5-31-2011

Does Foot Have a Leg to Stand On?: A Dilemma for an Attempt to Ground Evaluative Judgment in Biological Teleology

Emalee Popoff
University of Missouri-St. Louis, epopoff1@gmail.com

Does Foot Have a Leg to Stand On?: A Dilemma for an Attempt to Ground Evaluative Judgment in Biological Teleology

Emalee Popoff
B.S., Physics, Virginia Polytechnic Institute and State University, 2009

A Thesis Submitted to the Graduate School at the University of Missouri-St. Louis in partial fulfillment of the requirements for the degree
Master of Arts in Philosophy

August 2011

Advisory Committee

Berit Brogaard, Ph.D.
Chairperson

Eric Wiland, Ph.D.

John Brunero, Ph.D.

Abstract

In *Natural Goodness*, Philippa Foot aims to give an account of goodness and badness in action in terms of natural goodness and defect. In this paper I argue that Foot's account of natural goodness fails as an attempt to ground the evaluation of living things in their life forms, even before its extension to moral evaluation. Foot's overall project depends on her characterization of a life form, and she gives an account of life forms in terms of a theory of biological teleology. Teleological propositions, for Foot, give an answer to the question "What part does it play in the life cycle of things of the species S?" Foot's biological teleology holds that the features and behaviors of nonhuman organisms are all aimed at the ends of characteristic development, self-maintenance, and reproduction. However, there are alternative theories of biological teleology from an evolutionary perspective. From this perspective, germ-line gene replication is the end towards which the functions of living things are aimed. I argue that given the fact that Foot's teleology is not the only available theory, she faces a dilemma. She may either hold that her account is preferable biologically speaking, and that teleological notions in evolutionary biology are mistaken, or she may hold that her account of teleology is compatible with those in biology since each is concerned with very different tasks. Along with William FitzPatrick, I call the former the "exclusive approach," and the latter the "complementary approach." I argue that the exclusive approach fails on biological grounds. Against the complementary approach, I focus on worries about the ways Foot might understand the life form and life cycle if her teleology is not taken as a theory drawing on empirical science. I find that neither an exclusive approach nor a complementary approach will yield a theory of teleology sufficient for defending Foot's claims about the basis of natural evaluation.

Does Foot Have a Leg to Stand On?: A Dilemma for an Attempt to Ground Evaluative Judgment in Biological Teleology

I. Introduction

In *Natural Goodness*, Philippa Foot's task is to isolate a particular logical category of evaluation and argue that moral evaluation falls under this category. She aims to give an account of goodness and badness in action, and she does this by relating it to what she calls natural goodness. Natural goodness is attributable only to living things and their features, and is "intrinsic" in that it does not depend on the needs or interests of members of any other species. It depends only on the relation of an individual to its life form.[1] Foot argues that moral evaluation and the evaluation of nonhuman organisms in relation to their life forms share a logical structure. She makes this argument by first giving an account of natural goodness and defect in plants and nonhuman animals. She then extends this account, with relevant modification, to human action. The only difference between the account of evaluation of nonhuman organisms and humans is the characterization of their life cycles. For plants and animals, the life cycle consists roughly in self-maintenance and reproduction. For humans, the life cycle also includes practical rationality.

I will argue that Foot's account of natural goodness fails as an attempt to ground the evaluation of living things in natural fact, even before its extension to moral evaluation. Much of Foot's overall project depends on her characterization of a life form and of the life cycles of organisms. Without a principled explanation of the life form and life cycle, Foot's account of natural evaluation can support almost

[1] Foot, Thompson and others often use the term 'species' when they mean it in the special sense of 'life form,' and in order to avoid confusion with the biological notion of a species I will stick to life form, especially since I will later consider some biological examples.

any claims about goodness and badness. This is because the norms according to which one judges an individual are derived from claims about life cycle of its life form. Since the life cycle is the foundation for her argument, the things Foot has to say about the activities that count as a life form's life cycle are crucial to her overall project.

Foot gives an account of life cycles in terms of a theory of biological teleology. Teleological propositions, for Foot, give an answer to the question "What part does it play in the life cycle of things of the species S?"[2] Foot's account of biological teleology holds that the features and behaviors of nonhuman organisms are all aimed at the ends of characteristic development, self-maintenance, and reproduction. But here one might start to worry about the view. There are alternative theories of biological teleology from an evolutionary perspective.[3] From this perspective germ-line gene replication is the end towards which the functions of living things are aimed. Evolutionary theories of teleology will certainly not yield accounts of evaluation suitable for extension to moral philosophy. One reason to think that evolution-based teleology will not yield an acceptable account of moral evaluation is that a tendency to neglect or mistreat step-children, for example, may have been an adaptation advantageous to the promotion of gene replication. Evaluating attentive and loving step-parents as morally defective is clearly unsatisfactory. To save her account of natural goodness, Foot rejects evolutionarily informed teleology.

---

[2] Foot 32
[3] FitzPatrick 229

I will argue that Foot faces a dilemma, since her teleology is not the only available theory. She may either claim that her account is preferable biologically speaking, and that teleological notions in evolutionary biology are mistaken, or she may claim that her account of teleology is compatible with those in biology since each is concerned with very different tasks. Along with FitzPatrick, I call the former the "exclusive approach," and the latter the "complementary approach."[4]

I will argue that the exclusive approach fails on biological grounds. First, I will argue that Foot's teleology cannot distinguish the genuine ends of features of organisms from mere effects. I will discuss some biological examples from FitzPatrick demonstrating that this is the case. These examples include dominance hierarchies in elephant seals, parasitic flukes in snails, and the clutch size of swifts in resource-deprived environments. Foot's teleology's arbitrary focus on a subset of teleological fact is the basis for another argument against the exclusive approach. Since evolutionary informed teleological theories can explain more teleological facts than can Foot's, these theories are preferable to hers.

