Reply to Adams, Donovan, and Gaard and Gruen

Kathryn Paxton George

Marianne seemed much struck. . . . “Four months!— and yet you loved him!”—“Yes. But I did not love only him.” (Jane Austen, Sense and Sensibility [(1811) 1990])

I HAVE ASKED a question, and the answer I give is unorthodox. Each of those who here disagrees with my answer attacks my moral character and then claims that my arguments are suspect. In ethics, the assumption seems to be that an “immoral” opponent can have nothing correct to say. But if my moral character is deficient, my actions are to be judged good or bad on the basis of independent considerations, that is, on arguments about whether ethical vegetarianism is required or the vegan ideal is to be admired. Simple assertions, unsupported claims, and ad feminum appeals do not advance resolution of the issues. Fortunately, some of my critics have made efforts to read the research and to respond to my arguments with arguments of their own; some of their complaints about some issues I could not cover in my Signs article (1994c) are important concerns. I shall answer these.

My critics’ arguments still do not undermine my philosophical conclusion that the ethical vegetarian ideal discriminates against children, women, the aged, and those in economically less well off classes and environmentally nonindustrialized circumstances. To demonstrate that claim, I first will review in skeletal form the argument of my “Should Feminists Be Vegetarians?” To an extent, the critics’ comments indicate a need for greater clarity on my part. Therefore, I have restated the argument in alternative but essentially equivalent phrasing in hopes of elucidating the connections of ideas that forced me to the conclusion I reach. Then, I shall restate the critics’ charges against my arguments. Finally, I shall explain why their charges do not stand up to scrutiny. I shall leave it to readers to decide about my character.

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The question I address in my article is more completely phrased, "Should feminists be vegetarians on moral grounds?" My argument in answer to that question blends factual considerations and certain value assumptions. Facts should not be considered "value-free," but when properly supported, facts are not wholly value-dependent either. Among the facts:

A1. Scientific inquiry shows that the bodies of women, in general, differ significantly from the bodies of men in their requirements for key vitamins and minerals, particularly iron, calcium, zinc, vitamin B₁₂, and vitamin D.¹ Moreover, these differences vary with a woman's reproductive status, age, and health (National Research Council 1989; Institute of Medicine 1990, 1991).

A2. Likewise, research shows that the bodies of children and the old differ from those of adults (Jacobs and Dwyer 1988; National Research Council 1989; Dwyer 1993a).

A3. Some significant differences in genetic inheritance of some lines of humans ("races" and ethnicities) have been detected that affect absorption of these and other key nutrients (Patlak 1993).

A4. Whole foods are the best sources for obtaining key nutrients (Wardlaw and Insel 1993).

A5. Vegan and lacto-ovovegetarian diets are safe in industrialized contexts because of food abundance, variety, availability and fortification; unsupplemented vegan and vegetarian diets bar significant sources of iron, calcium, zinc, vitamin D and B₁₂ nutrients from availability through the diet, as shown by case presentations and studies of vegan and vegetarian children and women on such unsupplemented diets (Dwyer 1991; Dwyer and Loew 1994).

A6. Supplements are partially effective in replacing nutrients not available in the diet and in relieving and preventing vitamin and mineral

¹ Vitamin D is manufactured by the body on exposure to ultraviolet light, and the vitamin D requirement can be met if the skin is adequately exposed to sunlight or artificial ultraviolet light of the correct wavelength (National Research Council 1989). Latitude, season, skin pigmentation, age, general health, and cultural practices affect vitamin D synthesis. Smith reports that "winter sunlight in northern latitudes is useless for the production of vitamin D. . . . Thus, in Boston (at 42° North. . . ) exposure of the skin to such sunlight as exists will not result in any synthesis of vitamin D from between about 1st November to 1st March, and in Glasgow (56° North. . . ) matters must be far worse" (1990, 900). Women in some cultures cover nearly every part of their bodies even in warm weather; the aged and the ill often spend nearly all of their time indoors. People with darker skin need much longer exposures to light to get the same degree of synthesis as those with lighter skin (Clemens et al. 1982). With aging, the capacity for skin synthesis of vitamin D declines, and Webb, Kline, and Holick 1988 report that "the capacity of skin to synthesize vitamin D₃ in the elderly is approximately half that of young people" (also cited in National Research Council 1989). Because so many factors interact to limit skin synthesis of vitamin D, nutritionists consider vitamin D "an essential dietary nutrient" (National Research Council 1989; italics added).
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deficiencies, but pills are not adequate substitutes for food (Council on Scientific Affairs, American Medical Association 1987). (More extensive citations to support these factual claims appear in George 1994a, 1994b.)

