

## **Puzzles of Enhancement**

### **Introduction**

Some fantastical putative enhancements: purple eye colour; purple skin colour; Ability to change eye/skin colour at will; Ability to tie cherry stalks with toes; super-strength (ability to deadlift 600kgs); super-intelligence (ability to understand Hegel); super-creativity (ability to come up with novel solutions or ideas, or create original objects); super-skillfulness (ability to gain new abilities).

*The problem:* no extant stable and satisfying therapy / enhancement (T/E) distinction.

*The goal:* to provide a value neutral conceptual analysis of enhancement, which (1) shows how enhancements differ from therapies; (2) justifies enhancements having special moral status; (3) provides criteria which will enable us to say, of a given novel technology, whether it is a therapy or an enhancement or neither.

### **Gifted vs. Enhanced**

Some people are born with unusually well-developed characteristics (e.g. Albert Einstein, Usain Bolt). There is nothing wrong with their being as they are - on the contrary, we generally celebrate their existence. An enhanced being is one that has been subject to an enhancement procedure. An enhancement procedure may aim only to make us comparable in ability to naturally gifted individuals. Therefore, if there is something wrong with enhancement it is not in its results but *in the procedure itself*.

### **Therapy / Enhancement / Recreation**

*Enhancing procedures* are those which give an individual choiceworthy properties that go beyond their natural endowment, and which take them beyond the bounds of normal species-functioning.

*Therapies* are treatments which are designed to some pathological condition from which an individual suffers, returning them to normal functioning.

*Recreational procedures* are those which place an individual in a subjectively desirable state, without that constituting either the correction or prevention of pathology or individual enhancement.

## **A More Precise Definition of Enhancement, and the Four Horsemen**

(EN) An enhancement is any procedure which has a positive effect on the intrinsic properties of a given thing, is not only a means to enable or restore that thing's normal functioning, but which does not go so far as to constitute its total transformation.

(1) *Positive effect*: measurable positive effect on some aspect of the subject.

Just as not every undesirable condition counts as a pathology, not every desirable condition counts as an enhancement.

e.g. cosmetic surgery, change of eye colour, scarration etc.  $\neq$  enhancement.

(2) *Intrinsic properties*: must involve a change to A herself, rather than only to her environment. P does not count as an enhancement if it affects only relational properties of a subject.

e.g. poisoning all the world's philosophers to make me #1

(3) *Super-Normal*: enhancement cannot simply enable A's realisation of her own innate potential, nor can it only raise A's functioning to normal level for beings of her kind. Some procedures alter an individual's intrinsic properties only by enabling them to realise their innate potentials. (Innate potential = whatever one would achieve in an ideal environment.) Others take an individual beyond their innate potential, but only up to what would be considered normal for beings of that kind.

e.g.1 providing Usain Bolt with time and space to practice sprinting  $\neq$  enhancement.

e.g.2 treatment which alters A's genome to bring to normal range  $\neq$  enhancement

(4) *Sub-Transformative*: an enhancement must not go so far as to constitute a total transformation of a thing. To speak of A as being enhanced, we have to be able to identify A as persisting through the procedure.

e.g. an acorn being turned into a tree or a water being turned into wine  $\neq$  enhancement

The four horsemen of the enhancement apocalypse: *objective improvement; individual potential; normal range; qualitative identity.*

## **Abstraction and Utilitarianism**

To say that procedure P will enhance A is to say that P will take A from its current state to a different and better one. Since we are not only representing change but also improvement, this description involves three terms – two temporally discreet but related stages of a thing, and some standard or archetype against which those stages are to be assessed. It therefore involves abstraction in three dimensions:

- (i) spatial abstraction in the separation of objects from each other and their environment;
- (ii) temporal abstraction in the division of things into time slices;
- (iii) application to these representations of a standard which allows us to evaluate the difference.

Compare to consequentialism, e.g. utilitarianism: take a given possible action. Represent the outcome of the act's commission as the obtaining of a state of affairs S1. Represent the outcome of the act's omission as the obtaining of a (different) state of affairs S2. Take the utility values of S1 and S2. If  $S1 > S2$  then S1 is the right action, if  $S2 > S1$  then S2 is the right action, and if  $S1 = S2$  then there is no right action.

Utilitarians take the only relevant moral feature of a situation to be its total utility, relative to other possibilities. Utility is a property common to all things that have positive ethical value, and it is both fungible and aggregative.

T/E distinction is as (ir)relevant to moral evaluation as the act/ omission distinction.

## **Heaps on Heaps on Heaps**

*Sava-Sorites Argument:* The properties which we are concerned to promote in both therapy and enhancement come in degrees. Take, for instance, IQ; 'normal intelligence' is defined not as a single score, but as falling within a normal range. To say that therapy is permissible but enhancement impermissible is to say that we are justified if our intervention will raise IQ to some value within this range, but will not be justifiable if it takes an individual out of that range. Suppose that the 'normal' range for IQ is 80-120. Then it will follow that a procedure that raises IQ to 120 will be justifiable, but a procedure that raises IQ to 121 will not be. But if it is a good thing to raise an individual's IQ to 120 (and better, *ceteris paribus*, than raising it to 119), why is not a better thing to raise it to 121?

### Grounding vs. Explicating

*Grounding*: provide a more detailed analysis of the problematic concept (heap or enhancement) in order to show how it in fact divides cases determinately and non-arbitrarily into two classes.

*Explicating*: accept that there are certain objects where whether they fall under a certain concept or not is indeterminate or settled only arbitrarily, but justify employment of the concept by looking at the function that it plays in our overall conceptual repertoire; the uses that we put it to, the way that it interrelates with other concerns that we have, etc.

### Naturalism

Exploit naturalistic definitions of health in order to give a naturalistic definition of enhancement. E.g. Boorse's account of health, inspired by evolutionary theory. Health is the absence of pathology, and where a pathology is specified as a "state of statistically species-subnormal biological part-function, relative to sex and age." (684)

Disease	}	Pathology (πάθος +λογία)
Disability		
Injury		

The *reference class* is a natural class of organisms of uniform functional design; specifically, an age group of a sex of a species.

A *normal function* of a part or process within members of the reference class is a statistically typical contribution by it to their individual survival [or] reproduction.

*Health* in a member of the reference class is *normal functional ability*: the readiness of each internal part to perform all its normal functions on typical occasions with at least typical efficiency.

A *pathological condition* is a type of internal state which impairs health, *i.e.*, reduces one or more functional abilities below typical efficiency. (ibid)

(NEN) An enhancement is any objective improvement in some feature of a given individual which is connected to its survival and reproduction.