climate adaptation policy must recognize that these constitute different forms of vulnerability, and develop strategies for addressing both (photo credit: Jennifer Enge-Shockley).

Individual Vulnerability

susceptibility to harm:

as harm is bad for individuals, so is vulnerability



Presumption:
vulnerability is problematic, something to be mitigated

But…
what of friendship, love, community…

Not harm, but susceptibility should be the focus
Vulnerability puts us at risk of harm
Yet it enables crucial features of flourishing

<u>Exposure</u> risks harm, but enables connection

Systemic Vulnerability

Vulnerability is the "degree to which a system is susceptible to and is unable to cope with adverse effects" (Adgers 2006, p. 269)

Presumption: vulnerability is problematic, something to be mitigated

Ask your IT specialist whether the vulnerability of your network should be minimized

But consider what a completely invulnerable IT system would be…


CREATED WITH
IMAGINE

Vulnerability and Exposure

A common theme across vulnerability, made apparent when we note the positive aspects of vulnerability, in both individual and systemic forms:

exposure

Openness for individuals

Adaptation for systems

The lesson for Climate Change work:

responding to vulnerabilities typically requires addressing mutual adaptation – system to system, individual to system, … (Naylor et al, 2020)

In Practice: contested Vulnerability

When I appeal to environmental vulnerability, it might seem I'm exclusively appealing to vulnerability as susceptibility to harm from the environment

- e.g., Health and well-being vulnerabilities associated with the impacts of climate change (Adger et al 2022)

But that's only if I'm presuming the individualistic approach to vulnerability.

That presumption risks epistemic hubris => oblivious to alternatives

Mitigating the fisher's vulnerabilities might compromise the fishery's vulnerabilities.

Alternatively, in other contexts, when I appeal to environmental vulnerability, it might seem I'm exclusively appealing to the capacity of environmental systems to recover from perturbations.

- e.g., The compromised resilience of communities due to climate change (Yv et al 2024)

But again, that presumption of systemic vulnerability risks epistemic hubris

Contested Vulnerabili*ties*

Better to rely on both

The better framing requires acknowledging the interdependent and irreducible role each form of environmental vulnerability plays in understanding the concern at issue

Practical solutions require recognizing the interdependent vulnerabilities of fisher and fishery.