Some assumptions or premises are “mixed” in that the claim has a more significant value component than those labeled as “factual.” Among the mixed claims:

A7.  Properly constructed studies of persons with apparent nutritional deficiencies help humans to understand the natural processes of vitamin and mineral uptake.

A8. Where dietary intake is similar, if some groups, such as children or women, consistently exhibit deficiencies, whereas other groups do not, this pattern is evidence for physiological differences in minimum daily requirements between or among the groups.

A9. Reports in clinical nutrition show more deficiencies among children than adults and in women than in men, where between the groups diets are similar; these groups are sometimes referred to as “nutritionally vulnerable”; research shows that adult males between the ages of twenty and fifty living in industrialized countries have the fewest nutritional problems on vegan and vegetarian diets (Dwyer and Loew 1994).

Value assumptions stated in my article:

A10. Discrimination based on age or gender is wrongful and immoral; young bodies are not morally more ideal than older bodies; male bodies are not morally more ideal than female bodies (prima facie).2

A11. Requiring, by strength of moral prohibition (on any acceptable theory, traditional or feminist), some persons of female, young, or older body type to bear greater moral and/or health burdens than persons of adult male body type is unfair and discriminatory (prima facie).

A12. Virtually all feminist and traditional moral arguments for ethical vegetarianism assume that the bodies of women and men, the young and the old, are physiologically so similar that any differences in nutritional vulnerability among the groups is negligible for health and morality.

A13. The vegan ideal is the view that vegan and vegetarian ways of life are morally better than ways of life where meat and animal products are consumed; but the vegan ideal requires a complex, industrialized technology of agriculture and food science that is inconsistent with environmental and ecofeminist concerns.

2 The claim is not axiomatically prima facie. Good arguments and good reasons can be given to support this claim and the one following but are not given here.
A14. Granting excuses or exceptions to women, children, and those of classes unable or less able to live as ethical vegetarians relegates them to inferior moral status by nature. From the above statements one can see that a moral prescription to adopt vegan or even lacto-ovovegetarian diets violates assumptions A10 and A11 if the claims A1–A9 and A12 are true, and we have good reason to think that they are. Thus, the support for ethical vegetarianism is undermined.

Therefore, anyone who is apprised of these claims and assents to them and still believes ethical vegetarianism is required, whether on traditional or feminist grounds, must reject assumptions A10 and A11. But a traditionalist cannot reject these assumptions because to do so would be to reject the central canons of equity and impartiality upon which their most important theories (rights or utilitarianism) are built. Feminists cannot reject assumptions A10 and A11 because caring about and affirming the equal value of having a female body or having a child’s body are central canons of all feminist ethics; feminists must object to any ethic that places greater moral and health burdens on women and children than it does on adult males.

The charges against my arguments are, in brief:
C1. The nutritional studies cited are biased.
C2. The nutritional studies cited are in dispute.
C3. Other ecofeminist reasons argue for ethical vegetarianism; my arguments support consumerist excess.
C4. Animal-based diets include many risks; vegetarian diets are healthful.
C5. My arguments commit the “naturalistic fallacy.”
C6. The definition of vegetarian used is incorrect.
C7. No feminists argue for universal ethical vegetarianism; my interpretation of Regan and Singer is incorrect, and feminists do not base their claims on these traditional theories.
C8. My discussion of feminist ethical theory is incomplete, and my arguments do not include the political implications of food distribution, race, and class.

Although other objections appear, I hope that my response to the above will redeem the others.

The most decisive attack on my argument would show that one or more of its premises are false. Examining the above statements shows that A1, A2, A3, and A4 are virtually unassailable because so much factual evidence has been accumulated over the last century to support them. Let us assume that no one wishes to abrogate A10 or A11—or at least that you and I do not. Statements A7 and A8 are foundational assumptions in nutrition research. Below I provide an explanation of how a study should be “properly constructed” to minimize bias. Aside
from examining the studies cited for proper design, I have accepted these assumptions pragmatically; the critics present no objections to these assumptions. Statements A5, A6, A9, A12, A13, and A14 remain, and those who are critical of my arguments attack part or all of one or more of these six statements. Nearly all critics herein claim that the factual aspects of assumptions A5, A6, and A9 are false or so biased as to be false, that A13 is implicitly false, and that A12 is true but not objectionable because vegan and vegetarian diets are safe. Statement A14 seems to be addressed only tangentially, if at all.

