

Controversies on Cornell Realism

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Abstract

This article examines the criticisms and debates about Cornell realism. While critics, like Shafer-Landau, Tropman, Oliveira and Perrine, reject the claim by Cornell realism that moral knowledge can be empirically investigated the same as natural science is, I argue that some of their arguments are not sufficient to refute Cornell realism. What is crucial in assessing Cornell realism is distinguishing normative ethics from empirical science. While ethics is normative in nature, that of empirical science is descriptive and predictive. I also show that the debate between Tropman and Long is at cross purposes in their discussion about the nature of moral knowledge. By clarifying different meanings of moral knowledge, I argue that while arguments by Cornell realism can be applied to moral psychology, the study of normative ethics through empirical investigation still faces the problem of an *is-ought* gap. Indeed,

many of Cornell realist arguments are begging many questions. I have also examined recent debates on normativity objection by Parfit and Copp. I argue that Copp's naturalism is very similar to Huemer's intuitionism. Copp's argument of non-analytical naturalism seems to support rather than refute moral intuitionism.

Keywords: Cornell realism; moral explanation; moral knowledge; metaethics; *is-ought* problem; normativity objection.

1. Introduction

All the time, the most challenging issue for moral realism is the existence of intractable moral disagreement around the world. Although the existence of moral controversies does not necessarily entail anti-realism, it will reduce the plausibility of moral realism if these controversies have no way of being solved. Reductive naturalism stresses that moral properties are reducible to other natural properties; thus, we can arbitrate these moral disputes by using objective, reliable scientific methods. However, George Edward Moore (1993: 62–71), a moral non-naturalist, criticizes reductive naturalists for committing “naturalistic fallacy” by “open question argument.” He criticizes naturalists’ identification of goodness with pleasure (Goodness = pleasure) as confusing the meaning of moral terms with that of the

naturalistic term. It threatens the exploration of non-natural properties that have never been discovered by existing scientific investigations. It also obscures the distinction between philosophy and natural science.

While the debates over these classical realist theories can be clearly categorized into naturalist and non-naturalist, the categorization of certain contemporary theories of metaethics is obscured by the recent rise of Cornell realism. Cornell realism stands for nonreductive ethical naturalism. While stressing moral properties as irreducible natural properties, Cornell realism argues that moral properties can be studied by scientific investigation. Although Cornell realism seems to have combined the strength of both moral naturalism and non-naturalism, it faces several criticisms from different perspectives. In this article, I will examine these debates and criticisms, and argue that some criticisms are insufficient to refute Cornell realism, and some debates seem to be at cross purposes, and thus it is important to clarify what kind of “moral knowledge” the debates are referring to. While arguments of Cornell realism are applicable to the study of metaethics and moral psychology, the study of normative ethics by empirical investigation would face normativity objection or the problem of an *is-ought* gap.¹ I will also show that the Cornell realist normative moral arguments

¹ This paper mainly discusses the normativity problem caused by Cornell realism. The controversies about internalism and externalism cannot be discussed here.

inevitably involve many inappropriate assumptions.

2. Cornell realism

Cornell realism, by Richard Boyd (1988: 210) and Nicholas Sturgeon (1988: 241, 249-50) argues that moral properties (e.g. goodness) are natural properties which can be studied by scientific investigation. While moral properties “are constituted by” or “are multiply realized by” or “supervene upon” non-moral natural properties, they cannot be reduced to non-moral natural properties (Miller 2003: 139). And moral properties are semantically irreducible; this means that an ethical statement cannot be paraphrased into a non-ethical statement (Oliveira & Perrine 2017: 1025). This seems to combine the feature of both naturalism and non-naturalism. Sturgeon (2006: 98) argues that Moore’s open question criticism can only be applied to reductive naturalism. For Cornell realism, as moral properties are irreducible to natural properties, the identity statement would be “Goodness = goodness,” which can survive the criticism of naturalist fallacy.

Unlike intuitionism, Cornell realism denies that moral propositions are *a priori* truths; rather they are considered as synthetic, *a posteriori*. And they argue that if we assume that certain moral properties are real, then we can give a better explanation of our moral experience than if we did not. Thus, moral properties can be studied by the

scientific method, because, as Sturgeon (1988: 233-4; 2006: 97–102) argues, moral properties play a causal explanatory role in the natural order; and like scientific argument, the existence of moral properties plays an ineliminable role in explaining our moral experience.

In the area of physics, we know that protons exist, because protons can play an ineliminable role in explaining the movement of electrons. By the same token, we know the wrongness of children igniting cats for fun, because the wrongness of children igniting cats for fun plays an ineliminable role in explaining our moral judgment and condemnation. Sturgeon (1988: 249) suggests using the counterfactual dependence test to show whether moral properties have such an explanatory role. In the above case, we may ask whether we would have judged children igniting cats as morally condemnable if children igniting cats for fun is not wrong. If the answer is “no,” then it shows that the wrongness of igniting cats for fun does play an ineliminable role in explaining our moral reaction. One may argue that the above argument seems to have assumed certain moral principles or theories. Cornell realists argue that in light of new scientific theory, the role of theory-dependent explanation in moral inquiry is not a problem, because all observations are also theory-dependent or theory-laden; this also happens in scientific investigation (Boyd 1988: 188-92; 2003: 519-21). The argument for the existence of the proton depends on electro-magnetic

theory and the law of conservation of momentum and so on. Thus, by observation, we can also identify goodness with a set of moral properties favorable to human needs. In short, Cornell realism argues that moral hypotheses can also be tested against the world as natural science does, and these tests can move us to revise or abandon our prior moral views (Sturgeon 1988: 232; 2006: 241).

Boyd (1988: 188, 199) is the leading defender of scientific realism. He finds that the debate about moral realism is very much similar to that of scientific realism. Thus, he attempts to employ “recent developments in realist philosophy of science, together with related ‘naturalistic’ developments in epistemology and philosophy of language,... in the articulation and defense of moral realism” (1988: 182). He argues that “moral beliefs and methods are much more like our current conception of scientific beliefs and methods (more ‘objective’, ‘external’, ‘empirical’, ‘intersubjective’, for example) than we now think” (1988: 184). And he finds that criticism of scientific anti-realism can similarly apply to the criticism of moral anti-realism. Thus, if scientific realism is defensible, by the same token, moral realism is also defensible. Boyd (1988: 185) argues that we decide the scientific theories on the basis of observation; by the same token, we can decide moral theories by moral intuitions or moral experience in moral reasoning. And we can apply the procedure of reflective-equilibrium to both science and ethics.