Embracing both forms of vulnerability

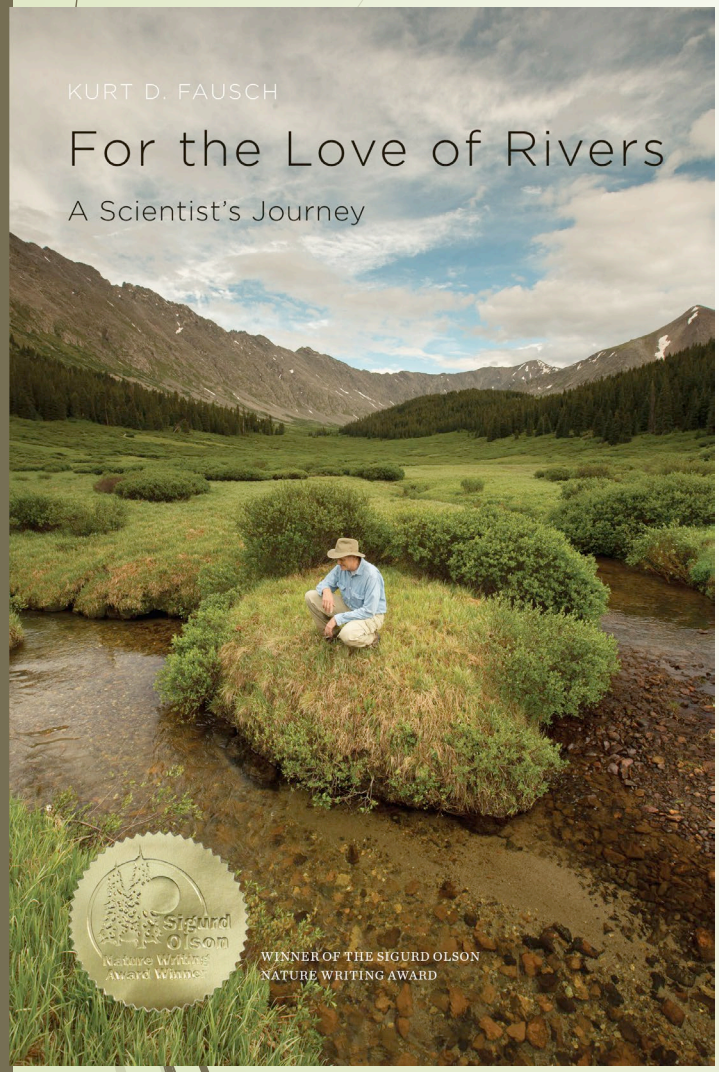
After all…

> Vulnerability: "The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm ***and*** lack of capacity to cope and adapt." (IPCC WG2 AR6, Glossary, emphasis mine).

PART THREE: Acknowledging Complexity

A clue for our next step … from Fish:

Perspectives above and below the water



"I found that my life had changed the first time I crossed the reflective boundary to look beneath the surface of a stream…. the view was of a place much deeper and more complex than I had imagined from above…. Every new vantage point revealed more members of an intricate underwater community… These fish looked so different from the same creatures that flopped awkwardly in my hands …."

(Kurt Fausch, *For the Love of Rivers*, pp. 7-8)

Two points addressing complexity in environmental problems

From the wisdom of crowds our first point:

- *We know the world better by knowing the world together*
- *That is, we know the world better from multiple points of view*

From Leopold's development of a Land Ethic, our second point:

- *We only gain the epistemic benefits of our collective intelligence if we respect the legitimacy of other perspectives.*
- *That is, no epistemic advantage without ethical recognition*

WISDOM OF CROWDS:
THE EPISTEMIC BENEFIT OF SHARED VIEWPOINTS

The phenomenon has been popularized in more contemporary, general discussions of group dynamics and decision making:

> "The so-called wisdom-of-crowds (WOC) phenomenon was discovered more than a hundred years ago when the average judgment of the crowd of observers accurately estimated the weight of a dead ox." (Aminpour et al *Nature: Sustainability* 2020, p.191)

nature sustainability

ARTICLES

https://doi.org/10.1038/s41893-019-0467-z

Wisdom of stakeholder crowds in complex social–ecological systems

Payam Aminpour[1*], Steven A. Gray[1,2,3], Antonie J. Jetter[4], Joshua E. Introne[5], Alison Singer[6] and Robert Arlinghaus[2,7]

Sustainable management of natural resources requires adequate scientific knowledge about complex relationships between human and natural systems. Such understanding is difficult to achieve in many contexts due to data scarcity and knowledge limitations. We explore the potential of harnessing the collective intelligence of resource stakeholders to overcome this challenge. Using a fisheries example, we show that by aggregating the system knowledge held by stakeholders through graphical mental models, a crowd of diverse resource users produces a system model of social–ecological relationships that is comparable to the best scientific understanding. We show that the averaged model from a crowd of diverse resource users outperforms those of more homogeneous groups. Importantly, however, we find that the averaged model from a larger sample of individuals can perform worse than one constructed from a smaller sample. However, when averaging mental models within stakeholder-specific subgroups and subsequently aggregating across subgroup models, the effect is reversed. Our work identifies an inexpensive, yet robust way to develop scientific understanding of complex social–ecological systems by leveraging the collective wisdom of non-scientist stakeholders.

WISDOM OF CROWDS:
THE EPISTEMIC BENEFIT OF SHARED VIEWPOINTS

Does it really help to get multiple perspectives over matters of, say, fisheries management, where scientific expertise seems more important than individual perspective?