Criticisn C1. Carol Adams (1995) appears to be saying that all nutritional research is tainted by a Cartesian, male-dominated worldview; therefore, all conclusions drawn from scientific studies are unreliable. Alternatively, she could be making the weaker claim that only the research I presented in my article is biased in this way. As she presents no reason for supposing that any of the researchers or any particular or general study design held any special male bias or other bias, I conclude she is making the former, stronger claim. But if she indicts all nutritional research, then she has no generalizable scientific knowledge about nutrition at all. In other words, if she cannot trust science to assure her that some groups are nutritionally vulnerable and require extra care, then she also cannot trust science to assure her that vegan diets are safe in any context. She could still claim that one has a duty to be an ethical vegetarian. One possible ground would be pacifism founded on faith that such a commitment is right no matter what the facts may be.

Greta Gaard and Lori Gruen (1995) and probably Adams also bring up another kind of bias: feminist philosophers of science (Sandra Harding, Evelyn Fox Keller, Donna Haraway, and others) have shown that the perspective and values of women have been omitted from the structure of science. Exigencies of space did not permit me to address the question at issue in the context of feminist philosophies of science, but concern about perspective and values are central to my argument (see in particular George 1994c, 425). As Gaard and Gruen point out, male bias can enter scientific research on the levels of who will conduct the research, who will be studied, the formulation of questions for study, assessing the adequacy of methods, and the interpretation of data. Notwithstanding any complaints about scientific research in general, good reasons exist to think that some types of nutritional research tend toward a more feminist, feminine, or womanly approach to science. First, much of the research on deficiencies has been done by women on women and children (see reference list in George 1994c, and the bibliographies of the nutritional re-

3 Other subsidiary assumptions and arguments appear in the article. I invite interested interlocutors to discover them and critique them.
views cited). Second, most of these women researchers are senior scientists who have designed their own studies based on their own questions; they are responsible for assessing the methods and interpreting the data. By contrast, studies on the benefits of vegetarian diets (i.e., reduction in mortality from coronary and ischemic heart disease, lower cancer rates, lower blood pressure; see Dwyer 1988) have largely been done on males by male scientists, and I have argued that these are unfairly biased in assuming that women (and children) will benefit equally (423–24).

Bias may remain in the hierarchy of science, but would that be sufficient to negate all findings of observed deficiencies in infants, gestating and lactating women, and other groups? It would not. Although women studying women would not absolutely guarantee escaping a Cartesian scientific paradigm, two more considerations argue for a reduction in such bias. First, feminists have argued that womanly ways of knowing and judging the world differ from the more typically masculine ways (see Harding 1991). These womanly scientists would be at least as unlikely to leave their unique interests and ways of knowing outside the lab as masculinist scientists would be to leave their predominant worldview outside. Second, and most important, one should distinguish a philosophy of science from the aims of scientific method in study design. To say that science is prey to a Cartesian dualism is to claim that it operates under a false philosophy of science. The bias thus introduced differs from what might be introduced by a faulty study design. Because of prevailing philosophical, cultural, social, political, and scientific paradigms, all studies are likely to be subjectively biased, some worse than others. Can we say that all nutrition research is so biased by such paradigms that it has nothing true to tell us? No. And the critics here present no evidence to support such a claim.

Objectionable or prejudicial bias could enter through study design. Procedures used to minimize bias in clinical studies are of relatively recent origin in the history of science. Some procedures are specifically adopted to minimize prejudice. In The Mismeasure of Man, Stephen Jay Gould (1981) relates that the method of “blind” examination of material for testing was not necessarily standard in the early twentieth century. Robert Bennett Bean was an influential American craniometrist whose main claim was that blacks, women, and those of the “lower classes” are genetically less intelligent than white males, based on comparative brain measurements. In 1906, Bean published his data. Aside from the faulty assumption of direct relation between such measurements and intelligence, Gould shows that Bean subtly manipulated his data to get the