Basically, I agree with Cornell realists that the argument of moral realism is similar to scientific realism; both are using inference to the best explanation approach. My response to Cornell realism is that although criticisms of scientific anti-realism are similar to that of moral anti-realism, it is insufficient to conclude that the study of morality is similar to the study of natural science. Basically, Boyd's argument is an analogical argument as shown below:

P1: The argument of scientific realism is similar to that of moral realism

P2: Natural properties can be empirically studied.

Conclusion: Therefore, moral properties can also be empirically studied.

The above argument seems to assume that moral properties are similar to natural properties in every aspect so that they can be scientifically investigated. However, the critics exactly reject this Cornell realist assumption. Thus, what is crucial for assessing Cornell realism are the similarities or dissimilarities between the nature of moral and natural proprieties and between the nature of moral studies and scientific investigation. And these are exactly the foci pointed out by critics such as Luis R. G. Oliveira and Timothy Perrine, Shafer-Landau, and Elizabeth Tropman. In the following, I will examine these debates and show that Oliveira and Perrine's

criticisms are also not sufficient to refute Cornell realism. Moreover, while Tropman is right that Cornell realism has committed an *is-ought* problem, I disagree with Tropman that being theory-laden is the foundation of Cornell realism.

3. Criticism by Oliveira and Perrine

According to Luis R. G. Oliveira and Timothy Perrine (2017: 1029), there are two important disanalogies between scientific explanations and moral explanations. First, all scientific explanations are embedded in the practices of a professional scientific community which “is characterized by a collaborative attempt to examine and refine explanations... through the minds and labs and pens of different scientists, with the results being replicated and the conclusions reaffirmed, and until it has survived competing legitimate and valuable explanations.” This rigorous communal scientific process is the main reason why scientific explanations can earn such privileged ontological insight. However, not all moral explanations go through such process. Second, scientific practices and theories aim at producing scientific explanations that are theoretically excellent, that is, accurate, generally consistent, held to a high standard of rigor, unifying diverse phenomenon, etc. However, moral discourse and ethicists’ practice seldom aim at producing moral explanations that are theoretically excellent (Oliveira & Perrine 2017: 1029).

Basically, Oliveira and Perrine's description of the practice of scientific explanation as the aspiration of theoretical excellence and the collaboration by a professional scientific community is currently correct. However, Cornell realists may reasonably disagree in that these features cannot distinguish ethics from natural science. The fact that there is currently no scientific investigation of morality does not mean that it can never happen. Indeed Boyd (1988: 185) admits that scientific investigation now involves a series of rigorous operational measurement and detection procedures; and what he intends to argue is that "if ethical beliefs and ethical reasoning are supposed to be like scientific beliefs and methods, then this procedure would have to be a procedure for discovering moral facts." In short, if Cornell realism is correct, once everyone accepts Cornell realism, there is nothing to stop the establishment of scientific investigation of morality as psychology has done over the last two centuries.

Oliveira and Perrine further point out two important disanalogies between natural properties and moral properties. First, natural properties involved in scientific explanations are testable, which gives rise to different experiments that can test hypotheses regarding their extension. However, this is not the case for moral theory (Oliveira & Perrine 2017: 1032). Oliveira and Perrine's criticism obviously ignores Cornell realist arguments that moral hypotheses can also be tested against the world,

and further, the results of these tests can move us to revise or to abandon our initial moral views (Sturgeon 1988: 232; 2006: 241). Sturgeon (1988: 232) has given an example of how to assess the moral hypothesis of Hitler as an admirable person: If Hitler was an admirable person, he would not have ordered the Final solution. Nevertheless, he did. Therefore, we have to abandon the hypothesis of Hitler being an admirable person.

The above argument shows that Cornell realists have provided examples of how to test a moral hypothesis. Although I find Sturgeon's examples problematic as I will discuss below, Oliveira and Perrine's criticisms have not tackled the problems of the examples given by Cornell realists. Furthermore, Oliveira and Perrine make a criticism that it is unclear what experiments one can run to test Rawls' theory of justice or Robert Adam's theory of virtue. Nevertheless, the problem of such criticism seems to be that Oliveira and Perrine lack imagination. I would argue that should Cornell realism be widely accepted, it is not difficult to imagine that there will be inventions of moral testing as in psychology. For instance, Rawls' argument of justice contains a thought experiment of the veil of ignorance by which the principle of fairness is determined according to the rule of "maxmin." Such a thought experiment can be transformed into a survey to ask respondents to choose the kind of social structure for the formation of a new society in which they do not know about their

particular talents, abilities, tastes, social class, and positions. Indeed, I did try to conduct such survey with my students in my lecture and asked them to choose d1, d2 or d3 from Rawls' (1999: 133) gain-and-loss table, although I disagree with Rawls' thought experimental approach.

The second dissimilarity between natural and moral properties, Oliveira and Perrine (2017: 1031) argue, is that "typical natural properties... are affected by empirical breakthroughs." For instance, the experimental breakthrough by Boyle, Lavoisier, and Priestley led to the rejection of the phlogiston theory of combustion and to the discovery of oxygen. In the case of ethics, there were also in history different kinds of ethical breakthroughs, such as the abolitionist movement in the 19th century or civil rights movements in the 20th century, etc. However, none of these ethical breakthroughs was related to empirical breakthroughs or the work of professional scientists (Oliveira & Perrine 2017: 1032). In short, Oliveira and Perrine argue that natural properties and moral properties are different because our understanding of natural properties will be affected by the empirical breakthrough, while our understanding of ethical properties will not. However, Oliveira and Perrine's assertion is obviously not true. I would argue that our understanding of moral values will also be affected by certain social and technological changes. According to Durkheim (1933), the rise of industrialization and urbanization led to

the decline of tradition, the rise of individualism, and increasing emphasis on individual freedom. For Karl Marx (1994), the superstructure and ideology of society is explained in terms of its economic structure. For Max Weber (1978), the rise of modernity led to rationalization which emphasizes instrumental reason in moral judgment instead of exploring substantive-value rationality. Modernity also led to disenchantment which undermines the sources of traditional morality (Weber, 1948). Although these different sociologists have different understandings of the relations between social change and morality, they all agree that the rise of natural science, technology, and the changing social economic structure that changes our empirical perception will affect our understanding of morality. Thus, Oliveira and Perrine's argument of distinction between natural properties and moral properties seems to be untenable. We then turn to the debates between Elizabeth Tropman and Joseph Long.

