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MORALITY WITHOUT "FREE WILL"

BY SAM HARRIS

Many people seem to believe that morality depends for its existence on a metaphysical quantity called "free will." This conviction is occasionally expressed -- often with great impatience, smugness, or piety -- with the words, "ought, implies, can." Like much else in philosophy that is too easily remembered (e.g. "you can't get an ought from an is."), this phrase has become an impediment to clear thinking. In fact, the concept of free will is a non-starter, both philosophically and scientifically.

SAM, DO YOU REALLY THINK IT IS SUCH A GOOD IDEA TO ASSERT, AS FACT, THAT YOUR POSITION IS TRUE WHEN MANY OTHER NEUROSCIENTISTS DISAGREE WITH YOU?

WHILE IT IS TRUE THAT THE MAJORITY AGREE WITH YOU, IT IS FAR FROM A CONSENSUS. MOST IMPORTANTLY, THAT MAJORITY OPINION IS BASED ON A CERTAIN *INTERPRETATION* OF SOME EVIDENCE - NOT ON A CLEAR INDICATION OF THE EVIDENCE ITSELF. IF IT WERE, THERE WOULD BE A CONSENSUS SIMILAR TO WHAT WE SEE IN EVOLUTION (99.9%) OR GLOBAL WARMING (97%).

There is simply no description of mental and physical causation that allows for this freedom that we habitually claim for ourselves and ascribe to others.

SAM, I THINK NOW WOULD BE AN EXCELLENT TIME TO DEFINE THE DEBATE.

FROM DICTIONARY.COM, FREE WILL:

1. "Free and independent choice; voluntary decision."

2. "Philosophy: The doctrine that the conduct of human beings expresses personal choice and is not simply determined by physical or divine forces."

FROM THE STANFORD ENCYCLOPEDIA OF PHILOSOPHY, FREE WILL:

"A philosophical term of art for a particular sort of capacity of rational agents to choose a course of action from among various alternatives."

SAM, TO SUMMARIZE: WITH FREE WILL, YOUR CONSCIOUS MIND DECIDES WHETHER OR NOT TO MOVE YOUR HAND, AND WHERE YOU WILL MOVE IT.

VERSUS

WITHOUT FREE WILL, THE DETERMINATION TO MOVE YOUR HAND, AND WHERE, HAS ALREADY BEEN DECIDED, EITHER BY AN ALL-KNOWING GOD OR BY NATURE ITSELF. WHATEVER MOVEMENT OCCURS, IT IS ONLY AN ILLUSION THAT YOU ARE DIRECTING THAT MOVEMENT.

SAM, YOU CLAIMED THAT THERE IS NO DESCRIPTION OF CAUSATION THAT ALLOWS FOR FREE WILL. HOWEVER, THOSE DEFINITIONS DESCRIBE CAUSATION AS AN EXERCISE OF FREE WILL. THEY DO NOT PROVE FREE WILL EXISTS, THEY ONLY DESCRIBE WHAT THE TERM "FREE WILL" MEANS WHEN WE USE IT. LIKEWISE, WHEN WE DEFINE GOD, THAT DOESN'T PROVE HE EXISTS, IT ONLY GIVES A DESCRIPTION OF WHAT WE MEAN BY THE WORD, GOD.

Understanding this would alter our view of morality in some respects, but it wouldn't destroy the distinction between right and wrong, or good and evil. The following post has been adapted from my discussion of this topic in:

THE MORAL LANDSCAPE (pp.102-110)

We are conscious of only a tiny fraction of the information that our brains process in each moment.

SAM, WE AGREE THAT OUR CONSCIOUS MIND IS AWARE OF ONLY A TINY FRACTION OF ALL CEREBRAL ACTIVITY. THE REST OF THE INFORMATION IS HANDLED BY STRUCTURES THAT GIVE RISE TO WHAT WE REFER TO AS, OUR SUBCONSCIOUS MIND.

While we continually notice changes in our experience -- in thought, mood, perception, behavior, etc. -- we are utterly unaware of the neural events that produce these changes. In fact, by merely glancing at your face or listening to your tone of voice, others are often more aware of your internal states and motivations than you are. And yet most of us still feel that we are the authors of our own thoughts and actions.

SAM, WHEN OTHERS ARE ABLE TO DISCERN INTERNAL STATES IN US, OF WHICH WE ARE UNAWARE, IT IS OFTEN BECAUSE OF STRONG EMOTIONS THAT OVERRIDE OUR AWARENESS OF WHAT IS HAPPENING INSIDE US. ONE EXAMPLE WOULD BE A HEATED DISCUSSION WHERE ONE PERSON IS "LOSING THEIR TEMPER." THEY MAY NOT INTEND TO OFFEND, BUT THEIR EMOTION BLINDS THEM TO THE HURTFUL WORDS THEY MAY BE USING.

BUT WHY DID YOU TRY TO TIE THAT FACT TO BELIEF IN FREE WILL? HOW DOES THE FACT THAT OTHERS CAN READ US BETTER, THAN WE CAN OURSELVES IN CERTAIN SITUATIONS, RELATE TO FREE WILL?