Against the complementary approach, I will focus on worries about the ways Foot might understand the life form and life cycle if her teleology is not taken as a theory competing with empirical science. I will suggest two options that seem plausible, and argue that neither will save Foot's account as a theory of natural goodness grounded in natural fact. The first option is to understand life form-typical good as either the life cycle itself, or as success in the life cycle. This option fails, I argue, because such an understanding either relies on something normative

[4] FitzPatrick 186

or an implausible account of what is good for a life form. The second option I consider is that Foot looks to Michael Thompson to give an account of life form-typical good. This option fails because Foot has made claims that reach beyond Thompson's account in crucial ways. These extensions make Thompson's analysis of life form incompatible with Foot's understanding of natural goodness.

In the end, I find that neither an exclusive approach nor a complementary approach will yield a theory of teleology sufficient for defending Foot's claims about the basis of natural evaluation. And since her investigation fails even before it is extended to discuss the vastly more complicated case of the evaluation of human action, the prospects for Foot's overall project do not look good. I focus on the notion of a life form and that of a characteristic life cycle as the crucial elements of Foot's theory, and argue that these concepts just cannot do the work that Foot's account of natural goodness requires.

II. Foot's Biological Teleology

As previously discussed, Foot's project is to ground evaluative judgment in comparisons between individual living things and their life forms. Her overarching goal is to achieve an account that works for the moral evaluation of human agents. She works at this by extending the structure she develops for the case of plants and nonhuman animals and applying it to people. Since I will be arguing that her account of evaluative judgment fails even before its extension to the human case, I will summarize here how Foot grounds evaluative judgments of plants and nonhuman animals.

First, the goodness Foot is seeking to account for is 'natural goodness.' Natural goodness is the intrinsic, autonomous goodness that is attributable only to living things themselves. The natural goodness and defect of living things is to be contrasted with goodness and defect in artifacts and other nonliving things, and has "nothing to do with the needs or wants of the members of any other species of living thing."[5] On Foot's view, the relation of a living individual to its species is a sufficient condition for the existence of natural goodness and defect.

Foot's account of objective, natural evaluation starts from Thompson's analysis of Aristotelian categoricals. Thompson notices that there is a form of judgment that appropriately applies only to living things. One often hears statements like "the bobcat breeds in spring," or "the domestic cat has four legs."[6] He takes these statements, or Aristotelian categoricals, to have as "their canonical expression sentences of the form 'The S is (or has, or does) F'."[7] Having targeted these expressions, he proceeds to argue that the Aristotelian categorical is a distinct logical form of judgment.[8]

Thompson argues that the Aristotelian categorical cannot be reduced to some other logical form of generalization by considering and ruling out plausible reductions. "The S if F" cannot be reduced to "All S's are F" since "cats are four legged," is true even if poor Tibbles only has three.[9] "Most S's are F" fares no better as a reduction, since, "although 'the mayfly' breeds shortly before dying, *most*

---

[5] Foot 26
[6] Thompson 63
[7] Thompson 64
[8] Thompson 48
[9] Foot 28

mayflies die long before breeding."[10] And both Foot and Thompson argue that the Aristotelian categorical "the S is F" captures something more than just the thought that "some S's are F," even if it is true that this thought is entailed by the Aristotelian categorical.[11] I will come back to the thought that Aristotelian categoricals say more than that some S's are F when I discuss Foot's argument against this.

Satisfied that he has picked out a distinct form of judgment, Thompson goes on to explain life-related concepts in terms of Aristotelian categoricals. He argues that the concepts of life, life form, organism, life process, etc. can be explicated in terms of a logical form of judgment. This logical form of judgment is an *a priori* category of judgment. Of particular interest to Foot is the concept of a life form. A life form is defined as whatever can be conceived through a concept that is fit to be the subject of an Aristotelian categorical.[12] Thompson argues that "it is not a merely empirical fact, given that there are any organisms, that they fall under the particular items we were calling 'life forms'."[13] This is because in order to form an Aristotelian categorical, one must already represent the life form. Any judgment of some organism as alive presupposes the existence of its life form, and so the life form is not discovered through empirical investigation.

Foot strays from Thompson's account. She emphasizes the teleological element in the life cycles of organisms. Genuine Aristotelian categoricals, for Foot, must allow for answers to the teleological questions "What part does it play in the life cycle of things of the species S?," "What is its function?," or "What good does it

---

[10] Thompson 68
[11] Foot 28
[12] Thompson 48
[13] Thompson 67

do?."[14] She claims that the functions of traits and parts of plants and nonhuman animals are all aimed, directly or indirectly, at an organism's characteristic development, self-maintenance, and reproduction. This is because, at least for a plant or nonhuman animal, the life cycle consists in these activities. What counts as part of the life cycle of a life form is "that which is causally and teleologically related to it."[15] So, for Foot, the functions of traits and parts of organisms are all related to the ends of development, self-maintenance, and reproduction. For example, "there is an Aristotelian categorical about the species *peacock* to the effect that the male peacock displays his brilliant tail *in order to* attract a female during the mating season. The display serves this purpose."[16]

The overall structure of Foot's foundation for the evaluation of individuals is this:

1. Life forms have characteristic successful life cycles. In plants and animals, these life cycles consist in activities promoting development, self-maintenance, and reproduction.
2. There is a set of Aristotelian categoricals for each life form stating how, for that life form, the life cycle is achieved.
3. From these Aristotelian categoricals, one can derive norms that apply to the members of a life form.
4. Then, by applying these norms to individuals, one can evaluate the individual with respect to its life form.

Step 1 is related to an organism's *good*. An organism's good, for Foot, consists in success in a life cycle. By following this structure, Foot argues, one can reason from judgments about what is good for a life form to judgments about the goodness of a particular individual as a member of that life form.