4. Debates between Tropman and Long

According to Elizabeth Tropman (2014: 185) Cornell realism is based on two similarities of natural science and ethics: (1) both are theory-laden; and (2) both are based on inference to the best explanation of empirical evidence. And Tropman (2012) has made two criticisms of these two arguments by Cornell realism. The first criticism is to refute that moral inquiry is as theory-laden as scientific inquiry. The second is

concerned about our fundamental moral principles that should be *a priori* and non-inferential rather than justified by observation. However, these two criticisms are refuted by Joseph Long. In the following, we will evaluate their views.

4.1 The First Contention: Theory-Laden or Not?

First, according to Tropman (2012: 34), a Cornell realist analogy of moral theory and scientific theory is based on the fact that both moral and scientific inquiries are also theory-laden or theory-dependent. However, in reality, when most ordinary people form their own moral opinions, they seem not to be based on any special moral theory. Actually, more and more evidence of cognitive psychology shows that many of our moral judgments are not based on any existing moral principles, but on immediate psychological reaction and cultural bias (Greene & Haidt 2002; Greene 2014; Guo 2019; Ma et al. 2022). As moral judgments are not theory-laden as Cornell realists claim, Tropman argues that its analogy to scientific inquiry is jeopardized.

Joseph Long (2014: 176), a defender of Cornell realism, criticizes Tropman for assuming that moral knowledge is theory-laden only if such knowledge presupposes substantive moral theories. However, Long argues that this assumption is false and Cornell realists are not committed to it. For instance, in the case of scientific knowledge, even though it is theory-laden, it does not mean that scientific knowledge

by ordinary people must presuppose substantive scientific theories. Thus, even if moral knowledge is theory-laden, it does not mean that moral knowledge by ordinary folk must presuppose theories that are particularly substantive.

Indeed, Tropman's claim that moral judgments are not theory-laden is very controversial. Apart from Cornell realism, Charles Taylor (1989: 16) also argues that our moral judgments inevitably involve a certain moral framework. Even if Tropman's first criticism is right that certain basic moral judgments are not theory-laden, I would argue that she cannot therefore undermine the arguments of Cornell realism.

Indeed, before the 1960s, most scientists believed that natural science is theory-independent. They held a view similar to positivism which argues that empirical knowledge is the only kind of knowledge worth having (except logic and mathematics). And the best examples of empirical knowledge are the most successful sciences. Scientific enquiry should be objective, value-neutral, or value-free; its methods should be independent of the researcher, repeatable, and reliable. Positivism, and later Logical Positivism, rejects theology and metaphysics, considering this kind of knowledge as subjective and speculative, because they cannot be verified by sense experience. However, positivism was later attacked by the Post-Positivism movement in the 1960s. Thomas Kuhn (1962), Norwood Hanson (1958), Paul Feyerabend (1981

[1958]), and others cast doubt on the objectivity of observational evidence by arguing that observations are theory-laden. I am not going to judge whether Positivism or Post-Positivism is right. By showing this short history of the philosophy of science, my argument is that scientists just keep doing scientific investigation regardless of whether they consider natural science as being theory-laden or not. Thus, I disagree with Tropman's interpretation that theory-laden morality is the crucial point in supporting Cornell realists' argument. I would argue that Cornell realists' main thesis is not based on whether moral knowledge is theory-laden. It means that whether the discipline is theory-laden or not is irrelevant to whether such discipline can be empirically studied or not. I believe that the crucial point that makes Cornell realists consider that morality can be studied through observation as natural science does is that both scientific facts and moral beliefs have *causal explanatory roles* rather than being theory-laden; this means that both natural properties and moral properties are causally relevant which is one of the theoretical bases of Cornell realism, and thus moral properties can be studied by observation like natural properties. This is exactly the point made by Sturgeon (1988: 233-4) in his criticism of Harman. And I will show later that while I agree with Cornell realists that moral properties and moral belief are causally relevant, Cornell realists are still wrong in attempting to make a normative argument based on scientific studies. However, I will first explore Tropman and

Long's second contention about fundamental moral principles.

4.2 The Second Contention: a priori or a posteriori?

Tropman (2014: 185-6) replies to Long's first contention by referring to her second criticism of Cornell realism, that is, about the explanation of our initial moral belief.

Tropman supports moral intuitionism. She argues that there are certain fundamental moral principles that are *a priori*, non-inferential and theory-independent. For instance, "it is *prima facie* morally wrong to cause pain to another, that we morally ought to keep our promises, and that we have a moral duty to share others' ends as our own" (Tropman 2012: 33). For Tropman (2012: 34-38), Cornell realism cannot provide an account "about how we first arrive at those theoretical assumptions" or "initial moral beliefs" implicated in moral inferences. Such initial moral belief should be reliable enough to generate eventual moral knowledge and cannot be simply justified through "careful observation and empirical theorizing about moral properties." For instance, the empirical evidence for the pain caused during the carrying out of the death penalty is insufficient to justify the morality of the death penalty.

Long (2014: 179) replies to Tropman that moral statements are synthetic. Cornell realists are empiricists and they deny that synthetic statements can be known

non-empirically. Long criticizes Tropman (2014: 181) for begging the question in supposing that *a priori* knowledge is possible in mathematics and ethics. However, for some philosophers such as Quine, even mathematical statements are considered as synthetic and can be known *a posteriori*. Long does not want to have an in-depth discussion regarding whether Quine's theory is justified. He just criticizes that Tropman cannot assume without argument that moral and mathematical statements are known *a priori*.² Long's criticism indeed points towards the fundamental belief of moral intuitionism. However, Tropman (2014: 188) replies to Long that merely asserting that a moral statement is synthetic is also insufficient to show that it is knowable empirically. For instance, Kant (1998) argues that there exist certain synthetic *a priori* propositions, such as the principle "every event has a cause" which is the fundamental principle of natural science, but such proposition is known independently of experience. Tropman (2014: 189) insists that her criticism is not based on the debate about synthetic *a priori* knowledge; even if a synthetic