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4 In this context blind has an enabling connotation and a technical meaning; using such a study design enables the scientist to minimize any prejudices she may have; for those who find the metaphor offensive, I regret that alternative terms are not available.
result he expected to prove. In 1909, Franklin Mall repeated Bean's study, making "sure that he [Mall] did not know which brains were from blacks and which from whites until after he had measured them" (Gould 1981, 80; italics in original). Mall found no differences among the blacks and the whites.5

The primary aims of study design are to rule out bias as far as possible and to discover causal relationships among events in the world. Some designs yield better reliability than others (Giere 1991; Royall 1991; see Dwyer and Loew 1994 for review of areas of bias in nutritional study design). Their relative reliability, from most to least, is as follows: (1) double-blind trials, (2) blind trials, (3) prospective studies, and (4) retrospective studies.6 All good studies should include a control group. The first three types also use randomized processes to select and assign subjects to the experimental or control groups. Random selection of subjects for study attempts to assure that the researcher is not getting a group of people or things that exhibits the phenomenon in question more often than a larger sample would. If a hypothesis has been tested and confirmed in study after study, then a causal relationship is highly probable, even if a few experiments do not confirm the hypothesis (see Copi and Cohen 1990; and Giere 1991). In human clinical testing, ethical considerations often preclude doing the most reliable types of studies (Royall 1991). So prospective and retrospective studies are used, and many more corroborative reports and large samples increase the reliability of the results.

In their reports, scientists always review similar studies because a hypothesis can only be tested in context. Review reports (such as Dwyer 1991) are often published to give scientists (and educated others) a sense of everything that has been done recently that is thought to contribute to knowledge about the problem. Reviews can be a good place for nonscientists to look for a summary of the most current evidence about any particular problem, but nonspecialists should realize their professional

5 See also Reid 1975 for a discussion of bias in Bean's work.

6 "A study is blind if the subjects cannot tell whether they are in the experimental or control group. . . . A study is called double-blind if the experimenters making the diagnosis are also kept in the dark about which subjects are in which group" (Giere 1991, 253–54). Subjects in the control group are typically given placebos (pills or procedures to match what is done to the experimental group) so that in every outward way each group is treated the same. Studies should be randomized. The study group is chosen from a random sample of the whole population of interest, and the sample members are, in turn, randomly assigned to the experimental group or to the control group (Giere 1991, 227). Randomization to each group is so standard that it is sometimes assumed in reports and may not be mentioned. It is usually reasonable to assume random assignment to one group or the other, but it is always important to look for a control group. Other kinds of reports are published that are not studies, such as anecdotal reports (single-instance case notes), reviews of the literature, meta-analyses pooling data from several studies. Because of the likelihood of confounding factors, meta-analyses have low reliability, but they are sometimes used to propose a new hypothesis or buttress an old one so that further study may be encouraged.
limitations. Every scientific discipline relies on specialized testing procedures, each of which has its own relative reliability. For instance, nutrition studies rely on excretion studies of specific minerals such as calcium (in urine) and iron (in blood loss); reports of daily food intakes over a specific time period; the use of radiography, spectroscopy, and other instruments that measure the uptake of vitamins and minerals into the body; and many other procedures, all offering different confidence levels for belief. Attempting to analyze the meaning of particular studies without a thorough acquaintance with the methodological pitfalls of testing procedures in a particular study area or without an understanding of the historical context of the studies can lead the untrained reader into false assumptions and conclusions.  

The media often make much of single studies that demonstrate simple correlations with the tag that "further testing is required." Further confirmation is needed to see whether the occurrence together of two events is significantly greater than what could be expected by chance. Innumerable events occur together, some of which are coincidental and some of which are causally related. Even in causal relations, interactions and intervening steps may mask the determining cause. For moral arguments, a person must know the facts before she can take the right action. One must be reasonably certain that A causes (or does not cause) B. Requiring people to take moral action on the basis of sheer speculation, simple correlation, anecdotal reports, poorly constructed studies, one or two disconfirming reports in the face of other substantial confirmation, or hypothesis alone would often require taking contradictory and even harmful actions. Past actions based on false correlations include burning witches and using various kinds of "snake oil."

