BIOCENTRISM'S FISHY STINK

INTRODUCTION

Non-sentientists believe that not just people, or even sentient animals, but non-desiring, non-experiencing plants have moral standing, just in themselves. Biocentrists are non-sentientists who believe that plants have moral standing for a very specific reason: because they have needs, goods, or interests (from here on, just interests)[1] of their own that--like *all* interests--must be taken into proper moral account. Interests, biocentrists tell us, are already standardly accepted as tickets into the moral arena. All we need to do now is realize that plants have tickets too.

The obvious question is whether these particular tickets are any good, but I believe the obvious question is, and always has been, the wrong question. The thing to ask is not whether plants have interests that *matter*, but interests *at all*, and the thing to realize is that they do not.

Why this missed realization? I believe it is because philosophers--biocentrist and not--have been systematically mischaracterizing the task of defending biocentrism as a normative theory. In particular, they have been getting two crucial details wrong: they have been portraying this task as a task with two argumentative steps (one descriptive and one normative), when in fact it has three (one descriptive and *two* normative); and they have been focusing their attention and energy on the *last* step, when they ought to focus it on the *second* to last step. The result has been the worst kind of gatekeeper's oversight. Philosophers have been stopping and investigating non-sentient entities at the moral *turnstiles*. Where they need to do this instead, and where they need to realize they even *could* do this instead, is at the *sales wicket*.

Why should we accept this three step interpretation of the biocentrist's argumentative program? The most interesting reason, and the only one included in this shortened paper, is because it allows us to finally explain two fascinating biocentrist tendencies: the tendency to beg obviously pivotal questions; and the tendency to obviously equivocate on terms. The three step interpretation makes sudden and sympathy-stirring new sense of what otherwise seems like careless and even deliberate nonsense, and this charitable, interpretive progress speaks volumes.

Why should we *care* about accepting or not accepting this three step interpretation? As it happens, counting one biocentric step too few, and paying careful attention one step too late, appears to have prevented us--on *all* sides of the issue--from appreciating biocentrism's two greatest weaknesses as a would be theoretical basis for non-sentientism. In particular, and for anyone willing to even entertain being a non-sentientist, biocentrism produces two highly counter-intuitive implications: that we must be obligated not just to not stop plants from meeting their interests, but to actively help; and that our obligations toward artefactual or genetically engineered plants must be just as strong as our obligations toward natural ones. Because it lets us finally notice and soak in these implications, the three step interpretation is more than just interesting, or clarifying. It is the front matter for a long overdue theoretical eulogy.

And why write such an in-fighting, seemingly counter-productive article? Can there be any constructive point to attacking alternative bases of the same, relatively unpopular non-sentientist position? Indeed there can be. Biocentrism, I suspect, is the very worst sort of red herring: it tastes terrible, but it has a powerful and intriguing smell, a smell that grabs us from a distance and entices us away from other, more promising--

and thus far unexplored--non-sentientist scent-trails. Let us finally see this red herring for what it actually is, and not so that we can retrace *all* of our steps, as an unfortunate number of us have been doing,[2] but so that we can retrace *some*. The path to genuine non-sentientist moral progress awaits. All that we need in order to discover it is to stop getting decoyed by this fishy stink.

TWO STEPS, OR THREE?

According to the standard interpretation of the biocentrist's argumentative project, defending biocentrism breaks down into two, distinct tasks: an empirical task of showing that plants have particular interests of their own, and a normative task of showing that these interests are morally considerable.[3]

As widely accepted as it is, I believe the standard interpretation is incorrect. Yes, there is a purely descriptive first task, but it is followed by *two* normative tasks: an *axiological* task of identifying that which is good (and/or bad); and an entirely distinct *deontic* task of identifying how agents ought to act (and/or not act). The true argumentative challenge of biocentrism is to establish that we have duties to plants, not in virtue of the fact that they *can* teleologically flourish, but in virtue of the distinct, additional fact that it is *good if they do*.

Why, if the defense of biocentrism actually includes a middle, axiological step, does it not seem to? Though many explanations are possible, I believe the simplest and most compelling is that we tend to see the axiological attributions of the middle step not as genuinely axiological, nor even as distinctive attributions, but rather as entirely presentational devices, devices that only highlight, clarify, or alternatively express the descriptive contents of the empirical first step. Seeing the biocentrist's argumentative

project for what it is is not a matter of *seeing* the middle step. It is a matter or recognizing it, and not just at all, but as the piggy on the first step's back.