² Tropman (2014: 188) complains that Long (2014: 179) presents her dispute with Cornell realism as a disagreement concerning the revisability of moral knowledge in light of empirical findings. Long seems to assume that *a priori* knowledge is empirically indefeasible. However, Tropman emphasizes that she does not have such assertion. Tropman agrees that empirical information could affect how we grasp a proposition's truth. Tropman (2014: 189) insists that her dispute with Cornell realism is "not the empirical revisability of certain beliefs, but the suggestion that our justification or entitlement for these beliefs has an empirical source."

proposition cannot be known *a priori*, it does not affect her conclusion that “we do not know moral facts empirically, in the way that we know the facts of the natural sciences.” For Tropman, if moral beliefs are really empirically justified, the conclusion is that such beliefs do not represent genuine moral knowledge. Basically, Tropman’s criticism is that Cornell realism has created an *is-ought* problem, and I will further elaborate on this below. However, here, I would argue that the difference between Tropman and Long is not whether moral statements are synthetic *a priori* or not. Rather the difference between them seems to be that they refer to different aspects of moral properties in their debate about the empirical justifiability of moral knowledge. The debate to a certain extent is at cross purposes. And this seems to be indicated in one of Long’s criticisms of Tropman. At the conclusion, Long (2014: 179-182) criticizes Tropman as narrowly identifying science with the investigation of causal-mechanical processes. However, “science includes much more. Evolutionary biologists explain phenomena in terms of organ malfunction; psychologists try to classify mental disorders. Organ malfunction and mental disorder are both normative, not causal.” Long’s criticism is controversial. It seems to indicate that when Long and other Cornell realists assert that moral knowledge can be tested empirically, they are referring to a kind of moral knowledge or moral explanations that are different from what Tropman and other critics are considering.

5. Criticisms of Cornell Realism

5.1 *Causality and Natural Properties*

Before further discussing the debate between Tropman and Long, I would first examine Sturgeon's argument that moral properties are natural properties because moral beliefs also have *causal explanatory roles* as natural facts. I would argue that even if moral properties are causally efficacious, it cannot be concluded that moral properties are natural properties. This is because Sturgeon's argument seems to assume that if moral properties are non-natural, then they cannot be causally efficacious. However, this is begging the question. For religious persons, supernatural properties can also be causally efficacious. Sturgeon cannot exclude the possibility that non-natural moral properties may also be causally efficacious.

Furthermore, some religiously based philanthropy could be better explained by religious rather than naturalistic motivations (Liu 2022a). For instance, Mother Teresa sacrificed her short- and long-term interests and ignored the fate of her genes to help those who were dying of HIV/AIDS, leprosy, and tuberculosis. Most people would see that Mother Teresa is religiously motivated to do this. Indeed, Herbert Simon (1990: 1666-7) argues that from a perspective of evolutionary psychology, it is

irrational for Mother Teresa to ignore the fate of her genes. Thus, Simon argues that Mother Teresa is a kind of docile person suffering from bounded rationality, so that she is unable to distinguish socially prescribed behavior that contributes to fitness from altruistic behavior that does not contribute to fitness. However, for Alvin Plantinga (1997), Mother Teresa's behaviors are rational from a Christian perspective. Her behaviors display a Christ-like spirit and she is also laying up treasure in heaven. The debate between Simon and Plantinga shows that unless we think that Mother Teresa is irrational, Mother Teresa's self-sacrificing philanthropy seems to be better explained in terms of non-naturalist religious rather than naturalist motivation.

Naturalists may further argue that even if one acknowledges that Mother Teresa's behaviors are religiously motivated, such religious motivation can also be a natural property of Teresa's psychology grounded on her brain states. However, provided that Teresa's religious motivation is based on her brain states, I would argue if one acknowledges that Mother Teresa's behaviors are religiously motivated, her change of brain states is caused by her religious experience and belief that is non-natural, rather than natural property and naturalistic consideration. Indeed, in the discussion below, I would argue that whether moral properties are considered natural properties or not is not the crucial issue for assessing Cornell realism; it really depends on how one

defines natural properties. The most crucial issue is whether normativity can be scientifically investigated.

5.2 Different Kinds of Moral Knowledge: Normative and Causal Explanation

The above debates have talked a lot about “moral knowledge,” “moral judgment,” and “moral explanation.” However, these terms are ambiguous. For instance, when we talk about moral knowledge or the study of morality, they may refer to metaethics, moral psychology, normative ethics, or applied ethics. Both knowledge about normative ethics or applied ethics is **normative in nature**. However, the knowledge of metaethics and moral psychology are mainly **descriptive by nature** even though it may have certain normative implications. In the following I will show that, first, even if Sturgeon (1988: 233-4) is right, in his criticism of Harman, that moral properties have **causal explanatory roles**, it may support the study of moral psychology by using the scientific method as psychologists do. However, it does not mean that we can study normative ethics by empirical investigation. This is because moral properties also have an irreducible **normative role** which is the concern of normative ethics. Simply speaking, I think that moral property has both a causal explanatory role and a normative role. And most critics indeed reject Cornell realists’ assertion of scientific investigation of normative ethics because such moral knowledge is

normative, not descriptive. This involves the distinction between natural science and ethics as I am going to discuss. And I will argue that normative argument based on scientific investigation inevitably involves an *is-ought* gap. Second, Cornell realism attempts to argue for the possibility of studying normative ethics by using scientific investigation, but with the assumption of certain moral principles or moral theories, such as utilitarianism or consequentialism. And such argument would likely commit the fallacy of inappropriate assumption.