Paying attention to study design does not guarantee a value-free, bias-free study. The design is intended to minimize bias. When scientific evidence conflicts, as it often does, readers should study the conflicting reports for the reliability of the methods used, the construction of the experimental group, the presence of confounding factors, the likelihood

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7 For this reason I have had my scientific claims in nutrition read and assessed for accuracy by three different nutritionists.

8 Giere 1991 gives the examples that lung cancer is highly correlated with the use of ashtrays; if correlation were as good as cause, one could conclude that ashtray use causes lung cancer. But it is the third factor interacting with these—smoking—that is the real cause of lung cancer. Incidentally, these analogies are meant to illustrate logical concepts concerning causality and should not be construed to be commenting on vegetarianism. I have purposely chosen other examples to avoid false implications by posited causal connections.

9 Absolute certainty is not possible in inductive or scientific reasoning about events in the world. It is always possible that we will find some evidence that dashes the best-warranted beliefs. To paraphrase David Hume, we have no certainty that the sun will rise tomorrow. We might find out it will supernova instead. But, of course, we are well warranted in believing that it will rise; it would be irrational to believe that it will not, given all the evidence we have to believe that it will.
of the results occurring by chance (whether results are significant), the accuracy of statistical analyses, and so forth. Reading widely and in depth is the best way to assure yourself that you are getting the best all-things-considered opinions. So, in light of all of the ways that bias can enter research, do the research reports that Gaard and Gruen bring up show that my assumptions A5 through A9 are incorrect? No. Here’s why.

Criticism C2. As Gaard and Gruen note, deep disagreements exist in the field of clinical nutrition about necessary levels and sources for certain requirements such as calcium and iron. My argument concerns trade-offs between the production of food supplements in an industrialized food system and the availability of adequate unsupplemented diets. Nutritional disagreements do exist: Should premenopausal women, adolescents, and children drink milk or take calcium supplements or both or neither? Will more calcium help or be ineffective? Should we include more supplementation or fortification for vitamins and minerals in the diet, or are people already using too many? Such questions are the basis for ongoing research, and at the edge of knowledge there are no uncontroversial answers. But some facts are not in question and these are all I need for my argument; for example, that calcium is required for skeletal growth and maintenance, that bone loss occurs gradually after age thirty, that women have smaller skeletons than men, that many women of Asian and European descent have, on average, even smaller skeletons and are thus more predisposed to osteoporosis, that calcium supplementation and milk consumption do prevent acceleration of bone loss. The question is not whether the recommended dietary allowances (RDAs) for calcium are too high. The preponderance of the controversy centers on how much supplementation and dietary source calcium should be recommended above the RDA and, ultimately, whether the RDA should be increased for certain groups. The reason to cite this research concerns whether one should be a vegan or a lacto-ovo-vegetarian in her particular context. In fact, in citing the American Dietetic Association’s (ADA) 1993 report (Havala and Dwyer 1993), Gaard and Gruen confirm rather than refute my claims about calcium and dairy products. They note that “calcium deficiency in vegetarians is rare.” Since the “vegetarians” referred to in the ADA report are milk consumers, their diets have an abundant supply of calcium. On the other hand, research shows that those who consume lower quantities or no dairy products have lower bone densities (Dawson-Hughes 1991; Hu et al. 1993).

Similarly, with iron, scientists do not question the importance of iron to pregnant women and infants; in large part that is the justification for fortifying cereals, soy milk, and infant formulas with iron, as the source Gaard and Gruen cite confirms (Craig 1994, 1233S). In fact, Craig

10 Breast-feeding is the preferred source of milk for infants, with iron fortification coming through other foods that should be given by age six months.
(1994) repeats again and again his comparisons between supplemented and unsupplemented diets for children, noting that “the prevalence of [iron deficiency] anemia in the United States has declined over the past decade because of the increased use of iron-fortified foods, the increased use of iron supplements, the increased intake of vitamin C, and the use of birth-control pills” (12335). In areas of our country where infants do not get fortified formulas or cereals, studies show a much higher incidence of iron deficiency in young children. In the United States, iron deficiency anemia in children is associated with socioeconomic class. For example, Oski (1993) reports a 19.7 percent incidence of iron deficiency and an 8.2 percent incidence of iron deficiency anemia among inner-city one-year-old infants who did not receive iron-fortified formula or foods. Infants from the same inner city who participated in infant nutrition programs, such as WIC, had only a 1 percent incidence of iron deficiency. Craig’s (1994) report, cited by Gaard and Gruen, that vegetarian infants are no more likely to be iron deficient than omnivorous infants is nevertheless consistent with Oski’s report. Why? Craig’s report applies to American and European vegans who follow a “well-balanced diet,” and that includes consuming iron-fortified foods. In addition, most of the vegetarians studied in the United States are middle-class and have more than adequate access to fresh fruits and vegetables and are well aware of the importance of feeding iron-fortified formulas and cereals. The groups studied do not live in circumstances that deprive them or their children of such supplements, whereas those in Oski’s (1993) study do. Other studies confirm the importance of supplementation for vegans and vegetarians, but as I show below, supplementation assumes a complex industrialized society and its extension to the rest of the world.