CHARITABLE INTERPRETATION

Why should we accept this three step interpretation? The best and most intriguing reason is because it allows us to finally understand, and shed charitable new light on, two puzzling, even vexing biocentric tendencies: the tendency to beg obviously pivotal questions; and the tendency to obviously equivocate on terms. It is not that infringing biocentrists somehow fall into the trap of committing these fallacies by mistake. On the contrary, they seem to commit them deliberately, as though to *spite* the mistake. To date, the business of catching and stopping these errors has gone terribly because the business of making sufficient initial sense of how biocentrists could miss, overlook, or forgive them in the first place has kept stealing, freezing, and in many cases terminating our attention.

To understand just *how* vexing biocentric question-begging and equivocation of terms can be, consider a glaring example of each. For starters, consider Kenneth Goodpaster's claim, offered at perhaps the most pivotal argumentative point of his famous article, that,

> There is no absurdity in imagining the representation of the needs of a tree for sun and water in the face of a proposal to cut it down or pave its immediate radius for a parking lot. We might of course, on reflection, decide to go ahead and cut it down or do the paving, but there is hardly an intelligibility problem about representing the tree's interest in our deciding not to. In the face of their obvious tendencies to maintain and heal

> themselves, it is very difficult to reject the idea of interest on the part of trees (and plants generally) in remaining alive."[4]

Of course, and *obviously*, sentientists do not find this difficult at all. To tell them that it really *is* difficult, on the grounds that this is "so clear,"[5] is not even ineffective, but unnerving. We do not wonder how Goodpaster could *miss* this fallacy; we wonder why he does not *mind* it.[6]

Next, consider Holmes Rolston III's fascinating, almost tauntingly fallacious technique of first using, then subtly and inexplicably dropping, scare quotes. The trick starts with a purely descriptive stage, but soon proceeds to a rather curious, quotational stage, a stage in which Rolston begins attributing scare quoted normative terms to non-sentient organisms. He begins to talk about such things as the "'genius' of life," the "'program'" that an organism follows and the "'end'" that it has, the "'reading'" that an organism does of its DNA and the "life structures [that] are 'written into' [its] genetic library," and the way an organism "'takes advantage' of its environment."[7] Then, and without explanation, the scare quotes begin to quietly disappear, and we discover Rolston now talking about what an organism "seeks to be," how "organisms have ends," how an organism can have "something it is conserving," or "something for which it is standing," and how every organism "defends its own kind as a *good kind*."[8] Ordinarily, we might call all of this shameless equivocation, but it is *so* shameless that it is hard to know *what* to call it. No matter what Rolston means by them, his scare quotes either signify something, or they do not. If they do not, then Rolston is just baldly assuming what he is purporting to prove, and his claims flop. If they do, then Rolston is not just "forgetting" to reiterate them, but "forgetting" in front of a live, *remembering* audience. If someone

brings a marked deck to a card game, and hopes that no one notices, we at least understand. If, however, someone pauses a game *in order* to mark the deck, and *expects* no one to notice, we simply stare, and we begin to strongly suspect that all is not what it seems.

Indeed, blatant biocentric question-begging and equivocation is not at all what it seems, and the three step interpretation helps us understand exactly why not. Look again at Goodpaster's passage, and at the exact sequence of his thoughts. Early on, the passage is basically descriptive. All we see are seemingly obvious, observable facts about what things have what effects on the survival of a tree. Soon after, though, the passage becomes clearly evaluational, and suddenly we learn that a tree obviously has survival *interests*. What happened? The culprit, I believe, is the word 'needs': it is our axiological stowaway. When Goodpaster allows it onboard, he does so because he thinks of it as a mere descriptive aid. Once he does this, though, Goodpaster immediately begins to sense the distinct normative effect of having that axiological stowaway already onboard. Goodpaster is not assuming what he is trying to prove; he is simply accepting out loud what he has accepted without realizing.