5.3 Shafer-Landau's Distinction between Natural Science and Ethics

According to Shafer-Landau (2003: 59-60), science has four characteristics that are different from moral studies: (1) “susceptibility to quantification and cardinal measurement,” (2) descriptive, not evaluative, (3) prediction and causal efficacy of natural properties, and (4) it has physical, rather than metaphysical necessities. Based on these distinctions between science and ethics, Shafer-Landau (2003: 60-61) criticizes Cornell realism for attempting to include ethics in the area of scientific investigation by enlarging the definition of science. However, Shafer-Landau’s first and fourth features of science seem to be controversial in the disciplines of biology and psychology. Regarding Shafer-Landau’s first feature, certain biological and psychological features also cannot be quantified and measured objectively. For

instance, it has always been controversial how to measure happiness and mental health. This is because they cannot easily be identified with certain biological markers or behaviors, alongside cross-cultural differences in mental health experience and complex social and psychological confounding factors. By far, the most common way that researchers assess happiness is through self-reporting. However, science is considered as providing a third-person account. Regarding Shafer-Landau's fourth feature, the problem regarding whether the nature of the mind is physical or spiritual, whether we have free will or not (libertarianism, determinism and compatibilism), and whether psychology should be considered a science or not are also very controversial in the field of medicine and psychology (Gross 2009: 132-155, 177-205, 233-258). Thus, Shafer-Landau's first (measurement) and fourth features (physical necessity) seem not to be good criteria to distinguish morality from natural science. Or putting it another way, our moral reactions are usually expressed in physical, emotional ways. If Cornell realism is right, it is not difficult to find ways to measure our moral reactions as psychologists do. However, Shafer-Landau's second (description) and third features (prediction and causality) seem to be critical criteria to distinguish science from ethics. And I will rephrase Shafer-Landau's second and third features and argue that the description of causality and prediction are two important features of natural science that are distinct from ethics.

5.4 Moral Psychology or Normative Ethics?

Basically, the concern of natural science is to find out the causality between things in the world, while that of normative ethics is to find out the normative guidance of our actions. Because of the concern of causality, we expect prediction to be an important criterion of natural science, and we use experiments to exemplify whether the results are consistent with the prediction anticipated by the theory.³ Even though the preciseness of prediction varies among different scientific disciplines, and prediction as a criterion is very controversial in social sciences (Taylor 1985: 55-6; Shi 2022), prediction and the description of causality are still important characteristics of natural science. What makes the argument of the existence of protons different from moral properties is that with the assumption of protons, it not only helps us understand the physical causality among electrons, but also better predicts the movement of electrons and therefore many other physical phenomena in the future. It also helps us to manipulate matter in order to achieve certain aims assigned by human beings. However, for normative ethics, we would not make a moral judgment on an action based on the prediction of other people's moral reaction (approve or condemn) to it.

³ No matter the verificationism by logical positivism or falsificationism by Karl Popper or the puzzle-solving criterion by Thomas Khun, they all consider science as the exploration of causality and prediction as one of the criteria for the examination of scientific theory (Hansson 2014).

This would commit *argumentum ad populum*.

With the above understanding of science, I would argue that even if Sturgeon is right, that is, moral properties, like natural properties, have causal explanatory roles, it only shows that we can use empirical methods to study moral psychology, but not normative ethics. Moral psychology entails a study of the causality between moral properties and our moral psychological or behavioral reactions; it may achieve certain rough predictions of moral psychology and behavior and thus can provide certain moral guidance based on certain assumptions of moral principles, just like medicine and psychology can provide guidance for us to maintain our physical and psychological health, which is also related to ethical matters. However, it is not the study of the normativity of moral properties or of our moral actions. For instance, the famous electric-shock studies conducted by Stanley Milgram (1974), a moral psychologist, showed that most people will obey the most abhorrent orders commanded by an authority figure to electro-shock a victim. Assuming that blind obedience is always wrong, this experiment may have certain normative implications, such as emphasizing critical thinking in liberal education, or setting a moral boundary in our obedience to authority, or significance of monitoring a ruler's power. This experiment may also help us to predict that most people will obey the most abhorrent orders commanded by an authority figure in another situation. However, this study

cannot make a moral judgment as to whether such obedience to an authority figure in regard to electro-shocking a victim is justified or not. In particular, such empirical studies do not help solve issues of moral dilemma, such as trolley dilemmas or whether it is right that soldiers should always obey orders. Thus, empirical studies can only examine the causal explanatory role, but not the normative role of moral properties. As Rosenberg (2005: 4), a philosopher of science, argues, unlike philosophy, natural science itself does not challenge or defend the normative views and values we commonly hold.

Indeed, Sturgeon's confusion of moral psychology and normative ethics is illustrated in his argument that Hitler's moral character is relevant to an explanation of what he did. Sturgeon (1988: 249) asks us

“to conceive a situation in which Hitler was not morally depraved and consider the question whether in that situation he would still have done what he did. My answer is that he would not and this answer relies on a (not very controversial) moral view: that in any world at all like the actual one, only a morally depraved person could have initiated a world war, ordered the ‘final solution,’ and done any number of other things Hitler did. hence that the fact of his moral depravity is relevant to an explanation of what he did.”

Even if Sturgeon is right, the fact that “Hitler is morally depraved” can explain “his order of Final solution”, such explanation is a causal explanation, not moral justification. It is the statement of moral psychology rather than normative ethics. Sturgeon seems to confuse the difference between cause and reason, causation and justification. Sturgeon admits that his argument is based on the assumption of the moral view that only a morally depraved person could have ordered the “final solution”. However, what normative ethics is concerned about is whether the Final solution is moral, rather than asking: “If Hitler was not morally depraved, would he order the ‘final solution’?” The problem of Sturgeon’s illustration would be more obvious if we change the example of the “final solution” to other lesser-known policies. For instance, imagine the question to be “If Hitler was not morally depraved, would he order XYZ policy?” In answering this question, we need to focus and investigate the moral nature of XYZ policy. Even if we know that Hitler was morally depraved and ordered XYZ policy, we cannot therefore conclude that XYZ policy was immoral.

As mentioned above, for Long, knowledge of abnormal psychology is normative, not causal or descriptive. However, I think that Long’s understanding of abnormal psychology is inaccurate. Psychology is the study of the nature, functions, and

phenomena of behavior and mental experience. According to Richard Gross (2009, 106-26), abnormal psychology, or what Long calls the study of “mental disorder,” is based on the assumption of the distinction between normality and abnormality. And abnormality understood as maladaptation or deviating from the norm criterion inevitably involves value judgments. This means that we need to first determine what a normal good life is, and then abnormal psychology helps us to find out what the causes of abnormalities are and how to remedy them, that is, how to get back to the given normal good life. Thus, although knowledge of abnormal psychology, as well as biology, has normative implications, and such knowledge can be applied in medicine and counseling, the nature of such knowledge is still mainly descriptive. It is the study of the causal relationship between different biological, psychological, and emotional factors. Psychology and biology can help provide guidance to achieve a given understanding of what a good life is. However, they do not explore values themselves, so they cannot determine what a normal good life is; it is a philosophical question.