---

[14] Foot 32
[15] Foot 31
[16] Foot 31

Foot maintains that she has shown, through this structure, that the norms used to evaluate individuals "have been explained in terms of *facts* about things belonging to the natural world."[17] She claims that the natural facts grounding the explanation are facts about the life cycles of organisms. Any discussion of fact immediately raises the question of how they are determined. One possible reading may seem to suggest that Foot has empirical study in mind. For example, an empirical investigation will show that the brightly colored tails of male peacocks play a role in their characteristic reproduction.

There is, however, some complication here. Foot, like Thompson, claims that statistical generalization and empirical study are not the basis of Aristotelian categoricals. There is some basis for an Aristotelian categorical judging, for example, that cats are four-legged even after some horrible villain has removed one leg from most cats on Earth. Foot discusses two arguments explaining why it is that employing an Aristotelian categorical "S's are F" is to do more than merely assert that some S's are F. First, she adverts to Thompson. Thompson argues that the basis for Aristotelian categoricals is the natural history of the life form. Since, in the natural history of cats, they characteristically have four legs, cats are four-legged. Secondly, she claims that Aristotelian categoricals are based on the teleology of a life form, while statistical generalizations are not. An Aristotelian categorical stating that cats are four-legged says not only that some cats are four-legged, but also that it matters to the self-maintenance and reproduction of cats that they have four legs.

---

[17] Foot 36

In this section, I have summarized the parts of Thompson's analysis of life and life form that are the basis of Foot's account of natural goodness. I have also argued that although she starts from Thompson's general framework, Foot claims that connecting Aristotelian categoricals to evaluative judgment requires going further than Thompson. Both Thompson and Foot claim that evaluative judgment is the product of the comparison of an individual organism to an Aristotelian categorical about its life form. Genuine Aristotelian categoricals for Foot, however, are only those judgments that have to do, directly or indirectly, with self-maintenance, development, or the reproduction of the individual. Foot thus narrows Thompson's view about what counts as 'the life' characteristic of a certain life form.

III. The Dilemma

My main concern with Foot's project is how to characterize the life cycles of particular life forms. It is crucial for Foot's account of the evaluation of individuals that she be able to give some principled explanation of the inclusion and exclusion of features and behaviors of organisms as parts of their life cycles. A principled explanation is required because the life cycle is supposed to act as the basis from which norms are derived. She claims that what plays a part in the life cycle of a life form is "that which is causally and teleologically related to it," and she has suggested a biological teleology for plants and nonhuman animals concerned with organism-level development, self-maintenance, and reproduction.[18]

[18] Foot 31

It is impossible to ignore, however, that Foot's biological teleology is not the only one on the scene. Neo-Darwinian accounts of teleology based on gene propagation through generations seem to have a strong foothold, at least in the biological sciences. This fact suggests that Foot is faced with a dilemma, where she may take one of two approaches: the exclusive approach or the complementary approach. Taking the exclusive approach would amount to claiming that her own account of organism-level teleology is the only correct one. This puts her view in direct competition with neo-Darwinian teleological notions. Taking the complementary approach, on the other hand, would be "to insist that there are two different kinds of natural teleology associated with living things."[19] The complementary approach maintains that while biologists correctly employ neo-Darwinian teleological concepts, organisms also admit of an entirely separate, but equally objective, teleology.

In setting up my criticism of Foot as a dilemma, I hope to be able to canvass the assortment of problems her account may face. And since *Natural Goodness* covers biological teleology very generally and in just twenty-five pages, Foot leaves some room for speculation about her likely response to more specific questions. The dilemma format, I hope, will allow me to investigate a broad range of Foot's possible positions on the specific issues and, in doing this, come to see the most plausible responses available to her. Alas, I will argue in the end that even the most plausible answers I find to questions posed to Foot about biological teleology and the life cycles of organisms leave something to be desired.

---

[19] FitzPatrick 186

Responses to Foot in the literature seem to fall into one of two clusters: They either assume that Foot has the exclusive approach in mind, and that objections from evolutionary biology are therefore warranted, or that Foot has the complementary approach in mind, and that therefore the philosophers in the first cluster are gravely mistaken.[20] The second group is, as far as I can tell, much smaller. Arguments from the first cluster make up an essential part of the literature criticizing Foot, and I will discuss what I consider to be the most persuasive arguments against the exclusive approach. I find that consideration of these arguments against the exclusive approach is important to a comprehensive understanding of Foot's position. In the end, given that one wants to apply the most charitable interpretation possible, the most these arguments can accomplish is to point out reasons to think that Foot must actually have the complementary approach in mind. So, I will also present some worries for the complementary approach. In either case, I will argue that Foot cannot provide a satisfactory account of the life cycles of organisms, and that as a consequence her attempt at a foundation for evaluation fails.

IV. Problems for the Exclusive Approach

One line of argument against Foot's account of teleology comes from the perspective of evolutionary biology. Arguments of this type assume that Foot means to give an account of teleology that is in direct competition with those in evolutionary biology, and that she is therefore taking what I have called the

[20] For examples of the first group, see FitzPatrick, Woodcock, and Copp and Sobel. For the second group, see Hacker-Wright.

exclusive approach. I will discuss two of what I consider to be the most persuasive of this line.

First, FitzPatrick argues that an approach to biological teleology focused on the success of individuals is motivated by the claim that only such an approach can distinguish genuine ends from mere effects.[21] He argues that his system-based biological teleology gives a principled way to determine which functions and ends may correctly be attributed to an organism. The system-based account serves as an attractive alternative to Foot's theory because it can distinguish between ends and mere effects. FitzPatrick also argues that Foot's account cannot deal with certain cases. Three biological examples including the clutch size of swifts, dominance hierarchies in elephant seals, and parasitic flukes in snails help FitzPatrick demonstrate his point. Aside from failing to provide intuitive answers in these particular cases, Foot's ahistorical account is problematic for three reasons. First, there is no longer any principled reason to think that organism-level welfare is the most relevant. Second, teleological judgments cannot count as explanatory of the traits in question. Third, it becomes difficult if not impossible to determine why various ends are weighted as they are.