Similarly, look again at Rolston's disappearing scare quotes, and again, pay particular attention to the exact sequence of his thoughts. Notice, Rolston does not start off with the quoted claims. Rather, he starts off with purely descriptive claims, explores and then tolerates the *addition* of the quoted claims, and only then goes on to drop the quotes. At step two, something seems to need to be--and to somehow *get*--accomplished, but what? Again, behold the axiological stowaway. When Rolston presents the quoted concepts, he lures us into tacitly accepting something about them that we actually should

not: that the concepts would add genuine empirical content to our descriptions of plants, *if* we could only legitimately employ them. From this, we find ourselves deducing that we *can* legitimately employ these concepts, on the *grounds* that they add genuine empirical content to our descriptions of plants. Rolston does not illegitimately *drop* his quotes. On the contrary, he misportrays them in the first place, passing them off as harmless, temporary visas, but utilizing them as full blown passports. Later, when he discards them, he does so for the same reason that any smuggler discards an already used, illegitimate passport: because it has already served its entire purpose.[9] Again, three steps instead of two gives us a world of charitable insight, and this is an excellent reason to adopt it.

THE TWO COUNTER-INTUITIVE IMPLICATIONS

Why does it matter that we identify three steps instead of two? It matters because being able to count one step *extra* also means being able to finally pay careful attention one step *earlier*. When we do this, we notice that biocentrism comes laced--at least for anyone even remotely sympathetic with non-sentientist intuitions more generally--with two highly counter-intuitive normative implications. Let us identify and examine these implications carefully, and see just what theoretical creature biocentrists have been tracking.

LIFE-SUPPORT

The first implication is what I shall call the *life-support* implication. If we have obligations to plants in virtue of the axiological fact that it is good if they flourish, then it would seem that we would obviously have two kinds of obligation toward plants: an obligation not to harm them (i.e. an obligation not to frustrate their flourishing); and an

obligation to help them (i.e. an obligation to actively promote their flourishing). We should not, for example, deprive a plant of the water or sunlight that it would otherwise get, but we should also--and for the very same underlying reason--give water or sunlight to a plant that will otherwise not get any. Building greenhouses around plants, isolating them from or curing them of disease, and setting up artificial irrigation systems and even artificial grow lights for them all become obligatory because all these things make it easier for plants to function properly and have their interests met. For the biocentrist, a world in which we inoculate, prop up, space, fertilize, water, and shed electric light upon more and more plants has to be a morally better and better world.

For anyone even remotely inclined to be a non-sentientist, though, this just does not seem right. In fact, going into wild forests or jungles and setting up massive greenhouse operations seems not just morally uncalled for but a moral travesty. It is not even that some other moral consideration trumps the otherwise commendable act of putting plants on life-support: it is that life-support for plants seems misguided and wrong, just in itself.

One might insist that there are obvious complications that explain why life-support for plants is uncalled for. For instance, one might argue that plant life-support is wrong because it is ultimately more harmful than helpful to plants. Yes, the life-support would allow certain plant interests to be met, but only at the cost of knocking ecosystems significantly out of balance, which ultimately would be very harmful to plants. One might also argue that plant life-support is wrong because it prevents advanced or specialized traits from forming under natural selection. Life-support might help some plants now, but in the future, when the life-support breaks down or stops being built,

plants would die off in unnaturally great numbers because they would be unfit to survive on their own. And one might argue that the cost would be unjustified. It is not that we have no life-support obligation toward plants. It is just that other obligations tend to trump it.

None of these responses can succeed because they all rely on plant life-support being imperfect in some way. The problem, though, is that even if the life-support's ecological and evolutionary impact were perfectly compensated for, and even if it could be set up permanently and with absolutely no moral or economic cost, it would still be not only non-obligatory but wrong to set it up. Rescuing and propping up plants that would otherwise die naturally is not sometimes or even often wrong: it is always wrong.

I believe that the life-support implication actually highlights a fundamental asymmetry in our non-sentientist obligations, an asymmetry that biocentrism cannot even begin to accommodate. This asymmetry has to do with the distinction between negative and positive actions. With sentient beings we clearly have two duties: we are obligated (negatively) to avoid causing suffering, but we are also obligated (positively) to alleviate suffering. With non-sentient beings, we only have one obligation: the negative obligation to avoid causing harm.[10] Positively preventing harms is not only not morally required, put inappropriately meddlesome.[11] If non-sentient entities have interests, and moral standing specifically in virtue of those interests, then the pattern in our obligations to them should obviously mirror the pattern in our obligations to people and animals. Obviously, and tellingly, they do not.