Similarly, Boyd (1988) also makes an analogy between healthiness and goodness. Healthiness is a complicated property with a robust causal profile. We cannot directly observe healthiness but assess it through different indicators. Boyd (1988: 198) argues that moral properties are complicated natural properties, distinguished by their causal characteristics. Boyd calls this a “homeostatic property cluster.” Like healthiness,

moral goodness is constituted by a cluster of properties that are homeostatically unified (Boyd 1988: 205). And thus, like healthiness, moral goodness can be scientifically studied.

However, although medicine is a kind of science of treating illness, and restoring or preserving health, it also involves some sort of assumption about the definition of health that is a philosophical issue and that cannot be empirically investigated. For instance, the World Health Organization defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” However, such definition is criticized by certain health philosophers. For instance, Machteld Huber (2011: 235) criticizes that the absolute words “complete” are inevitably vague and would leave most people unhealthy most of the time. Daniel Callahan (2012: 74) criticizes that its inclusion of mental and social aspects is turning all issues of human flourishing into medical issues. Fortunately, controversies regarding the definition of health are less serious than moral controversies. While the debate over the definition of health may affect some healthcare policies, it has little impact on research into how to cure certain diseases. However, unlike medicine, the definition of moral good is usually the fundamental issue underlying the controversies of different moral issues. And in the following, I will show that Cornell Realism generally has assumed utilitarianism as normative theory; such assumption does not

help much in solving the moral controversies.

5.5 An *Is-ought* Gap and Hitler Example

As stated before, Cornell realism faces the difficulty of the *is-ought* problem, that is, the inference of an *ought* from an *is*, to make a moral judgment by appealing to empirical facts. And that is why Tropman (2014: 189) insists on her criticism of Cornell realism that “we do not know moral facts empirically, in the way that we know the facts of the natural sciences.” Indeed, Sturgeon (2006: 104) is aware of the challenge of the *is-ought* gap and made two responses. First, he argues that the *is-ought* gap is not a problem because we often draw ethical conclusions about people’s character from observation of their actions although this relies on certain ethical background assumptions. Second, phenomenism, logical behaviorism, operationalism, and instrumentalism also draw psychological conclusions from observing people’s behavior. They have come to regard an *is-ought* gap as nothing special. Regarding Sturgeon’s second response, I would reply that, unlike findings in natural science, the stands of phenomenism, logical behaviorism, operationalism, and instrumentalism are also highly controversial among psychologists. Even if they are right, psychology is still different from normative studies as discussed above. The controversies about the ethical naturalism among ethicists show that we cannot take it

for granted that the *is-ought* gap is not a problem. Regarding Sturgeon's first response, his argument of drawing conclusions about character from observation is indeed shown in his example of Hitler as being depraved. By analyzing this example, I argue that Sturgeon's example responds to the challenge of the *is-ought* gap by making an inappropriate assumption in his argument. Sturgeon (1988: 249) suggests a counterfactual test to assess the moral character of Hitler as shown in a standard form below:

P1: If Hitler was an admirable [not morally depraved] person, he would not have ordered the Final solution.

P2: Hitler ordered the Final solution. (Moral fact by observation)

Conclusion: Hitler was morally depraved.

Although the inference of the Hitler example is deductively valid and the observation given by P2 is correct, P1 has already assumed without argument that ordering the Final solution is immoral. By assuming that ordering the Final solution was immoral, Sturgeon's argument is actually a tautology as shown below, as he has not given us any extra knowledge.

P1: If Person A was not morally depraved, he would not have behaved immorally

(Ordering the Final solution).

P2: Person A behaved immorally.

Conclusion: Person A was morally depraved.

Sturgeon admits that his example has already assumed certain moral principles, but it is still unproblematic because even natural science is theory-laden. However, what Sturgeon has assumed in his argument is exactly what is of most concern in the field of normative ethics. Normative ethics is supposed to provide action guidance; “it should allow me to assess or evaluate actions as either right or wrong, good or bad, justified or unjustified” (van Zyl 2019: 99). Even the theory of virtue ethics is also concerned about action guidance rather than simply assessing one’s moral psychological status. Thus, the question that we should ask is whether the Final solution is moral, rather than asking: “If the Final solution was immoral, was Hitler, who ordered the Final solution, morally depraved?”

From the perspective of normative ethics, Sturgeon’s Hitler example as a normative argument is begging too many questions. Sturgeon’s problem is much more obvious if we apply it to highly controversial moral cases, such as abortion,

homosexuality, and euthanasia. For instance, we can imagine that the conclusion would be highly controversial if we revised the Hitler example into an argument against someone who has an abortion:

P1: If Mary was an admirable [not morally depraved] person, she would not have had an abortion.

P2: Mary has had an abortion. (Moral fact by observation)

Conclusion: Mary was morally depraved.

For those who are pro-abortion, they would surely criticize this argument as begging the question, inappropriately assuming that abortion is immoral. These moral controversial cases show that Cornell realism cannot just make moral judgments without being based on certain controversial assumptions of moral principles; it cannot help to arbitrate moral controversies. Apart from assuming certain moral principles, arguments for Cornell realism may also be based on certain controversial moral theories. For instance, if Cornell realists claim that empirical studies can be normative and can solve the trolley dilemma, we can imagine that they solve it by assuming a certain kind of utilitarianism or consequentialism rather than deontology, and arguing for the possible outcome of maximizing goodness (Liu 2022b). Indeed,

consequentialism seems to be assumed by some Cornell realists, like Boyd.

5.6 Inappropriately Assuming Consequentialism

Boyd calls his moral theory “homeostatic consequentialism” (1988: 203). It argues that moral goodness is similar to the concept of health; both are complicated and their properties (moral goodness and health) are constituted by homeostatic clusters of the properties that are homeostatically unified. The properties that form moral goodness correspond to “things which satisfy important human needs. Some of these needs are physical or medical. Others are psychological and social; these (probably) include the need for love and friendship, the need to engage in cooperative efforts, the need to exercise control over one’s own life, the need for intellectual and artistic appreciation and expression, the need for physical recreation, etc.”