The problem is that no account of causality leaves room for free will --

SAM, IF THAT WERE TRUE THERE WOULD BE A CONSENSUS AMONG EXPERTS ON THIS TOPIC. WE BOTH KNOW THERE IS NOT. IT MIGHT HAVE BEEN MORE RESPECTFUL, TO THOSE WHO DISAGREE WITH YOU, TO STATE THAT *YOU* HAVEN'T BEEN CONVINCED THAT THERE IS AN ACCOUNT OF CAUSALITY THAT LEAVES ROOM FOR FREE WILL.

thoughts, moods, and desires of every sort simply spring into view --

SAM, WHO CLAIMS THAT THOSE THINGS SIMPLY "SPRING INTO VIEW?" FREE WILL SUPPORTERS WHOM I HAVE READ ON THE MATTER, HAVE ATTRIBUTED THOSE THINGS TO NEURAL ACTIVITY CAUSED BY INTENTIONAL WILL OF THE MIND. PERHAPS YOU COULD PROVIDE A LINK TO A NEUROSCIENTIST WHO CLAIMED THAT THOSE THINGS SIMPLY "SPRING INTO VIEW."

WHAT I FIND IRONIC, IS THAT THOUGHTS WHICH SIMPLY "SPRING INTO VIEW" IS MORE DESCRIPTIVE ... OF WHAT YOU BELIEVE.

and move us, or fail to move us, for reasons that are, from a subjective point of view, perfectly inscrutable. Why did I use the term "inscrutable" in the previous sentence? I must confess that I do not know.

SAM, AT THE RISK OF SOUNDING BELLIGERENT, I FIND YOUR CONFESSION HARD TO BELIEVE. THE FACT IS, THAT YOU *DID* USE THAT WORD; IT DID NOT MAGICALLY APPEAR ON YOUR COMPUTER SCREEN. YOU ALSO MUST HAVE DELIBERATELY AND CONSCIOUSLY CHOSEN THE CORRECT ORDER OF THE LETTERS THAT MAKE UP THE WORD. YOU ARE "CONFESSING" THAT YOU DON'T KNOW HOW THOSE LETTERS GOT THERE IN THE EXACT ORDER NECESSARY TO CORRECTLY SPELL THE WORD "INSCRUTABLE." I FIND THAT, AND I'M SORRY TO HAVE TO SAY THIS SAM, DISINGENUOUS. AND SAM, FREE WILL EASILY EXPLAINS MY CHOICE OF WORDS, THOUGH I WILL ADMIT I HAD TO USE THE SPELLCHECKER TO AVOID EMBARRASSMENT.

Was I free to do otherwise? What could such a claim possibly mean?

SAM, THE CLAIM THAT YOU WERE FREE TO DO OTHERWISE MEANS THAT YOU COULD HAVE CHOSEN A DIFFERENT WORD.

Why, after all, didn't the word "opaque" come to mind? Well, it just didn't -- and now that it vies for a place on the page, I find that I am still partial to my original choice.

SAM, THE CONCEPT OF FREE WILL EXPLAINS THIS EVENT EASILY WITHOUT RESORTING TO ANY SUPERNATURAL EXPLANATIONS. OVER MANY YEARS YOUR MIND HAS BEEN TRAINED TO USE LANGUAGE TO EXPRESS YOUR THOUGHTS. YOUR MIND SIMPLY USED THAT TRAINING TO SELECT A GOOD WORD TO EXPRESS YOUR THOUGHT. HAVING FOUND AN ADEQUATE WORD TO EXPRESS YOUR THOUGHT NEGATED THE NEED TO RUN THROUGH YOUR ENTIRE LIST OF SYNONYMS. THAT PROCESS ARGUES MORE IN FAVOR OF FREE WILL THAN AGAINST IT. BY CONTRAST, YOUR EXPLANATIONS: "I MUST CONFESS I DO NOT KNOW" AND "WELL, IT JUST DIDN'T" DON'T EXPLAIN ANYTHING.

Am I free with respect to this preference? Am I free to feel that "opaque" is the better word, when I just do not feel that it is the better word?

SAM, HOW IS IT POSSIBLE TO FEEL THAT OPAQUE IS THE BETTER WORD WHEN YOU ADMIT THAT YOU DO NOT FEEL THAT OPAQUE IS THE BETTER WORD? THAT IS A CONTRADICTION.

Am I free to change my mind? Of course not. It can only change me.

SAM, YOU SUPPORT YOUR ASSERTION "IT CAN ONLY CHANGE ME" WITH "OF COURSE NOT." IF SOMEONE YOU WERE DEBATING SUPPORTED AN ASSERTION WITH "OF COURSE NOT," WOULD *YOU* ACCEPT IT?

OF COURSE NOT.

There is a distinction between voluntary and involuntary actions, of course, but it does nothing to support the common idea of free will (nor does it depend upon it).

SAM, FROM DICTIONARY.COM: VOLUNTARY

* done, made, brought about, undertaken, etc., of one's own accord or by free choice.
* of, pertaining to, or acting in accord with the will.
* subject to or controlled by the will.

AGAIN SAM, THESE DEFINITIONS DON'T PROVE THE EXISTENCE OF FREE WILL, BUT THEY DO CONTRADICT YOUR ASSERTION THAT VOLUNTARY ACTIONS DO NOT SUPPORT THE IDEA OF FREE WILL.

