Ethical dilemmas in Geosciences.
We can ask, but, can we ans?

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Ethical Dilemmas

Ethical dilemmas (the truly ones) are situations in which there is a choice to be made between two or more options, neither of which resolves the situation in an ethically acceptable fashion.

(ethical paradoxes)
Who am I?

Just a Physicist

Doing Marine Sciences
Doing What Here?

BREAKING
out of my comfort zone
Why?

Your comfort zone -> Where the magic happens
Need to Learn


COMFORT ZONE

LEARNING ZONE
Philosophy, Epistemology, Ethics.....

History of knowledge and their links

Trying to understand the history of dilemmas in philosophy
Ethical dilemmas through history

- Good intention (which has been populating Hell);
- The good Samaritan;
- The use of logical tools (Espinoza)*;
- The greater good principle (utilitarianism) or the lesser evil (Mills - somehow the end justifies the means);
- The use, again, of logical symbolism (Bunge)*;
- What is good (virtue) vs what is duty (right);

What is our duty as geoscientists? To do the right thing. Is that possible?
Have dilemmas always scientific, logical, virtuous or good solutions?
**NOT ACCORDINGLY TO GÖDEL THEOREMS**
(no consistent system of axioms is capable of proving all truths, cause they are unprovable within the system - they can only be proved outside, and only if a solution exists under other system of axioms)
Trying to solve the insolvable

The challenge of a geoscientists is not decision making. It is of showing the best science available results.

Are Geoscientists forced to solve true ethical dilemmas?

Back to my Comfort Zone:

- $x = 2$ (one solution)
- $x \exp{2} = 9$ can be 3 or -3 (two solutions - conditional)*
- $x=x$ (infinite solutions - identity)*
- $x + 4 = x + 3$ (no solution - contradiction) #
Nowadays, ethical dilemmas tend to be "solved" by individuals and society following moral intuitions, which typically follow deontological prescriptions and empathy, in opposition to those of other ethical theories, including logic scientific thinking (Everett et al, 2016).
TRUE (GEO) ETHICAL DILEMMAS HAVE NO "LOGICAL-SCIENTIFIC" SOLUTION. OTHERWISE, THEY ARE NOT DILEMMAS

IT IS OUR DUTY AS GEOSCIENTISTS (doing the right and the good)

- TO SEARCH FOR A SOLUTION?
- TO PROPOSE SOLUTIONS?
- TO GO BASED ON "INTUITION"? (or educated guess?)
- TO FORECAST CONSEQUENCES OF EACH SOLUTION?
- TO SHOW SCENARIOS IN CASE OF EACH SOLUTION?
- TO WASH OUR HANDS AND LET THE DECISION MAKERS TO DECIDE WHAT SOLUTION TO TAKE?
Closing with one "dilemma":

- Have we to spent trillions in protecting Earth from another Chicxulub asteroid?

Or:

- Have we to spent trillions in protecting Earth from Climate Changes threats?

Or another way to face the lifeboat dilemma
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