The second argument I consider claims that Foot is just focusing on a special subset of the teleological facts, namely, those facts that also happen to increase characteristic organism-level welfare. But if this is the case, and an evolutionarily informed approach to teleology can explain all the facts, then Foot's account should

[21] FitzPatrick 187

be rejected. These two arguments demonstrate the problems Foot's teleology faces if she takes the exclusive approach.

Consider first the example of dominance hierarchies in elephant seals. Male elephant seals fight in bloody battles in order to gain exclusive access to reproductive females.[22] Once a male has been defeated in a battle, he surrenders to the dominant male. Female elephant seals refuse to reproduce with all but the dominant male. Because this fighting is a characteristic part of elephant seal life, Foot can plausibly be assumed to count dominance hierarchies as part of the life cycle of elephant seals. Given this, we can ask what the function of the dominance hierarchy is.

One answer open to Foot, suggests FitzPatrick, is that it "is how they keep intra-group fighting to a minimum…thereby avoiding a great deal of injury and living more flourishing lives, perhaps even living longer and having more offspring."[23] On its face, this answer does well since it makes the good of dominance hierarchies dependent on their effects on the lives of individuals. The group-level effect of dominance hierarchies has a genuine function which is, on this Foot-inspired view, to support the survival and reproduction of the individual.

However, this interpretation of the function of dominance hierarchies is in tension with the most plausible evolutionary explanation. From the evolutionary point of view, dominance hierarchies likely have no function at all. They are merely group-level side effects of the gene-propagation behavior of individuals. The group-level effect sprang up as a result of the differential genetic consequences of the

[22] FitzPatrick 72
[23] FitzPatrick 203

behavioral traits that led some elephant seals to fight for control of a harem but subordinate themselves if beaten. FitzPatrick argues that Foot's account gives the wrong result in the case of elephant seals—"the benefit appealed to is not an end functionally served by the dominance hierarchy, but just a side-effect of behaviors that are manifested for very different reasons, and it explains nothing."[24] If one is not convinced by this example that Foot's account attributes a function to a trait that is a mere side effect, FitzPatrick also discusses parasitic flukes and their host snails.

The flukes live inside a species of snail, and manipulate the snail's shell-secreting cells. Parasitized snails are forced by the flukes to divert resources to build thicker shells. In being parasitized, the snails become less optimal gene replicators. For example, it may be the case that snails with thicker shells are less able to reproduce as often or as successfully as unparasitized snails. What FitzPatrick finds interesting about this case, however, is that although the parasites make the snail deviate from its characteristic life and reproduction, it is also true that the individual snail itself benefits at least in one way from the parasite. The thicker shells of parasitized snails make it more likely that they will survive longer, and so perhaps be better off. On Foot's view, then, the function of the parasite is improvement in snail life span. However, thicker shells and an improved snail life span are clearly mere side-effects of the activity of the parasite. This example is to be contrasted with cases of genuine symbiosis, where the reason for which certain behaviors between two species have been retained by evolution is their beneficial effect (or lack of negative effect) on the gene propagation of both species. In cases of

[24] FitzPatrick 204

genuine symbiosis, it is plausible to say that a *function* of each member's contribution is to make its partner better off and, in turn, make itself better off.

Perhaps the most convincing of FitzPatrick's examples against Foot's teleology is the reduction of the clutch size of swifts from 3 to 2 eggs in environments where food is scarce. He considers the case where it is assumed that environmental resources are not so scarce that the swift simply cannot produce 3 eggs rather than 2, but where some kind of "birth control" method is in place.[25] Foot, in keeping with her ahistorical attribution of functions, might say that the function of the "birth control" method is clearly to manage resources in times of scarcity, or that this is how swifts, as members of their life form, meet their need to conserve resources. The idea is that this cooperative behavior would be explained in much the same way as cooperative hunting in wolves or the dances of honeybees. If cooperative resource management is the function of clutch size reduction, then a swift who did not reduce clutch size in the appropriate environments would be defective.

FitzPatrick considers two possible evolutionary explanations of this "birth control" method, and asks how these two explanations might affect Foot's attribution of resource conservation as its function. First, the "birth control" method may have evolved through group selection, since a cooperative reduction in clutch size in times of scarcity makes it less likely that the group will exhaust its resources. Second, the "birth control" method may have evolved to maximize

[25] FitzPatrick 194

personal reproduction, since a reduction in clutch size may be necessary to optimally distribute scarce resources among the individual's offspring.

FitzPatrick argues that either one of these evolutionary explanations is plausible and that study of the causal history of this behavior is required to determine which is correct. If the first evolutionary story is correct, Foot's claim that function of the "birth control" is cooperative resource conservation is right. In this case, she would correctly evaluate a non-cooperative swift as defective. However, if the second evolutionary story turns out to be correct, then the "birth control" is a competitive reproductive strategy whose function is to maximize viable offspring. In that case, a swift that could successfully have 3 eggs instead of 2, even in environments with scarce resources, would not be defective at all. FitzPatrick's point is that, without looking to the evolutionary history, there is no way for Foot to tell which teleological account is correct. This matters because, with the wrong teleological account, Foot evaluates the behavior of swifts as defective when it is not. So, the history of a trait is important to its teleology, even when we are considering what is part of the life cycle of a life form.