Voluntary actions are associated with felt intentions (desires, goals, expectations, etc.) while involuntary actions are not. All of the conventional distinctions we like to make between degrees of intent -- from the bizarre neurological complaint of alien hand syndrome to the premeditated actions of a sniper -- can be maintained: for they simply describe what else was arising in the mind at the time an action occurred. A voluntary action is accompanied by the felt intention to carry it out, while an involuntary action isn't. Where our intentions themselves come from, however, and what determines their character in every instant, remains perfectly mysterious in subjective terms.

SAM, HOW CAN YOU CLAIM THAT THE SOURCE OF OUR INTENTIONS REMAINS PERFECTLY MYSTERIOUS, AND SIMULTANEOUSLY ASSERT AS FACT, THAT FREE WILL DOES NOT EXIST? IN ORDER TO STATE THAT FREE WILL DOES NOT EXIST WOULDN'T YOU HAVE TO KNOW THE SOURCE OF OUR INTENTIONS? OTHERWISE, ON WHAT GROUNDS COULD YOU PRECLUDE FREE WILL AS THE SOURCE?

Our sense of free will arises from a failure to appreciate this fact: we do not know what we will intend to do until the intention itself arises.

SAM, HOW AND FROM WHERE DOES THE INTENTION ARISE? WHY DOES THE INTENTION ARISE? HOW DOES BIOLOGY PRODUCE THE MOTIVE NECESSARY FOR INTENTION? HOW DO YOU EXPLAIN LEARNING? HOW IS IT POSSIBLE FOR AN INTENTION TO ARISE TO MAKE ME DO SOMETHING I HAVE NEVER DONE, AND DON'T KNOW HOW TO DO? THIS IS EASILY EXPLAINED BY THE FREE WILL OF THE CONSCIOUS MIND WHICH UTILIZES STRUCTURES IN THE BRAIN TO STORE MEMORIES FROM WHICH IT CAN BUILD UPON TO LEARN MORE COMPLEX TASKS.

To see this is to realize that you are not the author of your thoughts and actions in the way that people generally suppose.

SAM, IF WE ARE NOT THE AUTHOR OF OUR THOUGHTS, THEN WHO OR WHAT IS? SINCE YOU ARE AN ATHEIST, WE CAN DISPENSE WITH THE *WHO*. SO THE QUESTION IS, *WHAT* IS THE AUTHOR OF OUR THOUGHTS?

OUR BREATHING IS HANDLED SUBCONSCIOUSLY SO WE DON'T HAVE TO THINK ABOUT IT. BUT IF WE ARE THROWN INTO A POOL, WE WILL AUTOMATICALLY HOLD OUR BREATH SO AS NOT TO DROWN. BUT WHY DOES OUR BIOLOGY TELL US TO HOLD OUR BREATH WHEN THERE IS NO NEED TO DO SO, AS WHEN WE ARE SIMPLY TESTING OUR LUNG CAPACITY? DOES OUR BIOLOGY DECIDE, "I THINK I WILL STOP BREATHING NOW"; AND THEN NOTIFY US THAT IT HAS DECIDED THAT WE WILL STOP BREATHING?

This insight does not make social and political freedom any less important, however. The freedom to do what one intends, and not to do otherwise, is no less valuable than it ever was.

SAM, HOW CAN THE FREEDOM TO DO WHAT ONE INTENDS BE AS VALUABLE AS IT EVER WAS, IF IT IS JUST AN ILLUSION? WHAT VALUE DO YOU FIND IN AN ILLUSION?

While all of this can sound very abstract, it is important to realize that the question of free will is no mere curio of philosophy seminars. A belief in free will underwrites both the religious notion of "sin" and our enduring commitment to retributive justice. The Supreme Court has called free will a "universal and persistent" foundation for our system of law, distinct from "a deterministic view of human conduct that is inconsistent with the underlying precepts of our criminal justice system" (United States v. Grayson, 1978).

Any scientific developments that threatened our notion of free will would seem to put the ethics of punishing people for their bad behavior in question.

SAM, PUT IT IN QUESTION? IF YOUR POSITION IS CORRECT, ON WHAT BASIS COULD YOU HOLD CRIMINAL ACTIVITY ACCOUNTABLE? HOW COULD YOU JUSTIFY PUNISHING PEOPLE FOR CRIME IF THEY ARE NOT THE AUTHOR OF THEIR THOUGHTS?

YOUR ONLY JUSTIFICATION WOULD BE TO LOCK THEM UP TO PROTECT SOCIETY. BUT EVEN THEN, YOU ARE STILL PUNISHING THEM FOR SOMETHING OVER WHICH THEY HAD NO CONTROL.

The great worry is that any honest discussion of the underlying causes of human behavior seems to erode the notion of moral responsibility.

SAM, EITHER FREE WILL EXISTS OR IT DOESN'T REGARDLESS OF WHAT MORAL CONSEQUENCES MAY FOLLOW. ANY ATTEMPT TO TIE FREE WILL TO MORALITY IS AN ARGUMENT FROM CONSEQUENCES.