I thank Gaard and Gruen for their efforts to address the nutritional research, and I regard them as making a genuine effort to understand. I see, though, that perhaps I have not been sufficiently clear about why I presented the research. As I have said in my article (George 1994c, 425), the issue is not to warn about risk but to illustrate the unwitting assumptions some of us (I was among them) have made about the similarity of all human bodies to each other. In making these factual assumptions, many ethical vegetarians, whether on feminist grounds or traditional grounds, have bought into a moral argument that commits women, children, and the named others to bearing greater moral and health burdens than adult males. That burden is unfair. Nutritional studies illuminate important differences in basic physiological needs among these groups. So now, if anyone wishes to make moral judgments about food practice, about what we should eat and why, from which of these perspectives shall she begin? The male? The female? The infant? The adolescent? Who is our ideal human? Why choose one and not the other? It seems clear that we cannot arbitrarily name any single class. Yes, in the United States
we can take supplements. But that fact does not address my charges of ageism, sexism, or cultural bias. For even if it is not too risky for an infant, child, adolescent, pregnant, lactating, perimenopausal, postmenopausal, or elderly female to be a vegan or vegetarian in the industrialized West, that judgment will surely be made from a male-biased perspective of assuming that all those women, children, and seniors can fix, mend, or correct their imperfect bodies as necessary (by supplementation, fortified foods, or eating in special ways) to meet a vegan ideal that is much less burdensome for men. Simply because risk may be equalized does not mean that burdens are equalized. For instance, iron supplements are expensive, are best prescribed by a physician to avoid overdose, are usually not covered by insurance, and add to one's psychological and physical burdens. They often cause constipation in those who use them, and they are a frequent cause of poisonings in young children (Herbert and Subak-Sharpe 1990).\footnote{Since 1986, more than 110,000 children have been poisoned by iron supplements or iron-containing multivitamins. More than 30 have died, some after swallowing as few as five tablets” (Center for Science in the Public Interest 1994, 3; italics in original).} If the adult wealthy male is not the paradigm, then the benchmark for the assessment of risk will be different. If women's bodies, or children's bodies, are benchmarks instead, then different kinds of assumptions would be made, and these will affect how we think about our bodies and our food. As I argue elsewhere (George 1994a), a valid contextual ethic requires individualized assessments rather than any generalized benchmark.

Criticisms C3 and C4. Gaard and Gruen quite rightly point out that the status quo in flesh consumption by Western nations is excessive and destructive. In the beginning of my article I condemn current practices and throughout I advocate eating in a pattern consistent with basic needs. Because I do not argue for "animal-based diets," but only for largely vegetarian or "semivegetarian" practices that include only small amounts of animal products and flesh depending on context, a long exposition on the health evils of eating too much meat was not of central relevance. Taking my work as a whole and from comments within my Signs article, it should be clear that I agree that vegan and vegetarian diets are safe in Western nations when individuals have access to education, medical care, and sufficient resources to buy proper foods.\footnote{Donovan suggests that I claim a link between vegetarianism and cancer, but in fact I state in several places that vegetarians in the United States have a lower incidence of cancer (George 1994c, 423, 424, n. 39). Nothing about the analogy of harm from smoking logically suggests similar probability for harm from unsupplemented vegan diets. Relative probability is determined by reliability of study design and consistency of confirmation of results (see Giere 1991 and my response to criticism C1).} Unfortunately, in a single journal article, space limitations precluded anything beyond mentioning these points. My critics claim familiarity with my other work from the
Journal of Agricultural and Environmental Ethics (George 1990, 1992, 1994b, 1994d), some of which is cited in my article and repeated here. In that series I link my arguments with environmental concerns (see esp. 1994b, 1994d). In my Signs article, I was able to touch on my concerns only briefly, and these appear as claim A13 (1994c, 427). Vegan and vegetarian diets pose less risk in our culture largely because of our industrialized food system—a system that also includes agricultural and environmental practices inconsistent with ecofeminist aims. The industrialized food system has alleviated human suffering on one hand and caused environmental damage on the other. Much of our food is highly processed and fortified. Vitamin D is added to milk and is perhaps the single most important factor in the reduction of the incidence of rickets in children and osteomalacia in women and adolescents. History shows that it is simply false that traditional diets in “obligatory vegan cultures” are prima facie healthful, although many indigenous recipes do contain nutritional knowledge that is being lost in Westernization. Clinicians continue to bring supplements to cure beriberi, pellagra, rickets, scurvy, kwashiorkor, megaloblastic anemia, and iron deficiency in the many parts of the world where these deficiencies are endemic (Scrimshaw 1990). Although common earlier in this century, these diseases are now rare in the West, but they are still regularly reported in the international medical literature. Americans are so well-fed that we take it for granted that our foods will protect us against these diseases, but that protection depends on food preservation, transportation, fortification, variety, and plenty.

