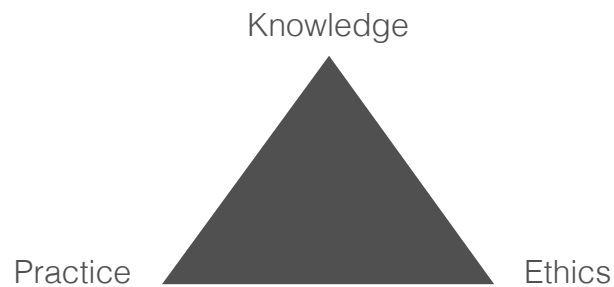


- Knowledge: What do we know? What do we yet need to know? What science is involved? Is our understanding sufficient?
- Ethics: What is wrong? What is or would be right? What does good stewardship involve? What needs to happen to restore or preserve creation?
- Practice: What do we do and how do we do it? What actions are required of us?

Example: The ozone layer



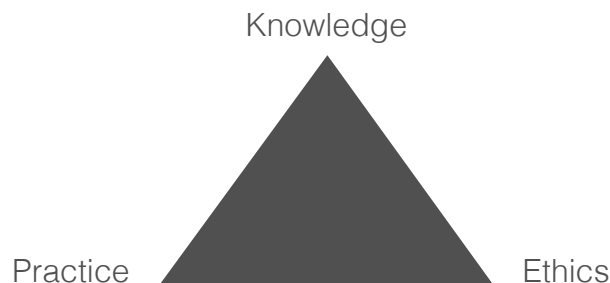
Knowledge: What do we know about ozone, why it is important, and where there are problems involving it? What is the ozone layer? How have humans affected the ozone layer?

Ethics: What ethical issues are raised by our effect on the ozone layer? Where do you see issues of right and wrong? How do our actions affect others? What virtues or vices are involved?

Practice: What actions seem to be demanded of us (and may already have been taken) as a result of what we know scientifically about what is happening, and ethically about what ought to be happening?

- Knowledge: What do we know? What do we yet need to know? What science is involved? Is our understanding sufficient?
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Example: The ozone layer



Knowledge: O² in our atmosphere, when struck by UV light, turns into O³, ozone. This molecule is good at reflecting UV light back into space. UV light, in high concentrations, damages DNA and destroys life. Therefore, the ozone layer is beneficial to life.

Certain types of propellants in aerosols (gases used in spray cans) and refrigerants (gases used in cooling, such as air conditioning) called CFCs, break down ozone molecules. Scientific study made it clear that our heavy use of aerosols in recent history has thinned the ozone layer and caused holes in it. This has significantly increased UV exposure and skin cancer cases.

Ethics: Increased UV exposure is harmful to plants and animals, and it causes unnecessary pain and death. The relatively wealthy may have contributed to the problem more than the poor and be more able to protect themselves from the effects, which raises questions of justice. The careless destruction of this vital layer is not consistent with ruling in God's image and preserving and serving creation. The way we have developed spray cans and things like air conditioning is part of developing creation, but we have done it in a way that focused only on our needs and benefits, and ultimately caused harm. The right thing would be to stop destroying the ozone layer and to work to restore it as a vital part of creation that protects all of life.

Practice: A practical consequence is to ban the use of ozone-depleting aerosols and refrigerants and to develop new ways of spraying or cooling, or to synthesize new chemicals that work similarly but do not damage ozone molecules. We can also work to educate people on why it matters, promote the use of sunscreen for UV protection, and offer services to remove existing aerosols and refrigerants.

This example has already been addressed in recent history. By 1996 all countries in the world had banned the use of ozone-depleting chemicals. Recently scientists have seen the ozone layer beginning to make a comeback. It is estimated that by the middle of the 21st century, it will return to pre-1980s levels. Stewardship makes a difference.

How could you apply the same thought process to other issues? For instance:

- Acid rain
- Cancer
- Deforestation
- Water pollution

The Stewardship Triangle image is adapted with permission from Calvin B. DeWitt, *Song of a Scientist* (Faith Alive, 2012), p. 77.