AS YOU POINTED OUT, WORLDWIDE, JUDICIAL SYSTEMS ASSUME THE EXISTENCE OF FREE WILL. IF YOU CAN PROVE OTHERWISE, THEN THE SYSTEM WILL HAVE TO BE REEVALUATED.

If we view people as neuronal weather patterns, how can we coherently speak about morality? And if we remain committed to seeing people as people, some who can be reasoned with and some who cannot, it seems that we must find some notion of personal responsibility that fits the facts. Happily, we can. What does it really mean to take responsibility for an action? For instance, yesterday I went to the market; as it turns out, I was fully clothed, did not steal anything, and did not buy anchovies. To say that I was responsible for my behavior is simply to say that what I did was sufficiently in keeping with my thoughts, intentions, beliefs, and desires to be considered an extension of them. If, on the other hand, I had found myself standing in the market naked, intent upon stealing as many tins of anchovies as I could carry, this behavior would be totally out of character; I would feel that I was not in my right mind, or that I was otherwise not responsible for my actions. Judgments of responsibility, therefore, depend upon the overall complexion of one's mind, not on the metaphysics of mental cause and effect.

BUT SAM, YOUR STATEMENT OVERLOOKS THE FACT THAT THE METAPHYSICS OF MENTAL CAUSE AND EFFECT *ARE* PART OF THE OVERALL COMPLEXION OF ONE'S MIND.

Consider the following examples of human violence:

1. A four-year-old boy was playing with his father's gun and killed a young woman. The gun had been kept loaded and unsecured in a dresser drawer.

2. A twelve-year-old boy, who had been the victim of continuous physical and emotional abuse, took his father's gun and intentionally shot and killed a young woman because she was teasing him.

3. A twenty-five-year-old man, who had been the victim of continuous abuse as a child, intentionally shot and killed his girlfriend because she left him for another man.

4. A twenty-five-year-old man, who had been raised by wonderful parents and never abused, intentionally shot and killed a young woman he had never met "just for the fun of it."

5. A twenty-five-year-old man, who had been raised by wonderful parents and never abused, intentionally shot and killed a young woman he had never met "just for the fun of it." An MRI of the man's brain revealed a tumor the size of a golf ball in his medial prefrontal cortex (a region responsible for the control of emotion and behavioral impulses).

In each case a young woman has died, and in each case her death was the result of events arising in the brain of another human being. The degree of moral outrage we feel clearly depends on the background conditions described in each case. We suspect that a four-year-old child cannot truly intend to kill someone and that the intentions of a twelve-year-old do not run as deep as those of an adult. In both cases 1 and 2, we know that the brain of the killer has not fully matured and that all the responsibilities of personhood have not yet been conferred. The history of abuse and precipitating cause in example 3 seem to mitigate the man's guilt: this was a crime of passion committed by a person who had himself suffered at the hands of others. In 4, we have no abuse, and the motive brands the perpetrator a psychopath.

BUT SAM, FROM WHAT YOU HAVE TOLD US, NONE OF THESE KILLERS COULD BE HELD RESPONSIBLE BECAUSE THEIR CONSCIOUS MINDS WERE ONLY OBSERVERS OF WHAT THEIR BIOLOGY DICTATED. YOU SAID YOURSELF, THAT THEY ARE NOT THE AUTHORS OF THEIR OWN THOUGHTS.

In 5, we appear to have the same psychopathic behavior and motive, but a brain tumor somehow changes the moral calculus entirely: given its location, it seems to divest the killer of all responsibility. How can we make sense of these gradations of moral blame when brains and their background influences are, in every case, and to exactly the same degree, the real cause of a woman's death?

SAM, YOU JUST GAVE 5 EXAMPLES IN WHICH THE BRAINS WERE VERY DIFFERENT: SOME WERE DIFFERENT AGES, AND ONE EVEN HAD A TUMOR. YOUR 5 EXAMPLES ALSO HAD VERY DIFFERENT BACKGROUND INFLUENCES WHICH YOU GAVE IN DETAIL. YET YOU NOW SAY THAT THE BRAINS AND INFLUENCES WERE TO EXACTLY THE SAME DEGREE IN EVERY CASE?

FORGIVE ME SAM, BUT I'M GOING TO HAVE TO TAKE A KNEE AFTER THAT ONE.

It seems to me that we need not have any illusions about a causal agent living within the human mind to condemn such a mind as unethical, negligent, or even evil, and therefore liable to occasion further harm.

SAM, WITHOUT THAT CAUSAL AGENT (FREE WILL) HOW CAN YOU CONDEMN THEM AS UNETHICAL, NEGLIGENT, OR EVIL?

What we condemn in another person is the intention to do harm -- and thus any condition or circumstance (e.g., accident, mental illness, youth) that makes it unlikely that a person could harbor such an intention would mitigate guilt, without any recourse to notions of free will.

SAM, MITIGATION OF GUILT ONLY MAKES SENSE IF FREE WILL EXISTS. IF YOUR VIEW IS TRUE, THERE ARE NO GROUNDS UPON WHICH TO MITIGATE GUILT BECAUSE NO ONE IS GUILTY. IF THEIR BIOLOGICAL CAUSAL AGENTS MADE THEM DO IT, AND THEN NOTIFIED THEIR CONSCIOUS BRAIN AFTER THE FACT, WHAT EXACTLY ARE THEY GUILTY OF?