Many nutritionists believe that vegans in “developing” countries have a poor health status attributable to “environmental factors (such as lack of medical care, vaccination, education and sanitation) rather than solely to diet” (Dwyer and Loew 1994, 88). That is, if we could improve those

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13 Donovan states that I do not mention the series of articles concerning my prior work, but in fact I do. References appear as “George 1992” and “George 1994.” Anyone who consults them will find the whole series of expositions and replies.

14 Sanders and Reddy 1994, a source cited by Gaard and Gruen, reviewed the literature on Asian vegetarian immigrants in the United Kingdom. They note that “the Asian vegetarian population has a higher incidence of iron-deficiency anemia compared with the general population. . . . A prevalence as high as 40% (hemoglobin < 110 g/L) was found in Asian infants aged 22 mo. . . . The incidence of megaloblastic anemia resulting from combined vitamin B₁₂ and folate deficiency in Asian vegetarians is three times higher than the UK national average. . . . 30% of Asian children had clinical rickets compared with 4% of white [sic] children” (S1177–S1178).

15 Although whole foods offer the best nutrition, some areas of the world simply cannot grow or tolerate the introduction of these foods grown locally. The introduction of cattle to Africa has accelerated desertification, and monocropped, chemical, and mechanized agriculture has disenfranchised millions of peasants around the world (Lappé 1982; Durning and Brough 1991). Some conditions of deficiency have been brought about by Westernization, but it would be a mistake to assume that traditional recipes are automatically balanced to cope with long-term vegan requirements. Space limitations preclude further documentation and discussion of these important concerns.
conditions to the level we have in the United States, then vegan diets would constitute little risk in those places, too. We might conclude that the risks would then be equalized (although burdens would not be equalized) among the sexes and ages, at least in theory. My point is that exporting safe vegan or vegetarian diets to the rest of the developing world requires exporting our food system with its fortification of cereals and other foods, processing of foods like egg substitutes, calcium-fortified soy products, and so forth. But fortification and food processing presuppose a complex, industrialized food system, with research biochemistry, food-processing plants, mines to produce supplements, quality-control bureaucracies, food-preservation techniques, refrigeration, shipping, and perhaps even chemical-dependent agriculture. All of these aspects of our food systems have environmental consequences, many or most of which are at odds with ecofeminist ideals. If one argues that these institutions should be reduced, eliminated, or radically altered as seems to be implied in many ecofeminist arguments, then a return to whole foods and unsupplemented or less supplemented diets is implied or may be a corollary. Eliminating or downscaling the industrialized food-production process may mean that cereals and infant formulas may not be iron fortified, milk may not have vitamin D added (if dairy is consumed), soy milk may not be calcium fortified, and vitamin B₁₂ may be unavailable for vegans. Such circumstances would place even greater burdens on women, children, and others cited in my article unless diet is adjusted to personal physiology and consumption of animal flesh and animal products continues in moderation. If diet is adjusted to personal physiology with no particular assumptions about whose body is ideal, then the duty, obligation, or responsibility to practice vegetarianism becomes a private decision. Thus, deindustrialization of agriculture and the scientific food-production process suggests that at least some animal agriculture and fishing should be maintained to assure that infants, children, adolescents, the elderly, and pregnant and lactating women have good sources of iron, zinc, and vitamin B₁₂ (meat/flesh of animals), calcium and B₁₂ (dairy), vitamin D (eggs and fatty fish). And as I have said, even an industrialized food system places discriminatory burdens on these groups, despite mitigation by supplementation.¹⁶