Boyd’s Cornell realism, like many naturalists, has assumed consequentialism as its moral theory and argues for the use of empirical studies to find out the optimum outcome of satisfying human needs. Indeed, Sturgeon (2006: 117) also admits that “a naturalistic view of humans tends to push first-order ethics in a consequentialist direction.” With the assumption of consequentialism, it is not difficult to understand why Cornell realism insists that morality can be empirically studied, because rigorous empirical investigations can help us calculate and find out the best outcome of

satisfying human needs. However, this kind of moral argument is based on instrumental reason, not substantive reason. For other moral theorists, such as deontologists and virtue ethicists, morality is more than satisfying human needs. They would also be concerned about obligations and virtues. However, Boyd's (1988: 205) reply to deontologists and virtue ethicists is just that according to consequentialism notions such as "obligation and justice are derivative ones, and it is doubtful if the details of the derivations are relevant to the defense of moral realism in the way that the defense of a realist conception of the good is." As W. Jay Wood (2014: 93) criticizes, "Even were the basic human needs of all humans to be met, moral concerns would still confront us. It is highly doubtful that all the important moral concepts that arise in the moral life are derivable from homeostatic goodness alone." I agree that consequence is one of the important perspectives to be considered in normative judgment. However, in the face of challenges from the tradition of deontology and virtue ethics, Cornell realism just begs too many questions. What is worse, by reducing obligation and justice to derivatives, it may have simplified the reality of ethical thought, and neglected the complexity and tremendous variety of moral considerations. It may also not leave much room for qualitative distinctions to be made between different kinds of good and makes the conception of ethics skewed (Taylor 1989: 87-9).

5.7 Normativity Objection

Recently, Derek Parfit has made the Normativity Objection to criticism of Cornell realism, or what he calls “non-analytical naturalism” which is similar to the *is-ought* challenge. According to Parfit (2011 VII: 424-25), “What is normative are certain truths about what we have reasons to want, or will, or do”. And his deepest disagreement with non-analytical naturalism is that he believes that there are “irreducibly normative, reason-involving truths” (2011 VII: 429). Parfit (2011 VII: 324-5) insists that “normative and natural facts are in two quite different, non-overlapping categories”, and “natural facts could not be normative in the reason-implying sense.” While the concepts leave open various possibilities, many other possibilities are excluded. For instance, the concept of heat left it open whether it was molecular motion or phlogiston: “heat could not have turned out to be a cabbage, or a king... given the meaning of these claims, they could not possibly be true.” Even though it is true that water is H₂O, “[r]ivers cannot be sonnets” (2011 VII: 325). Imagine that you are in a burning hotel. “Since your life is worth living, it is clear that (B) you ought to jump. This fact, some Naturalists claim, is the same as the fact that (C) jumping would do most to fulfill your present fully informed desires... Given the difference between the meanings of claims like (B) and (C), such claims could not, I

believe, state the same fact” (2011 VII: 326). Thus, the fact that I have reasons that I should act in some way (jump) is not the same as “some natural fact, such as psychological or causal fact,” such as doing it would do most to fulfill one’s desires (2011 VII: 325-6).

However, David Copp (2012: 47) criticizes Parfit’s argument as being unpersuasive. It wrongly assumes that “the normative concepts exclude the possibility that a normative property is natural.” Copp criticizes Parfit for failing to provide a reason to accept this assumption, to accept that (B) and (C) are impossible to be the same fact. While it is odd to say that heat is a cabbage or a king, “the fact that the concept rules out these possibilities gives us no reason to think that it rules out the possibility that rightness is a natural property” (2012: 47).

For Copp (2012: 40) a natural fact can be normative, giving “someone a practical reason. For instance, the fact that your food is poisoned might give you a reason not to eat it.”

Basically, I think that whether moral properties are considered natural properties or not is not the crucial issue for assessing Cornell realists’ argument that moral properties can be scientifically investigated. It depends on how one defines natural properties. Generally, there can be three definitions of natural properties, including

properties that are (1) non-supernatural, (2) non-artificial, and (3) can be studied scientifically or empirically. I think that (3) is the most crucial controversy between naturalism and non-naturalism. Copp asserts that natural properties can be empirically studies, while for Parfit (2011 VII: 327) “natural facts could not be normative.” I would argue that even if I accept that moral properties are (1) non-supernatural and (2) non-artificial, it does not mean that (3) they can be studied scientifically or empirically.

Sturgeon (2006: 109) defines natural properties as “ones of the same general sort as those investigated by the sciences.” However, Copp rejects Sturgeon’s definition. Copp (2012: 28) admits that certain natural properties cannot be investigated by natural science. For instance, historical facts are natural facts, but they cannot be studied by natural science. Furthermore, the boundary between science and other endeavors is not sharp. Certain ethical issues are studied in social science, such as economics and history; and it is not about whether these investigations are science. What Copp is concerned with is not whether normativity can be explained by natural science; rather he is concerned with whether normativity can be understood naturalistically, so that it can be studied empirically. Thus, unlike Sturgeon, Copp (2003: 179) rather defines non-analytical naturalism as “the view that the moral properties are natural in the sense that they are empirical,” rather than studied by natural science.

Basically, Copp's naturalism is based on the distinction between weakly *a priori* propositions and strongly *a priori* propositions. Copp (2003: 188) defines a "weakly *a priori* proposition" as "one that can be reasonably believed without empirical evidence," and an "empirically indefeasible proposition" as "one that admits no empirical evidence against it"; and he defines a "strongly *a priori* proposition" as one that is both weakly *a priori* and empirically indefeasible. Copp's (2003: 188-9) naturalism can agree that "some substantive moral propositions can reasonably be believed without empirical evidence, so one can say that some such propositions are weakly *a priori*. However, one will hold that all substantive moral propositions are answerable to experience. They are empirically defeasible, and so they are not strongly *a priori*." For instance, one may have a weakly *a priori* proposition that lying is morally wrong. However, for a particularist, there can be situations in which lying is permissible or justifiable. Thus, Copp argues that argument from disagreement shows that moral propositions are empirically defeasible, and therefore they are not strongly *a priori*. And thus, argument from disagreement "undermines the plausibility of *a priorism* in ethics and supports the plausibility of naturalism" (Copp 2003: 198). In short, Copp's argument of non-analytical naturalism is to accept certain weakly *a priori* propositions while defeating the plausibility of strongly *a priori* propositions by argument from disagreement. Copp's approach (accepting weakly *a priori* propositions

while refuting strongly *a priori* propositions) seems to redefine naturalism in a way that is different from Cornell realism and other kinds of naturalism. However, Copp's definition of naturalism is indeed very similar to moral intuitionism by Michael Huemer.