FitzPatrick argues, through the examples discussed above, that Foot's ahistorical account cannot distinguish genuine functions and ends from mere effects. There are several reasons to worry about the exclusive approach to a teleology that does not look to the causal history of a life form. The first is related to the level at which benefit matters.[26] Although Foot holds that only characteristic organism-level success in survival and reproduction is genuinely teleological, on an

[26] FitzPatrick 198, Copp and Sobel 536

ahistorical account success at other levels seems to be equally important. In rejecting that the causal history of a life form plays a role in determining the functions and ends of its features, Foot seems to lose any principled reason for insisting on organism-level teleology. Benefits to the maintenance and propagation of a species, genus, local herd, or the ecosystem might also be the genuine ends toward which features of organisms are aimed, given some properly configured group selection hypothesis. On the other hand, an account of teleology informed by evolutionary biology can explain at which level the benefit of a feature matters by pointing to factors in its causal history.

Second, functional teleological judgment might be understood as a certain kind of explanation.[27] Teleology without the capacity to distinguish ends from mere effects cannot provide genuine explanations of the traits and features in question. Or, where it does provide a genuine explanation, this is entirely accidental. For example, Foot's ahistorical account might seem to work in certain cases, as when we explain the male peacock's having brilliant feathers by their contribution to helping it attract a mate. But "why do snails harbor flukes?" is not explained in the relevant sense by pointing out that they increase shell thickness, since harboring parasitic flukes does not contribute to the snail's characteristic survival or reproduction. Genuine teleological explanation seems to depend on there being some principled way to determine which effects are the result of functions, and which are mere side-effects. Without a method for making this distinction, Foot's teleological judgments are not explanatory in the way one would expect.

---

[27] FitzPatrick 199

A third reason to worry about an exclusive approach to Foot's ahistorical teleology is that not only does it fail to distinguish ends from effects, but also it cannot explain the hierarchy of a life form's ends. FitzPatrick raises questions like 'why does personal survival count less than the survival of siblings in one species but more in another?' and 'why does reproduction always count more than survival?' As Foot recognizes, some organisms promote the survival and reproduction of their kin or even members of other species. But these behaviors are weighted in different ways in different life forms. [28]

> In some species, for example, an individual will easily give up its life to help a sibling, whereas in others this would happen only in comparatively rare circumstances, indicating that the two ends (i.e. personal survival and sibling survival) have different priorities in the teleological structures of the two species.

Foot could appeal to the different ways of life of the life forms to explain these differences. But these ways of life are taken as given and fail to explain the inner structure of ends within the life cycle. Only an appeal to history could begin to say anything about why it is that certain ends are subordinated to others in a life form. This structure, FitzPatrick argues, "is a normative matter, not simply a matter of what actually happens for the most part, and is central to any real understanding of the teleological facts. It is thus very unsatisfying for an account of function to have nothing to say about this."[29]

Another line of argument, aside from the worries that Foot's teleology cannot satisfactorily account for the difference between genuine ends and mere effects, is that Foot's teleology accounts for just a subset of all the teleological facts. This objection amounts to rejecting the claim that Foot's teleology exhausts the

[28] FitzPatrick 208
[29] FitzPatrick 209

teleological facts. An approach to teleology where the only genuine teleological facts are those that have to do directly or indirectly with organism-level survival and reproduction, it is argued, is less desirable than a theory that can explain all the possible teleological facts. Copp and Sobel argue that[30]

> there might be several competing standards for evaluating the natural goodness of members of a given kind of living thing, even taking into consideration that we seek a standard of evaluating them as members of that kind rather than in terms of how well they serve the interests of some other living thing.

Perhaps, for animals, an evaluation of their natural goodness should be in terms of their pleasure or lack of pain, for example. Organisms, even nonhuman organisms, engage in activities not centered on their survival and reproduction. The worry is that a focus on survival and reproduction just cannot be justified. Also, Foot's account might be thought to ignore the end of gene replication. At the same time, an evolutionarily informed account of teleology that takes gene replication to be the ultimate end of organisms can account for these functions as well as the functions related to organism-level survival and reproduction. So, FitzPatrick argues, we should reject Foot's teleology in favor of an evolutionary account.[31]

In this section, I have focused on arguments that have force against Foot's teleology if she takes the first horn of my dilemma, the exclusive approach. The first of these arguments centers around the claim that Foot's ahistorical teleology, by focusing solely on organism-level survival and reproduction, cannot adequately distinguish between genuine ends and mere effects in certain cases. FitzPatrick argues for this claim by considering three biological examples where he finds that Foot's account does not yield the results it should. Foot's account either attributes a

[30] Copp and Sobel 534
[31] FitzPatrick 192

function to traits that he wants to say do not have one, or does not attribute a function to traits that do. Not being able to distinguish ends and functions from mere effects makes it impossible to determine whether organism-level benefits are what really matters for teleology, makes it the case that teleological judgments cannot be explanatory, and makes it difficult to explain why a life form's ends are structured the way they are. I also discussed the argument claiming that since evolutionarily informed accounts can deal with the teleological facts with which Foot is concerned and also with others, evolutionary accounts of teleology are preferable to Foot's. These two lines of argument seem devastating against an ahistorical exclusive approach to biological teleology. In themselves, these arguments are not conclusive against Foot since she may also have the complementary approach in mind. In the next section, I will argue that there are reasons to think that even the complementary approach cannot save Foot's biological teleology.

V. Problems for the Complementary Approach

In the last section, I considered arguments aimed against a reading of Foot in which she takes her teleology to be in competition with teleological notions in evolutionary biology. I argued that these problems are devastating for the exclusive approach. In this section, I will move on to consider the consequences for Foot's view if she takes the complementary approach. Even if Foot takes herself to be presenting a view of teleological concepts compatible with those found in evolutionary biology, her account faces some serious problems.