If you remain unconvinced, and still believe that plant life-support is at least acceptable, and perhaps even obligatory, then ask yourself this: which plants are you

thinking of, and in what ways are human beings already complicit in the harms that now threaten them? For many of us, *house*, *garden*, and *greenhouse* plants seem to make acceptable and perhaps even mandatory candidates for our life-supporting help, but what exactly does this tell us? Aside from the obvious green thumb bias of their owners, these particular plants have something in common: they are all potential victims of already instigated anthropogenic harms. When we water or fertilize domesticated plants, we are not *helping* them. On the contrary, we are preventing our past, domesticating actions from *killing* them. By taking them out of the wild, or by seeding them in captivity, we set plants up to die as the result of what we have already done--*unless*, of course, we do even more to mitigate the potential harmfulness of what we have already done. The duty to not harm a plant is really a duty to harm it as little as possible, and this is exactly the duty that green thumbs misinterpret as a duty to help. And we can *tell* that this is the case because no green thumb gets caught smuggling watering cans or fertilizer pellets into a wilderness preserve.[12]

ARTIFACTS

The second implication is what I shall call the *artifacts* implication. If our biocentric duties are rooted in two, logically prior facts, the fact that plants *can* flourish and the fact that it is *good if they do*, then it seems that we would have to have biocentric duties even to *artefactual* plants. If we ever create genetically or even mechanically engineered plants that are descriptively and even reproductively just like ordinary plants, and if we ever turn these plants loose on the world and allow them to grow, reproduce, and even evolve naturally just like ordinary plants, then three conclusions seem unavoidable for the biocentrist: that these artefactual plants would be capable of

flourishing; that it would be good if they did; and that we would be obligated to promote this good. In the end, seeing three steps instead of two means establishing moral standing not just for the plants that we *find* in the natural world, but also--and just as much--for the ones that we *add*.

For anyone even remotely sympathetic to non-sentientism, this again seems plainly incorrect. Even if we do not want to say that artefactual organisms with short evolutionary histories would have *no* moral standing, they clearly would have less than natural organisms. Even when a natural organism is mutated--either adaptively or not--so that it has fewer identifiable teleological features than some relatively similar artefactual organism, it is clear that the artefactual organism still merits far less moral consideration. To even compare the moral status of natural and artificial life is highly counter-intuitive, but this is exactly what biocentrists must do because the artificial life forms that I describe have all the same teleological properties, and so presumably all the same axiological relevance, that natural ones do. Again, biocentrism seems off track.

There are several ways one might try to avoid or deflect this implication, but none succeed. In fact, some traditional favorites are even cut off in advance. It is no help, for instance, to link interests exclusively to beings with *etiological* biological functions, because the artefactual organisms we are considering *have* etiological biological functions.[13] Certainly our creating them is an interesting and distinctive part of their history, but they have biological functions for the same reason that ordinary plants have them: because they have genetically transmitted traits that were advantageous to their ancestors.

Another favorite is to insist that artifacts, by definition, never have functions or interests of their own, but only reflect the intentions or interests of their creators.[14] This response is cut off too, not even just because artefactual life *can* have all of the teleological properties that natural life can, but because artefactual life can be created for little or even no reason at all. It need not serve any of our interests, and it need not be given any function by us whatsoever. We might bring a reproducing life form into existence, either from scratch or by rearranging DNA, for the very simple purpose of seeing if it can be done, or even for no reason at all.[15] If we ever do, the organisms, especially as the species ages and evolves naturally, will gradually become as teleological as any other, and will qualify for biological functions and interests just as much. Artifacts do not necessarily inherit any purpose from their creators: they simply *have* creators. As a result, their teleological properties can be just like the teleological properties of any natural organism.

