QUESTION: Within areas of knowledge, how can we differentiate between change and progress? Answer with reference to two areas of knowledge.

INTRODUCTION:

"Progress is impossible without change", remarked George Bernard Shaw, a well-known Irish playwright and activist. Among many others, Bernard recognized that progress and change were close-knit and almost always came hand in hand. Specifically, progress can be defined as the positive subset of change. However, oftentimes, what is important is not realizing the tight connection between change and progress, but rather differentiating progress from change. This essay will explore such a delineation in the areas of natural science and human science. Progress in natural science revolves around contributions to field knowledge, founded on the rigorous scientific method. On the other hand, human science more subjectively defines progress as a development which increases general welfare. While these areas of knowledge seem similar, they can categorize certain events as change or progress differently due to their distinct definitions of change and progress.

KNOWLEDGE CLAIM 1:

* In the AOK of natural science, progress is defined as a development that advances knowledge, field or personal. Any other developments are only change.
* An example is the Manhattan project, the collaborative effort between the US government and the industrial/scientific sectors to construct the first atomic bomb. Many scientific breakthroughs are associated with it - discovery of nuclear fission, revolutionizing arms technology, etc.
* To gauge whether a development is change or progress, evaluate the extent to which it has been referenced as legitimate science. If other theories have been based on it, or actions/phenomenon have been justified/debunked by it, the said development is progress. Otherwise, it is simply change.
* Another example is a vivid experience when I was in elementary school, when I placed a glass container on a heated stove and it ended up cracking. I've never really gotten in major household trouble before then; my parents got mad at me, and I ended up becoming more attentive of scientific interactions between everyday objects and possible consequences.
  + Illustrates how some things may not seem like progress, but actually advance knowledge and is hence progress in that manner.

COUNTERCLAIM 1:

* It can be argued that what we see as a contribution to knowledge may in fact be inaccurate. Scientific "progress" may later be disproven. If so, are they still progress?
* An example is phrenology - the belief that the shape of a human skull is indictive of strengths. It was later debunked as false pseudoscience.
* However, wrongly recognized "progress" is still a stepping stone for future advancements because it provides a launching point for new theories. The cumulation of false solutions and false theories still counts as scientific progress - false theories can be logically reformulated and borrowed from to create true ones (Niiniluoto). Therefore, falsified "progress" is still progress.
  + With phrenology, its popularity attracted growing evidence against it in the mid 1800s (victorianweb.org) which eventually toppled it and lead us to our current knowledge today.

KNOWLEDGE CLAIM 2:

* In the AOK of human science, progress is instead anything that increases general welfare - the issue will be viewed from a utilitarian perspective, so greater collective happiness will signify progress.
* "Actions are right in proportion as they tend to promote happiness, wrong as they tend to produce the reverse of happiness" - John Stuart Mill in *Utilitarianism*. This is the Great Happiness Principle, directly borrowed from Jeremy Bentham; asserts how actions/developments are "right" when they promote happiness, and those that are "right" should be interpreted as progress.
* Some examples used in KC1 and CC1 are reconsidered from a human science perspective:
  + An effect of the Manhattan project was that it reworked international military policies. It led to tensions in the Cold War which restricted economic and social development in the US, Russia, and worldwide. This in fact decreased general welfare (ex. Americans lived in constant fear of nuclear war), suggesting that the Manhattan project is not progress.
  + Phrenology mislead 18th, 19th, and 20th century people into believing that non-Anglican races were genetically inferior. This had disastrous effects on society - there was segregation and racism. Only white people benefited from this while the minority majority was suppressed, meaning this is not progress.
    - Even more importantly, this further highlights how perspective is key in defining progress. White people may have considered phrenology to be progress at that time because they were classified as "socially superior" and were more content as a whole. However, Africans Americans and other minorities were subjugated by the principle and would not have considered it progress.

COUNTERCLAIM 2:

* Can be argued that the interests of different groups may not be aligned, so progress for one group may not be progress in another.
* In the US, interests between different parties often conflict. For example, when the Washington Initiative 502 passed (legalizing marijuana in Washington), it was seem as a victory for democrats and other left-leaning liberals, and was considered progress in substance policies in WA state.
* However, shortly afterwards, my parents heard news of a marijuana plant planning on opening near our residence. Our neighborhood did not like that, and we attempted to petition the bill. Hence, because it negatively affected our interests, it was considered negative change and therefore not progress.
* But as long as the gains for the winning group outweighs the losses of the losing group, then it still counts as progress (Mencken 3).

CONCLUSION:

Natural science and human science are both science, but have different takes regarding progress and change. In natural science, progress is anything that advances knowledge, whether field or personal; in human science, progress is anything that advances general welfare. All that is not progress is change. Defining progress is hard because progress is hugely dependent on perspective; progress for one group may not be progress for another, and progress in one field may not be progress in another. Progress can also be temporary. Progress can be undone, and progress in the wrong direction is still progress because it acts as a stepping stone for future progress to be built open. Recognizing how to differentiate change and progress is important because it allows us to gauge whether our actions have perpetuated progress, or whether they are simply change. As Michael Bloomberg stated, "progress is not inevitable. It is up to us to create it." Only if we know what progress is can we confidently embark on the quest to create more progress.

WORD COUNT: 1050

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