Much of the literature against Foot's account focuses on biological examples, demonstrating that many hold that Foot must be taking the exclusive approach.[32] However, there is good evidence that Foot in fact had something more like the complementary approach in mind. First, given that evolutionary counter-examples are so numerous and persuasive, it is uncharitable to think that Foot really had the exclusive approach in mind. Also, it is obvious that Foot was well aware of the general principles of contemporary evolutionary biology. Embracing the exclusive approach makes Foot look painfully old-fashioned, scientifically speaking. Not to mention that Foot makes it explicit that she does not have an evolutionary or historically-focused teleology in mind in two footnotes:

> It is imperative that the word 'function' as used here is not confused with its use in evolutionary biology…To say that some feature of a living thing is an adaptation is to place it in the history of a species. To say that it has a function is to say that it has a certain place in the life of the individuals that belong to that species at a certain time.[33]

> We are not then interpreting it as a historical question, as 'proper function' is interpreted, for instance, by Ruth Millikan in *Language, Thought, and Other Biological Categories,* chapter 1, and as 'function' would generally be interpreted in evolutionary biology. As David Wiggins says in Postscript 4 in *Needs, Values, Truth,* 353, 'we really need to describe what morality *has become*, a question on which evolutionary theory casts no particular light.[34]

So, although much has been written arguing that Foot's account is untenable scientifically speaking, she probably means to be working at a task distinct from the tasks of evolutionary biologists.

Foot can avoid problems for the exclusive approach by maintaining an approach where the teleological concepts associated with organism-level self-maintenance and reproduction are taken to be separate from those employed in evolutionary biology. Specifically, it now seems as though Foot can

---

[32] FitzPatrick, Copp and Sobel, and Woodcock, for example.
[33] Foot, Note 10, Pg. 32
[34] Foot, Note 1, Pg. 40

unproblematically argue from life form-typical good to the evaluative goodness of individuals. Starting from notions of characteristic successful life cycles, defined by some standard set apart from evolutionary biology, one can reach judgments about evaluative natural goodness or defect. The problem now, however, is that unless Foot can give a positive naturalistic account of life form-typical good, the foundation for evaluative judgment may seem to beg the question. For Foot may have given a foundation for evaluative judgment based not on natural facts, but rather on explicitly normative ones. Also, even if Foot is able to give some plausible naturalistic analysis of life form-typical good, one might still worry whether this analysis itself is influenced by her prior normative commitments. Foot must find some objective ground on which to base her claims about life form-typical good. And when empirical science has been wholly rejected, this seems a difficult task indeed.

Unfortunately, *Natural Goodness* has left it to us to find some plausible objective understanding of life form-typical good. In what follows, I will propose two possibilities. As far as I can tell, these are the best and most likely options. I will go on to argue that neither of these options can really save Foot's natural evaluative judgment. Since I cannot pretend to have imagined every possible response, I admit that perhaps some better account of objective life-form typical good could save Foot. However, I take it that by making explicit what an account of life form-typical good would have to be like in order to save natural goodness, I will be revealing something important. The two options I will consider are: first, a straightforward understanding of life form-typical good in terms of success in

individual development, self-maintenance, and reproduction; and second, an understanding founded on Thompson's 'definition' of life form.

Option 1: Life form-typical good= the life cycle= characteristic development, self-maintenance, and reproduction

Foot's first option is a straightforward one. She might say something like "since for plants and animals, a life form's life cycle is its characteristic development, self maintenance, and reproduction, success in these ventures is success in the life cycle. And clearly a successful life is good for members of a life form."[35] This would amount to a definition of life form-typical good as success in the life cycle, where what counts as part of the life cycle of a plant or animal is its characteristic survival and reproduction. In taking this approach, Foot would get what seems to be a plausible claim—that a successful life is good for a life form. But she would get it at the cost of sneaking normativity into what was supposed to be a basis in natural fact.

One might try to cash "success" out in terms of some non-normative notion. But clearly, Foot could not have straightforward maximization of reproduction and longevity in mind as success in a life cycle, since maximal reproduction and longevity would go beyond a life form's *characteristic* activities. The success Foot would have in mind would have to be relative to the organism's characteristic life processes. But even this idea is problematic, since perhaps an organism could find a

[35] Micah Lott goes with an interpretation like this: "The goodness of parts and activities in a living thing is determined by their role in enabling the organism to realize the characteristic…good of its kind of life."

way to increase its reproduction or longevity in a non-characteristic way. However, it is unclear that this would be a defect in the organism in every case, as it would have to be on Foot's view.[36]

Since defining life form-typical good in terms of success seems to defeat the purpose of providing a non-normative foundation for natural goodness, perhaps Foot could give another definition. Another possibility is that Foot means that life form-typical good is simply the life form's life cycle. This avoids the problem of sneaking some normative notion into the definition. Defining life form-typical good as the life cycle is a view somewhat closer to Thompson's account, as I will discuss below. However, since Foot holds that the life cycle consists in survival and reproduction, it is no longer really clear why we should think that survival and reproduction exhaust the possibilities for life form-typical good. Foot has not given an argument ruling out pleasure, to give just one example. And she cannot be merely stipulating a definition since she relies on the objectivity of the evaluative claims she reaches through life form-typical good. It seems then, that the straightforward definition of life form-typical good is one of two things: either a plausible definition that helps itself to normative terms, or a less than plausible definition that does not. The best way to understand the first step of Foot's foundation for evaluative goodness probably is not the straightforward approach I have just suggested. Next, I will discuss what Foot's account might amount to if she relied on the things that Thompson has to say about life forms and good.

---

[36] Copp and Sobel 539

Option 2: Life form-typical good= the set of Aristotelian categoricals

As I discussed in Section II, Foot's account started from Thompson's description of the logically distinct form of judgment about life, the Aristotelian categorical. Because of this, it might seem as though Foot may want to look to Thompson to define life form-typical good. For Thompson, life related concepts are explicated in terms of Aristotelian categoricals. From this point of view, a life form's typical good is defined as the set of true Aristotelian categoricals about that life form. Since, according to Thompson, Aristotelian categoricals are natural facts, Foot would thus have the objective ground for life form-typical good that she needs.