Another route that a biocentrist might take, and one that Taylor and Varner do in fact take, is to insist that non-existent, merely conceived of entities cannot have any ramifications for our normative theories right now in the actual world because in order to have ramifications entities need to actually exist. Taylor takes this route when he admits that scientists might one day construct machines that have "a good of their own independently of the purposes of their creators."[16] His answer is to insist, even if this ever happens, that "another system of ethics might have to be applied to the treatment of such entities by moral agents."[17] Varner takes it when he acknowledges that "it is possible that researchers will one day create a complete complement of DNA ex nihilo,"[18] but then drops the subject by pointing out that "all currently foreseeable DNA

research"[19] merely meddles or splices existing DNA. As I have argued at length elsewhere,[20] these responses are problematic because considerations of non-existent, merely possibly entities clearly *are* morally relevant. They provide us with important information, right here and now, about our actual moral convictions. In this case, considerations of living artifacts help us realize that biocentrism is obviously flawed, because living artifacts--if there were any--obviously would *have* to, and obviously would *not*, merit just as much moral consideration as natural organisms. We do not require actual living artifacts in order to know that biocentrism is problematic in this way; their mere possibility is enough.

As a last resort, a biocentrist might even try to avoid the artifacts problem by insisting on some minimum species age restriction, or some minimum number of successive generations, but this too is no help. Even if deciding on some minimum of either sort were not hopelessly arbitrary, minimums of either sort will not help anyway. We know this because an advantageously but naturally mutated species of tree, even if the species is very young, obviously has moral standing in a way that even a very old but artefactual species of tree would not. Age and generation count simply do not matter, and setting up restrictions along these lines does nothing.

I believe that the artifacts implication also highlights a fundamental asymmetry in our non-sentientist obligations, one that biocentrism again cannot even begin to accommodate. This time the asymmetry has to do with the distinction between historical conditionality and historical unconditionality. With sentient beings, our obligations to alleviate and not cause suffering are *unconditional*: they apply (at least *prima facie*) wherever sentience exists. With non-sentient beings, our obligation to not cause harm, in

addition to being just one and not two obligations, is also *conditional*: it applies only (or at least especially) to beings that have natural origins, and not at all (or at least hardly) to beings with artefactual origins. In other words, sentience is morally relevant regardless of how it came to exist, and teleology is not. Again, if non-sentient entities have interests, and moral standing specifically because of this, then our obligations to non-sentient entities should be just as unconditional as our obligations to people and animals. Just as before, they obviously and tellingly are not.

THE LESSON

Our lesson from all of this is clear: regardless of what we think of non-sentientism, biocentrism cannot be its theoretical basis. Let us finally back away from this theoretical decoy, that we may pursue more promising leads.[21]

NOTES

[1] Many biocentrists would object here to the use, and especially to the exclusive use, of the term 'interests.' According to Paul W. Taylor, for instance, plants have goods of their own but no interests, goods of their own "because it makes sense to speak of their being benefited or harmed," but no interests "because they are not interested in, do not care about, what happens to them" (Paul W. Taylor, *Respect for Nature: A Theory of Environmental Ethics*, Princeton: Princeton University Press, 1986, 63). Unlike Warren Neill, I have no intention of treating Taylor "as if he wishes to attribute interests to nonsentient organisms" (Warren Neill, "An Emotocentric Theory of Interests," *Environmental Ethics* 20, 1998: 170). On the contrary, and strictly for brevity's sake, I am stipulating a useful, umbrella term.

[2] A rather ironic example of someone who has given up on non-sentientism as the result of giving up on biocentrism is Gary Varner. Though all of Varner's published work on the subject--including everything of his cited in this article--presents him as a convinced biocentrist, Varner now confesses, at least in personal communications, that he has recently abandoned biocentrism--*and* non-sentientism with it.

[3] Though a large volume of biocentrist writings could be quoted to support this interpretation, I think it is uncontroversial enough that the two most obvious sources will suffice. Robin Attfield has been claiming for decades that even if we establish "that trees can be harmed in their own right, and have a 'sake' for which acts can be performed, and interests and needs of their own," this still does not show us "that trees are of value in their own right, have rights, or ought to be shown consideration" (*Environmental Philosophy: Principles and Prospects*, Brookfield: Avebury, 1994, 160). Similarly, Gary

Varner has spent years telling us that even if we manage to establish that "plants have needs in some sense that artifacts do not," and even if we manage to "specify, in a nonarbitrary way, what these needs are," we would still need to show "that the needs in question are morally significant" (*In Nature's Interests? Interests, Animal Rights, and Environmental Ethics*, New York: Oxford University Press, 1998, 64). Attfield and Varner have both recently agreed, via personal correspondence, that the two step interpretation is the standard one, and since they know the literature (both sympathetic *and* hostile) better than anyone, I will leave it at that. For additional endorsements, see Nicholas Agar, *Life's Intrinsic Value: Science, Ethics, and Nature* (New York: Columbia University Press, 2001); John O'Neill, "The Varieties of Intrinsic Value," *The Monist* 75 (1992): 119-37; Joel Feinberg, "The Rights of Animals and Unborn Generations," in *Philosophy and Environmental Crisis*, ed. William Blackstone (Athens: University of Georgia Press, 1974), 43-68; and Peter Singer, *Practical Ethics* (Cambridge: Cambridge University Press, 1979).