According to Huemer (2005: 99-6), our basic evaluative beliefs are *prima facie* justified by virtue of our ethical intuitions. Intuitions are initial, intellectual appearances, where "appearances" are understood as a kind of propositional attitude. Appearances have contents that are different from belief and are not based on reasoning. Nevertheless, appearances lead us to form beliefs. Huemer (2005: 99) endorses what he calls "the principle of Phenomenal Conservatism" which states that, "other things being equal, it is reasonable to assume that things are the way they appear." In the case of ethical judgment, according to the principle of Phenomenal Conservatism, other things being equal, if one has the intuition that p, then it is reasonable to believe that p. Although beliefs based on intuitions are *prima facie* justified, it is fallible and revisable, as he states, "Once we have a fund of *prima facie* justified moral beliefs to start from, there is great scope for moral reasoning to expand, refine, and even revise our moral beliefs" (2005: 106).

Thus, for Huemer, while our fundamental moral principles are based on moral intuitions, it does not exclude that other empirical evidence is also morally relevant to the moral judgment we make in different situations. For Huemer (2005: 130), there are numerous causes of the error to which we are subject in non-moral matters. Disagreements may be due to differences in the circumstances in which people find themselves. People may also disagree when there involve conflicts between different moral principles. However, these disagreements seldom involve the core of our moral code. Huemer also admits that one's moral intuition may be confused by one's strong biases, but these intuitive moral principles are open to revision in the light of further evidence and further deliberations. Thus, it seems that Copp's naturalism is very similar to Huemer's moral intuitionism. Both accept certain initial weakly *a priori* moral propositions; both also accept that moral propositions are empirically defeasible and revisable.

Furthermore, in response to argument from disagreement, Huemer (2005: 143) argues that there are also many apparently unresolvable disputes about beliefs that depend on reasoning; but this does not convince us that reasoning is not a legitimate means of cognition. By the same token, I would argue, there are also lots of disagreements about beliefs that depend on empirical studies. It is not reasonable to

deny moral intuition by argument from disagreement, while thinking that empirical studies are a legitimate means of moral cognition.

Indeed, Sturgeon (2006: 109) also finds Copp's definition of naturalism unsatisfactory. This is because following Copp's rationality, there can also be empirical studies or evidence of supernatural properties, such as religious studies. It is implausible that the success of this kind of natural theology would show that the divine properties were also natural properties. Likewise, non-naturalists may insist that even if ethical reasoning is empirical, it is still empirical reasoning about supernatural properties, not natural properties. Thus, Copp's arguments seem to be of little help in defending non-analytical naturalism.

As stated above, my concern is not whether moral properties are defined as natural properties. I think that the most critical issue to assess Cornell realism is whether normativity can be scientifically investigated. I am not going to define what natural properties are here, although I tend to agree with Parfit's definition. One of my main arguments is that I considered moral properties to be involving both a causal explanatory role and an irreducible normative role. Thus, even if I concede that moral properties are considered natural properties (non-supernatural, non-artificial, its causality be empirically or scientifically studied), it can justify the study of moral

psychology only; it does not mean that its normativity can be empirically or scientifically studied as well.

Indeed, Copp's acceptance of weakly *a priori* moral propositions seems to support rather than to refute moral intuitionism. It shows that the *is-ought* gap still exists and it cannot be overcome by empirical studies; and many of the initial and fundamental moral codes are indeed justified by moral intuitions even though they are revisable and empirically defeasible by morally relevant empirical evidence. Indeed, Copp's example that "the fact that your food is poisoned might give you a reason not to eat it" seems to have already assumed a moral principle by intuition that health and life are morally good. Without this moral assumption, simply the fact that "your food is poisoned" has nothing to do with "whether you should eat it or not." We can imagine that someone who disagreed with such moral assumption, and valued deliciousness over survival, would reject Copp's claim. Indeed, Sturgeon's examples of igniting cats for fun and Hitler's Final solution also involve underlying moral assumptions that pleasure and life are morally valuable; and it is immoral to cause unnecessary pain and death. These show that Copp and Sturgeon, as well as many other naturalists, have taken certain fundamental moral principles based on intuition for granted in their arguments of naturalism. Tropman (2012: 34-38) criticizes that Cornell realism cannot provide an account about how we first arrive at those initial moral beliefs implicated in moral

inferences. And Copp's acceptance of weakly *a priori* propositions is exactly to find out certain initial moral beliefs based on moral intuition rather than empirical studies.

7. Conclusion

This article has examined the debates about Cornell realism by Shafer-Landau, Oliveira and Perrine, Tropman, and Long. While Shafer-Landau is right in pointing out that features of natural science are descriptive and predictive, her criticism of Cornell realism for enlarging the definition of natural science is incorrect. I also show that the aspiration of theoretical excellence and the collaboration by a professional scientific community suggested by Oliveira and Perrine are not sufficient to refute Cornell realism. In refuting what Oliveira and Perrine assert, I argue that like natural science, our understanding of ethical values would also be affected by certain empirical changes. I also show that the debate between Tropman and Long involves certain cross purposes because of the ambiguity of the term "moral knowledge." "Moral knowledge" can mean moral psychology as well as normative ethics. I agree with Cornell realism that moral properties have a certain causal explanatory role. However, I argue that this can at best support the empirical scientific study of moral psychology, but not normative ethics because of the *is-ought* problem.

I have also shown that examples of Cornell realist normative arguments involve

too many inappropriate assumptions. They inappropriately assume consequentialism and certain moral principles to be true at face value, while these assumptions are actually the underlying issues that need to be proved. I also argue that the problem of Cornell realism is not that it is theory-laden. Scientific investigation is also theory-laden; however, the credibility of natural science depends on theories that are reliable and have acquired a wide consensus among scientists whereas moral theorists do not share the same view towards consequentialism. On the contrary, the moral theory or principles that Cornell realism depends on are very much controversial among ethicists. If the strength of natural science is that it can provide more reliable and less controversial knowledge, then it is hard to see how a Cornell realist approach can offer the same level of strength. What is worse is that it may distort our understanding of human nature and morality by focusing exclusively on how to satisfy human needs. Finally, by examining the recent debates among Parfit and Copp about normativity objection and by comparing Copp's naturalism and Huemer's intuitionism, I argue that Copp's argument cannot really refute normativity objection, but rather Copp's acceptance of weakly *a priori* propositions seems to support rather than refute moral intuitionism.

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