Discussing whether or not Thompson's project is successful would take me far beyond the scope of this project. So, as interesting as it is, I will set this question aside. Here, my goal is to show that because of the ways in which Foot's account differs from Thompson's, arguments that may or may not be successful for Thompson will certainly not work for Foot. In pointing out the places where Thompson and Foot differ I hope to show that Foot's natural goodness cannot be saved by a simple nod in Thompson's direction.

One possible worry about an appeal to Thompson is that, although Foot claims to be appealing to natural facts in order to ground evaluative judgment, Aristotelian categoricals may not turn out to be natural facts on Thompson's view.[37] For Thompson, the notion of a life form is *a priori* and, therefore, Aristotelian categoricals constitute a logical form of judgment distinct from the logical form of Fregean generalizations. One might worry that facts given by two distinct logical

[37] "In any case, the norms that we have been talking about so far have been explained in terms of *facts* about things belonging to the natural world." Foot 36

forms of judgment cannot both count as natural, especially since the role the *a priori* nature of the concept 'life form' plays in the characterization of Aristotelian categoricals is unclear. Specifically, one might wonder about whether particular life form concepts, such as "domestic cat," must also be *a priori* on Thompson's view. Although the content expressed by ordinary judgments and Aristotelian categoricals is the same, according to Thompson, the form of judgment is different. Because of this, one might think that the kind of fact expressed is therefore different. But since facts like "pennies are round" and "domestic cats harbor fleas" are paradigmatic natural facts, it might appear that "domestic cats have four legs," as an Aristotelian categorical, is a non-natural fact. I will not pretend that the appearance is decisive, however. Nevertheless, I think this might point to some important difference between the two accounts, and for now I will settle for flagging the potential worry. If it turns out that on Thompson's account, Aristotelian categoricals are clear natural facts, then so much the better for Foot.

Another reason to think that Foot's reliance on natural facts is a break from Thompson's account is that Thompson sometimes talks as though life forms are concepts we impose on the world, rather than ones we read from it. For example, Thompson says "I think our question should not be: what is a life-form, a species, a *psuche*?, but: how is such a thing described,"[38] and also that the "attempt to produce a natural history…expresses one's *interpretation* or *understanding* of the life-form shared by the members of that class."[39] Foot's project of grounding evaluative

[38] Thompson 62
[39] Thompson 73

judgments in straightforward natural facts is clearly not supported by Thompson's emphasis on the logical.

I argued in Section II that Foot's teleology breaks away from Thompson's work in specifying the development, self-maintenance, and reproduction of organisms as *the* ends towards which life processes are aimed. I will take this argument up again here. First, while Thompson is silent about the range of Aristotelian categoricals, Foot narrows this range to include only those judgments having to do directly or indirectly with self-maintenance, development, and reproduction. A central example from Foot claims that a blue tit lacking a spot is not defective because the spot does not contribute to its life cycle.[40] But this example seems in tension with Thompson's casual mention of the crests of crested birds as clear parts of their life cycles, since he mentions them without any expectation that these crests must be useful for survival or reproduction.[41] Thompson leaves his account of life form open to the fact that organisms and their lives can be different with regard to things other than how they survive and reproduce. In fact, Thompson seems to reject that survival and reproduction have a special place in the understanding of living things since he rejects them as criteria for determining whether something is alive: "It is enough that the thing should exhibit *any* vital process or operation—why should reproduction and 'homeostasis' in particular be among them."[42]

---

[40] Foot 33
[41] Thompson 66
[42] Thompson 52

Foot also uses Thompson's account of life form to do work he never intends it to do. Her account relies on the fact that we can at least make some useful judgments about how creatures fall under life forms. She discusses examples that imply that she thinks that deer, peacocks, oaks, and humans each have their own life form. But Thompson holds that "the thin category [of life form] must leave many questions of sameness and difference of life form unsettled."[43] An approach such as Thompson's, where "it is only by supplying a further, perhaps empirically warranted, specification of the bare concept of a life form and the form of judgment in which we represent it, that we can get clear answers to such questions" will not make a good basis for a teleology that was supposed to be entirely distinct from empirical questions in biology.[44] Foot cannot both accept some help from evolutionary biology in specifying life forms and, by taking the complementary approach, claim that her account is entirely distinct. This is a third reason that a nod to Thompson will fail as an attempt to find a naturalistic definition of life form-typical good.

Since he thinks that the life form he has 'defined' is such a thin concept, Thompson himself expresses worries about arguments to ground evaluation directly in them. He claims that we may get a standard for natural goodness and defect from Aristotelian categoricals, but that[45]

> this conception is so unnaturally broad that it would take in, say, losing aspects of an individual creature's environment. It is rather a notion of something's being wrong in connection with the organism than the narrower notion of something's being wrong with it.

[43] Thompson 59
[44] Thompson 66
[45] Thompson 80

I have argued that Foot must find some positive account of life form-typical good that is both objective and natural in order to be said to successfully ground evaluative judgment in natural fact. Appeal to Thompson's definition of life form cannot serve as the robust kind of basis that Foot needs since her account has made claims that are inconsistent with Thompson's theory. Since Thompson focuses on the logical form of Aristotelian categoricals and does not specify self-maintenance and reproduction as the ultimate ends of the features of organisms, Foot cannot rely on his account of life form-typical good.

I have argued in this section that the complementary approach cannot save Foot's natural goodness. First, I gave reasons to think that Foot would probably take the complementary approach over the exclusive approach. If she takes the complementary approach, Foot can unproblematically reach notions of evaluative goodness starting from life form-typical good. The worry is that she cannot give an adequate account of life form-typical good.