[4] Kenneth Goodpaster, "On Being Morally Considerable," *Journal of Philosophy* 75 (1978): 319.

[5] Kenneth Goodpaster, 316.

[6] For other discussions of biocentric question-begging, and of Goodpaster's question-begging in particular, see Gary Varner, 72-73; and Warren Neill, 167-68.

[7] Holmes Rolston III, *Environmental Ethics: Duties to and Values in the Natural World* (Philadelphia: Temple University Press, 1988), 98-99.

[8] Holmes Rolston III, 98-101.

[9] For excellent supportive evidence of this interpretation, consider, in Holmes Rolston III, "Nature, the Genesis of Value, and Human Understanding," *Environmental Values* 6 (1997): 361-64, the following, telltale remark: "I do not use 'defend' or 'information' as though I had never read a biology book. A genetic 'code' and 'coping' may be metaphorical but they are getting at something literal" (362).

[10] By harm, I only mean that which reduces an entity's current propensity for survival. I intend it as a purely descriptive term.

[11] The only time that it may seem required is when we are obligated to prevent specifically human-caused harms, but in those cases we are not actually required, or trying, to prevent harms; we are simply required, and attempting, to enforce our first obligation, which is not to cause harm in the first place. For instance, we ought to prevent the clear-cutting of a forest, not because we ought to help the trees or save them from being harmed generally, but more specifically because it is wrong for human beings to harm trees, and wrong to stand by and allow human beings to do wrong things. When a forest undergoes natural harms instead, for instance during a drought, a mid-summer snowstorm, or an infestation, the trees may be harmed just as much, but it is clear in these cases that the harm should not be prevented.

Many would argue that the reason why we should not interfere with these natural events is because the devastation is actually in countless organisms' interest, including, often, the organisms who seem most devastated. Fire, for instance, frustrates many non-sentient interests, but it also promotes many others. I believe there are many problems with this line, but regardless we can easily sidestep it by considering truly atypical natural events whose overall destructive impact is clear, and for which a given set of plants truly

is not adapted or prepared. For instance, the (natural) invasion of a destructive alien species, the onset of a maladaptive disease that entirely wipes out a species, or the eruption of a volcano that kills an entire valley are all starkly destructive natural events that we still ought not to prevent.

[12] One might argue that we do not help wild plants because we also have a duty to respect wilderness, a duty that (often) trumps our duty to help plants. I argue elsewhere (_____ REFERENCE OMITTED _____), and will only briefly mention here, that our intuition about the value of wilderness is really just the flip-side of our mistaken intuition that plants have interests of their own. In each case, and in curiously opposite ways, we smell but entirely mis-track the true theoretical basis of non-sentitentism.

[13] Gary Varner believes that he fully rids himself of the artifacts implication in just this way (Gary Varner, 68-70). What he fails to realize is that artifacts need not be such simple, non-etiological targets.

[14] Paul W. Taylor makes this claim in his *Respect for Nature*, 123-24.

[15] It might be argued that we have already created artefactual life, or at least partially artefactual life, without meaning to or even realizing it. For instance, by introducing ddt into the environment as a pesticide, we created a situation in which new species of ddt-immune flies replaced older, non-immune species. These flies clearly do not have functions in virtue of the purposes we intended them to have because we did not even intend for them to exist, let alone have any particular purpose. We do not need to wait for future feats of engineering or bio-engineering to see that artefactual life can have

comparatively lesser moral standing even though it has genuine biological functions: to greater and greater degrees, the future has arguably been upon us for some time.

[16] Paul W. Taylor, 125.

[17] Paul W. Taylor, 125.

[18] Gary Varner, 70.

[19] Gary Varner, 70.

[20] _____ REFERENCE OMITTED _____.

[21] For more on what I take our most promising course-correction to be, see _____ REFERENCE OMITTED _____.