Likewise, degrees of guilt could be judged, as they are now, by reference to the facts of the case: the personality of the accused, his prior offenses, his patterns of association with others, his use of intoxicants, his confessed intentions with regard to the victim, etc. If a person's actions seem to have been entirely out of character, this will influence our sense of the risk he now poses to others. If the accused appears unrepentant and anxious to kill again, we need entertain no notions of free will to consider him a danger to society.

SAM, NOR DO YOU NEED TO DISMISS NOTIONS OF FREE WILL IN ORDER TO CONSIDER HIM A DANGER TO SOCIETY.

Why is the conscious decision to do another person harm particularly blameworthy? Because consciousness is, among other things, the context in which our intentions become available to us.

SAM, BUT YOU SAID THAT OUR CONSCIOUSNESS IS ONLY THE OBSERVER, NOT THE AUTHOR OF OUR THOUGHTS; SO HOW CAN YOU HOLD THE OBSERVER BLAMEWORTHY FOR ACTIONS OVER WHICH IT HAD NO CONTROL?

What we do subsequent to conscious planning tends to most fully reflect the global properties of our minds -- our beliefs, desires, goals, prejudices, etc. If, after weeks of deliberation, library research, and debate with your friends, you still decide to kill the king -- well, then killing the king really reflects the sort of person you are.

SAM, YOU OVERLOOKED THE POSSIBILITY THAT YOU WERE PERSUADED TO KILL THE KING, IN SPITE OF THE FACT THAT IT WAS COMPLETELY OUT OF CHARACTER FOR YOU, BY THE PRESENTATION OF OVERWHELMING EVIDENCE (FOR EXAMPLE, PROOF THAT THE KING INTENDED TO KILL ALL OF YOU).

EARLIER, YOU YOURSELF GAVE A LIST OF 5 EXAMPLES PROVING THAT VIOLENCE COULD BE COMMITTED THAT WAS COMPLETELY OUT OF CHARACTER; VIOLENCE THAT YOU ARGUED DID *NOT* REFLECT THE SORT OF PERSON THEY WERE, BUT WAS CAUSED BY CAUSAL AGENTS OUT OF THEIR CONTROL. IN 4 OF THE CASES, YOU EVEN PROVIDED EXCUSES FOR THEIR VIOLENCE.

While viewing human beings as forces of nature does not prevent us from thinking in terms of moral responsibility, it does call the logic of retribution into question. Clearly, we need to build prisons for people who are intent upon harming others. But if we could incarcerate earthquakes and hurricanes for their crimes, we would build prisons for them as well.

SAM, PUT THE MODEL PLANE GLUE DOWN, AND LET'S GET BACK TO THE ESSAY.

The men and women on death row have some combination of bad genes, bad parents, bad ideas, and bad luck -- which of these quantities, exactly, were they responsible for?

WELL SAM, BELIEVERS IN FREE WILL WOULD PROBABLY PUT MOST OF THE BLAME ON BAD IDEAS.

BY THE WAY SAM, WHEN YOU CHOSE THE WORD "QUANTITIES" INSTEAD OF THE WORD "QUALITIES," HOW DID THAT WORD GET THERE? OH THAT'S RIGHT, YOU ALREADY SAID EARLIER THAT YOU DON'T KNOW. AFTER YOU WROTE IT, DID YOU STILL FEEL THAT "QUANTITIES" WAS THE BETTER WORD? AND UPON REFLECTION, DO YOU STILL FIND THAT YOU ARE PARTIAL TO "QUANTITIES?"

No human being stands as author to his own genes or his upbringing,

BUT SAM, MOST HUMAN BEINGS *DO* STAND AS AUTHOR TO THE GENES AND UPBRINGING OF THEIR CHILDREN. HOWEVER, AS WE ALL KNOW, THOSE AUTHORS ONLY GET TO START THE BOOK - THEY DON'T GET TO FINISH IT.

and yet we have every reason to believe that these factors determine his character throughout life.

SAM, I WOULD HAVE AGREED WITH YOU HAD YOU SAID "DETERMINE, *IN PART*, HIS CHARACTER THROUGHOUT LIFE." BUT YOU IGNORED A WHOLE HOST OF FACTORS WHICH ALSO HELP DETERMINE A PERSON'S CHARACTER; NOT THE LEAST OF WHICH IS EDUCATION WHICH EXTENDS WELL PAST HIS UPBRINGING.

Our system of justice should reflect our understanding that each of us could have been dealt a very different hand in life.

SAM, SO HOW WOULD THAT WORK? A CONVICTED RAPIST APPEARS BEFORE A JUDGE FOR SENTENCING AND THE JUDGE SAYS, "YOU COULD HAVE BEEN THE C.E.O. AT MICROSOFT HAD YOU BEEN GIVEN BETTER GENES AND UPBRINGING, SO I'M REDUCING THE CHARGE AGAINST YOU TO ILLEGAL PARKING, AND SUSPENDING YOUR SENTENCE."