I considered two possible ways that Foot could understand life form-typical good. The first seemed straightforward, but it turned out that this account yielded either an implausible definition or one that explicitly relied on a normative notion. The second possibility I suggested was using Thompson's analysis of life form to find a definition of life form-typical good. But Thompson's analysis will not work because Foot's account of life form departs from Thompson's in important ways. In this section, I have not been able to find a solution to the problems for the complementary approach, despite my best efforts. In fact, a satisfying solution to the problem of defining life form-typical good does not seem likely. Thus, I have

argued that Foot's natural teleology fails when taken as a rival to teleological concepts informed by evolutionary biology as well as when it is taken as a distinct theory completely compatible with an evolutionary account of teleology. The complementary approach, it seems, cannot save Foot's natural foundation for evaluative goodness.

VI. Conclusion

In *Natural Goodness*, Philippa Foot aims to give an account of goodness and badness in action by showing that it is a subset of the natural goodness that depends on the relation of an individual to its life form. Foot argues that moral evaluation and the evaluation of nonhuman organisms in relation to their life forms share a logical structure. First she gives an account of natural goodness and defect as it relates to plants and nonhuman animals. Then she extends this account to human action, claiming that the only difference between the account of evaluation of nonhuman organisms and humans is that for humans, their life cycles include practical rationality as a central part.

Here, I have argued that Foot's account of natural goodness fails as an attempt to ground the evaluation of living things in natural fact, even before its extension to moral evaluation. Foot's project depends on her characterization of a life form and of the life cycles of organisms. Since Foot does not supply a principled explanation of the life form and life cycle in *Natural Goodness*, her account of natural evaluation could perhaps support almost any claims about goodness and badness. I have attempted to provide some interpretations of what Foot likely had in mind in

relying on the life cycles of organisms, in order to find whether these interpretations yield theories compatible with her characterization of moral evaluation. Since the life cycle is the foundation of her argument, Foot must have something to say about the activities that count as a life form's life cycle.

Foot provides an account of life cycles in terms of a theory of biological teleology. Foot's account of biological teleology holds that the features and behaviors of nonhuman organisms are all aimed at the ends of characteristic development, self-maintenance, and reproduction, but there are alternative theories of biological teleology concerned with evolution.[46] From the evolutionary perspective, germ-line gene replication is the end towards which the functions of living things are aimed. Foot rejects evolutionarily informed teleology.

I have argued that Foot's account of teleology faces a dilemma. She may either take the exclusive approach or the complementary approach. I have found that the exclusive approach fails on biological grounds. First, Foot's teleology cannot distinguish the genuine ends of features of organisms from mere effects. I have discussed some biological examples, including the dominance hierarchies in elephant seals, parasitic flukes in snails, and the clutch size of swifts in resource-deprived environments. Another argument against the exclusive approach is that Foot's teleology arbitrarily focuses on just some of the available teleological facts. Since, it is argued, evolutionarily informed teleological theories can explain all of the teleological facts, they are preferable to Foot's.

---

[46] FitzPatrick 229

Against the complementary approach, I have focused on worries about the ways Foot might understand the life form and life cycle if her teleology is not taken as a theory drawing on empirical science. I suggested two options and argued that neither can save Foot's bridge between natural goodness and natural fact. The first option is to understand life form-typical good as either the life cycle itself, or as success in the life cycle. This option fails because it either relies on something explicitly normative or on an unacceptable assumption about what is an organism's good. The second option I have considered is that Foot looks to Thompson to give an account of life form-typical good. I have suggested that this option fails because Foot has made claims that reach beyond Thompson's account in crucial ways. I have argued that these extensions make Thompson's analysis of life form incompatible with Foot's understanding of natural goodness. Some of these arguments depended on a particular worry for Thompson, namely that he must think that particular life form concepts are non-empirical. Unfortunately, I was unable in this work to delve deeper into this problem, and I have left it for the future to reach a final verdict along these lines. However the details of the differences between Thompson's and Foot's account turn out, the main idea seems clear enough: Foot's account attempts to do more than Thompson's does, and is thus on shakier ground.

Neither an exclusive approach nor a complementary approach seem to yield a theory of teleology sufficient for defending Foot's claims about the basis of natural evaluation. Since her investigation fails even before it is extended to discuss the vastly more complicated case of the evaluation of human action, the worry runs all the way to Foot's account of moral evaluation. I argued that the notion of a life form

and that of a characteristic life cycle are the crucial elements in Foot's theory. I have found that, under any interpretation, these concepts cannot do the work that Foot's account of natural goodness requires. In my opinion, Foot's attempt to bridge the gulf between natural facts and moral ones has not quite succeeded.

Works Cited

Copp, David and David Sobel. "Morality and Virtue: An Assessment of Some Recent Work in Virtue Ethics." *Ethics,* Vol. 114, No. 3. 2004. pp. 514-554

FitzPatrick, William J. *Teleology and the Norms of Nature.* Robert Nozick (ed.) New York: Garland Publishing, Inc., 2000.

Foot, Philippa. *Natural Goodness.* New York: Oxford University Press, 2001.

Hacker-Wright, John. "What is Natural About Foot's Ethical Naturalism?" *Ratio* XXII. 2009. pp. 308-321.

Lott, Micah. "Have Elephant Seals Refuted Aristotle?: Nature, Function, and Moral Goodness. Forthcoming in the *Journal of Moral Philosophy*.

Thompson, Michael. *Life and Action: Elementary Structures of Practice and Practical Thought.* Cambridge, MA: Harvard University Press, 2008.

Woodcock, Scott. "Philippa Foot's Virtue Ethics Has an Achilles' Heel." *Dialogue XLV*. 2006. pp. 445-468