Aminpour et al say, "yes, … sometimes"

Where management of complex systems requires difficult-to-obtain knowledge about relationships between human and natural systems,

collective intelligence provides a strategy and an an answer.

If we can harness the knowledge of distinct points of view, *in their distinctness,*

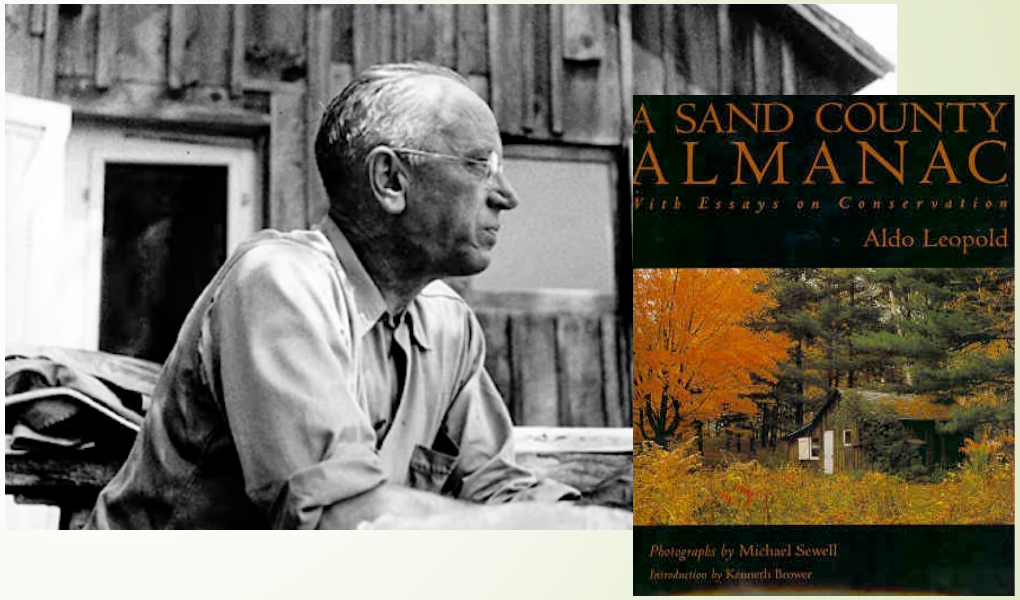
we can develop a deeper understanding on a shared object of concern

From the Wisdom of Crowds, our first point:

We know the world better by knowing the world together

Leopold's Land Ethic, and the Community Concept

"There is as yet no ethic dealing with man's relation to land and to the animals and plants which grow upon it."



Biotic Community
Simple Citizen vs Conqueror
Everyone counts,
every perspective counts

Ecological *Conscience*

The Land Ethic: "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."

Different points of view, different partial meanings

From Leopold, our *second point*:

We only gain the full epistemic advantage of our collective intelligence if we endorse the legitimacy of other points of view; humility requires us to be open to different points for view, different options, different solutions

https://www.aldoleopold.org/wp-content/uploads/2016/03/leopold-education-project-lessons-land-ethic.pdf

Respect

Does it really help to get multiple perspectives? Usually.

If those perspectives are acknowledged in *the right way*.

What's *the right way*?

Acknowledged as being legitimate yet independent views about a common concern.

This just *is* the relevant form of **Respect**

Recognition of the other as possessing an authentic, legitimate, independent ***irreducible*** perspective

Epistemic Humility:

Recognition that one's view is and can only ever be partial.

We only gain the epistemic advantage of multiple points of view if we respect those other points of view.

By way of conclusion…. Where we've been:

- a method for philosophical progress
- Exposure as the common root of vulnerability, in its various forms
- The benefit of acknowledging different points of view
- The benefits of acknowledging different forms of environmental vulnerability

The cost of failing to do acknowledge the various forms of vulnerability is not only the risk of harm to fisher and fishery, but to our own ethical standing.

Hubris has both epistemic and ethical consequences

Thank you.

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