I KNOW THAT SOUNDS SNARKY, SAM - BUT IT ALSO SOUNDS AN AWFUL LOT LIKE WHAT YOU ARE SUGGESTING.

In fact, it seems immoral not to recognize just how much luck is involved in morality itself.

SAM, IF LUCK IS INVOLVED IN MORALITY, HOW COULD IT BE IMMORAL NOT TO RECOGNIZE THAT? IN OTHER WORDS, IF YOUR STATEMENT WERE TRUE, WOULDN'T THE FAILURE TO RECOGNIZE HOW MUCH LUCK IS INVOLVED IN MORALITY MERELY INDICATE BAD LUCK, NOT IMMORALITY?

Consider what would happen if we discovered a cure for human evil. Imagine, for the sake of argument, that every relevant change in the human brain can be made cheaply, painlessly, and safely. The cure for psychopathy can be put directly into the food supply like vitamin D. Evil is now nothing more than a nutritional deficiency. If we imagine that a cure for evil exists, we can see that our retributive impulse is ethically flawed.

SAM, WHETHER OR NOT RETRIBUTION IS ETHICALLY FLAWED IS ANOTHER DEBATE; ONE THAT I CAN SEE WILL AGAIN FIND US ON OPPOSITE SIDES. AND I HOPE THAT YOUR POSITION ON RETRIBUTION WILL BE BASED ON MORE THAN AN IMAGINARY CURE FOR EVIL ... OR THAT WILL BE ONE VERY SHORT DEBATE.

Consider, for instance, the prospect of withholding the cure for evil from a murderer as part of his punishment. Would this make any sense at all?

SAM, SO IN ADDITION TO YOUR IMAGINARY CURE FOR EVIL, YOUR ARGUMENT IS NOW GOING TO EMPLOY AN IMAGINARY SCENARIO THAT DOESN'T MAKE ANY SENSE?

SAM ... I SURE HOPE THIS GETS BETTER.

What could it possibly mean to say that a person deserves to have this treatment withheld? What if the treatment had been available prior to his crime? Would he still be responsible for his actions?

JESUS CHRIST, SAM, CAN WE PLEASE GET BACK TO A RATIONAL DISCUSSION OF THE ISSUES?

It seems far more likely that those who had been aware of his case would be indicted for negligence. Would it make any sense at all to deny surgery to the man in example 5 as a punishment if we knew the brain tumor was the proximate cause of his violence? Of course not. The urge for retribution, therefore, seems to depend upon our not seeing the underlying causes of human behavior.

SAM, YOU USED A COUPLE OF EXTREME EXAMPLES TO JUSTIFY DISMISSING RETRIBUTION. BUT NOT ALL UNDERLYING CAUSES OF HUMAN BEHAVIOR INVOLVE BRAIN TUMORS AND THE WITHHOLDING OF EVIL POTIONS. YOU ARE IGNORING OTHER POSSIBLE CAUSES THAT MAY JUSTIFY RETRIBUTION, SUCH AS, SOME PEOPLE ARE JUST PLAIN OLD, MEAN, EVIL BASTARDS WHO DON'T GIVE A SHIT ABOUT ANYONE OTHER THAN THEMSELVES. AND I DON'T REALLY GIVE A RAT'S RECTUM WHETHER OR NOT THEY COULD HAVE BEEN THE C.E.O. OF DISNEYLAND.

Despite our attachment to notions of free will, most of us know that disorders of the brain can trump the best intentions of the mind.

SAM, HOW DOES THE FACT THAT BRAIN DISORDERS CAN OVERRIDE INTENTION, ELIMINATE THE CONCEPT OF FREE WILL? IT ONLY ELIMINATES FREE WILL IN THOSE CASES. THAT IS NOT BEING CONTESTED. WHAT IS BEING CONTESTED IS THAT YOU ARE TRYING TO EXTEND THAT CASE TO ALL BEHAVIOR. WE DON'T ALL HAVE BRAIN DISORDERS.

This shift in understanding represents progress toward a deeper, more consistent, and more compassionate view of our common humanity

SAM, I DON'T SEE HOW VIEWING HUMANS AS ROBOTS PROVIDES A MORE COMPASSIONATE VIEW OF OUR COMMON HUMANITY. YOUR VIEW EXCUSES CRIMINALS, AND FORSAKES VICTIMS; THAT DOESN'T QUITE FIT MY VIEW OF COMPASSION. MY COMPASSION IS FOR THE VICTIMS FIRST, AND IF I HAVE ANY LEFTOVER, THEN MAYBE FOR THE JERKS.

and we should note that this is progress away from religious metaphysics.

SAM, LET ME INTERRUPT AT THIS POINT SO THAT WE CAN AT LEAST HAVE ONE POINT OF AGREEMENT: *ANY* MOVE AWAY FROM RELIGION IS PROGRESS.

Few concepts have offered greater scope for human cruelty than the idea of an immortal soul that stands independent of all material influences, ranging from genes to economic systems. And yet one of the fears surrounding our progress in neuroscience is that this knowledge will dehumanize us.

SAM, IF YOU DON'T BELIEVE IN FREE WILL, THEN I WOULD SAY THAT YOU HAVE ALREADY DEHUMANIZED US ABOUT AS MUCH AS IS HUMANLY POSSIBLE. HOWEVER, IF YOU ARE CORRECT THEN IT IS IRRELEVANT WHETHER WE FEEL DEHUMANIZED. THE ONLY THING THAT IS RELEVANT ... IS THE TRUTH. THAT'S WHY YOU AND OTHER NEUROSCIENTISTS MUST CONTINUE TO SEEK OUT THE ANSWERS TO THESE IMPORTANT QUESTIONS.

Could thinking about the mind as the product of the physical brain diminish our compassion for one another?

SAM, BELIEVERS IN FREE WILL DON'T DISPUTE THAT THE MIND IS THE PRODUCT OF THE PHYSICAL BRAIN; SO WHY WOULD THAT BELIEF DIMINISH OUR COMPASSION?

While it is reasonable to ask this question, it seems to me that, on balance, soul/body dualism has been the enemy of compassion. The moral stigma that still surrounds disorders of mood and cognition seems largely the result of viewing the mind as distinct from the brain. When the pancreas fails to produce insulin, there is no shame in taking synthetic insulin to compensate for its lost function. Many people do not feel the same way about regulating mood with antidepressants (for reasons that appear quite distinct from any concern about potential side effects). If this bias has diminished in recent years, it has been because of an increased appreciation of the brain as a physical organ.

However, the issue of retribution is a genuinely tricky one. In a fascinating article in The New Yorker, Jared Diamond writes of the high price we often pay for leaving vengeance to the state. He compares the experience of his friend Daniel, a New Guinea highlander, who avenged the death of a paternal uncle and felt exquisite relief, to the tragic experience of his late father-in-law, who had the opportunity to kill the man who murdered his family during the Holocaust but opted instead to turn him over to the police. After spending only a year in jail, the killer was released, and Diamond's father-in-law spent the last sixty years of his life "tormented by regret and guilt." While there is much to be said against the vendetta culture of the New Guinea Highlands, it is clear that the practice of taking vengeance answers to a common psychological need.

We are deeply disposed to perceive people as the authors of their actions, to hold them responsible for the wrongs they do us, and to feel that these debts must be repaid.

SAM, IT IS POSSIBLE THAT WE ARE DEEPLY DISPOSED TO FEEL THAT WAY BECAUSE OUR PERCEPTIONS ARE ACCURATE.

Often, the only compensation that seems appropriate requires that the perpetrator of a crime suffer or forfeit his life. It remains to be seen how the best system of justice would steward these impulses. Clearly, a full account of the causes of human behavior should undermine our natural response to injustice, at least to some degree. It seems doubtful, for instance, that Diamond's father-in- law would have suffered the same pangs of unrequited vengeance if his family had been trampled by an elephant or laid low by cholera.

SAM, THE ISSUE AT HAND IS IN CASES WHERE THERE ARE NO APPARENT MITIGATING CIRCUMSTANCES, OR THE MITIGATING CIRCUMSTANCES ARE NOTHING MORE THAN WEAK, DESPERATE EXCUSES. YOU ARE EXTENDING MITIGATION TO ALL CASES BASED ON YOUR BELIEF THAT WE ARE NOT THE AUTHORS OF OUR THOUGHTS ... *THAT* IS THE ISSUE.

Similarly, we can expect that his regret would have been significantly eased if he had learned that his family's killer had lived a flawlessly moral life until a virus began ravaging his medial prefrontal cortex.

SAM, THE FACT THAT YOUR POSITION KEEPS REQUIRING BIZARRE CIRCUMSTANCES IN ORDER TO MAKE IT SOUND PLAUSIBLE CAUSES ME CONCERN. RETREATING TO BRAIN TUMORS EVERY TIME YOU NEED TO SUPPORT YOUR ARGUMENT IS ALSO A BIT UNNERVING. I WAS HOPING THAT YOU WOULD PROVIDE MORE IN THE WAY OF HARD EVIDENCE.

It may be that a sham form of retribution could still be moral, if it led people to behave far better than they otherwise would. Whether it is useful to emphasize the punishment of certain criminals -- rather than their containment or rehabilitation -- is a question for social and psychological science. But it seems clear that a desire for retribution, based upon the idea that each person is the free author of his thoughts and actions, rests on a cognitive and emotional illusion -- and perpetuates a moral one.

SAM, "SEEMS CLEAR?" MAYBE TO YOU, BUT I DIDN'T SEE ONE ARGUMENT THAT OFFERED CLEAR EVIDENCE FOR YOUR BELIEF THAT FREE WILL IS ONLY AN ILLUSION. HOPEFULLY, YOUR NEXT ESSAY WILL OFFER MORE SUPPORT FOR YOUR POSITION ... THAN RELYING ON BRAIN TUMORS.

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SUNSCREEN PILL IN THE WORKS

A STUDY OF UNDERWATER CORAL REEFS BY RESEARCHERS OF KING'S COLLEGE LONDON MAY LEAD TO THE DEVELOPMENT OF A PILL TO PREVENT SUNBURN. RESEARCHERS ALREADY KNEW THAT CORAL AND SOME ALGAE CAN PROTECT THEMSELVES FROM THE HARSH UV RAYS IN TROPICAL CLIMATES BY PRODUCING THEIR OWN SUNSCREENS, BUT UNTIL NOW, THEY DIDN'T KNOW HOW. THEY DISCOVERED THAT THE ALGAE LIVING WITHIN THE CORAL MAKES A COMPOUND THAT IS TRANSPORTED TO THE CORAL, WHICH THEN MODIFIES IT INTO A SUNSCREEN FOR THE BENEFIT OF BOTH THE CORAL AND THE ALGAE. NOT ONLY DOES THIS PROTECT THEM BOTH FROM UV DAMAGE, BUT FISH THAT FEED ON THE CORAL ALSO BENEFIT FROM THIS SUNSCREEN PROTECTION, SO IT IS CLEARLY PASSED UP THE FOOD CHAIN.

RESEARCHERS ARE VERY CLOSE TO BEING ABLE TO REPRODUCE THIS COMPOUND IN THE LAB, AND IF ALL GOES WELL THEY EXPECT TO TEST IT WITHIN THE NEXT 2 YEARS. THERE WOULD HAVE TO BE A LOT OF TOXICOLOGY TESTS DONE FIRST BUT A SUNSCREEN TABLET MIGHT BE DEVELOPED IN FIVE YEARS OR SO. AFTER TAKING THE TABLET YOU'D FIND THE COMPOUND IN YOUR SKIN AND EYES. NOTHING LIKE IT EXISTS AT THE MOMENT.

A LONG-TERM GOAL OF THE STUDY IS TO LOOK AT WHETHER THE SAME PROCESSES COULD HELP SUSTAINABLE AGRICULTURE IN DEVELOPING COUNTRIES BY USING THE NATURAL SUNSCREEN COMPOUNDS FOUND IN CORAL TO PRODUCE UV-TOLERANT CROP PLANTS CAPABLE OF WITHSTANDING HARSH TROPICAL UV LIGHT. THE PART ALGAE PLAY IN PROTECTING ITSELF AND CORAL AGAINST UV IS THOUGHT TO BE A BIOCHEMICAL PATHWAY CALLED THE SHIKIMATE PATHWAY, FOUND ONLY IN MICROBES AND PLANTS.

IF THIS WERE DONE IN CROP PLANTS THAT HAVE BEEN BRED IN TEMPERATE CLIMATES FOR HIGH YIELD, BUT THAT WOULD NOT GROW IN THE TROPICS BECAUSE OF HIGH EXPOSURE TO SUNLIGHT, THIS COULD BE A WAY OF PROVIDING A SUSTAINABLE NUTRIENT-RICH FOOD SOURCE, PARTICULARLY IN NEED FOR THIRD WORLD ECONOMIES.

CORAL IS AN ANIMAL WHICH HAS A UNIQUE SYMBIOTIC PARTNERSHIP WITH ALGAE THAT LIVES INSIDE IT -- THE ALGAE USE PHOTOSYNTHESIS TO MAKE FOOD FOR THE CORAL AND THE CORAL WASTE PRODUCTS ARE USED BY THE ALGAE FOR PHOTOSYNTHESIS. BECAUSE PHOTOSYNTHESIS NEEDS SUNLIGHT TO WORK, CORALS MUST LIVE IN SHALLOW WATER, WHICH MEANS THEY ARE VULNERABLE TO SUNBURN.

RESEARCHERS ARE ALSO LOOKING FOR CLUES AS TO HOW CLIMATE CHANGE IS LEADING TO CORAL BLEACHING, WHICH CAN LEAD TO CORAL DEATH. BLEACHING OCCURS WHEN A RISE IN SEA TEMPERATURE (BY 2-3 DEGREES MORE THAN THE SUMMER AVERAGE) MEANS THE ALGAE IS LOST FROM THE CORAL TISSUES, AND IF THE RELATIONSHIP BETWEEN ALGAE AND CORAL IS NOT RE-ESTABLISHED, THE CORAL MAY DIE.

IN 1998, WORLD-WIDE TEMPERATURE ANOMALIES RESULTED IN A GLOBAL BLEACHING EVENT CAUSING MAJOR CORAL MORTALITY ON 16 PERCENT OF THE WORLD'S CORAL REEFS. AS CORAL REEFS PROVIDE A HABITAT FOR MANY FORMS OF SEA LIFE, THIS CAN LEAD TO SIGNIFICANT LOSS.

FOLLOWING THE RECENT COLLECTION OF SAMPLES FROM THE GREAT BARRIER REEF, RESEARCHERS ARE LOOKING AT THE GENETIC AND BIOCHEMICAL CHANGES THAT OCCUR WHEN CORAL IS EXPOSED TO LIGHT AT HIGHER WATER TEMPERATURES. IT IS THOUGHT THAT THIS STUDY WILL CONTRIBUTE VITAL KNOWLEDGE FOR MANAGEMENT AND CONSERVATION OF REEF BIODIVERSITY IN THE CONTEXT OF GLOBAL WARMING.

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FAMOUS QUOTES

DAVID POWERS (UNABLE TO LOCATE ANY INFO)

"IF GOD CREATED MAN IN HIS OWN IMAGE,

HOW COME I'M NOT INVISIBLE?"