Criticism C5. Josephine Donovan (1995) asserts that my arguments commit the “naturalistic fallacy.” She offers no explanation or support

¹⁶ In the supplement issue to the *American Journal of Clinical Nutrition*, cited by Gaard and Gruen, Joan Dye Gussow argues that agricultural sustainability requires continuation of animal production, although at a much lower level (1994). Her holistic outlook generally accords with that of Frances Moore Lappé, who had originally argued for vegetarianism on ecological grounds in her 1971 work and later proposed a modified position in her 1982 work. See also Lewis 1994 in the above-mentioned issue for a brief recap of the ecological argument against meat consumption.
for her claim. She apparently rejects my argument concerning the relationship of facts and values in moral argumentation (1994c, 421–22). By “naturalistic fallacy,” I interpret Donovan to be claiming that I derive moral conclusions from facts alone. But I do not. Nutritional facts are important to arguments for and against ethical vegetarianism. In a non-Cartesian worldview, the demarcation between “is” and “ought” is necessarily blurred. The designation of “fact” cannot be value-free. Everything we believe stands or falls within a cultural context, and no one can rise (or fall?) to a standpoint completely outside of human culture. Be that as it may, some of our beliefs are more reliable than others. Donovan may be saying that even well-corroborated beliefs (facts) have no place in moral argumentation, but then all moral thinking must rely solely on a rationalistic or charismatic declaration of faith. In other words, ethical vegetarians must be willing to say their actions are right no matter what the facts are. If, on the other hand, facts are important to considerations of acting rightly or being virtuous (because facts about harms and unequal burdens are morally important), then referencing them in support of our intentions will be obligatory. Notice that the ethical vegetarian relies on factual claims to say that these diets are safe and pose little or no risk. I simply claim that these diets nevertheless impose unequal burdens. If I am denied reference to facts, then so will they be. Then, of course, a simple standoff of faiths ensues.

Criticism C6. Adams claims I use an incorrect definition of vegetarian. She rejects the source I cite and conducts her own survey of indices to her personal library of seventy vegetarian cookbooks. Her survey uses a biased sample and excludes a large body of other sources for data. Although the information she gathers tells us something about people who write vegetarian cookbooks, does it tell us anything about the people who were studied and described as vegetarians? No. For that, one should look at the studies. Beardsworth and Keil (1991) did a sociological study of people in the United Kingdom who defined themselves as vegetarians and found that some people who occasionally eat meat (as well as fish and animal products) may define themselves as vegetarian—about 5 percent did so. Another 25 percent ate fish, eggs, and dairy products; 34 percent, “lacto-ovovegetarians,” omitted the fish; 12 percent were “lactovegetarians,” omitting all animal flesh and products except dairy; the remaining 24 percent were vegans. For nutritional studies, researchers want quantifiable descriptions of how much people eat of studied foods. Each researcher lists the criteria by which those studied

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17 Adams also claims that a full citation of my source is not given, but checking the footnote and the references to my article shows that the citation appears in full (University of California 1993).
were classified. For instance, Johanna T. Dwyer gives the following definitions: "Vegans, or total vegetarians, consume no animal products. This is the rarest form of vegetarianism. . . . Lacto-vegetarian diets include plant foods, milk, and dairy products, but they exclude all meat, fish, poultry, and eggs. This type of vegetarianism is relatively rare" (1993b, 174). Lacto-ovovegetarian diets add eggs to the lactovegetarian diet and are the most common form of vegetarianism. Dwyer continues: "Semi-vegetarian diets include plant foods, milk and dairy products, eggs, and some fish and poultry. They are increasingly common, probably more so than any other form of vegetarianism, especially among young adults. Although many vegetarians do not believe that semivegetarian diets are truly vegetarian, those who eat them regard themselves as vegetarians. Red meat is avoided or eaten only occasionally, and other forms of flesh may also be limited or eaten only in small amounts" (1993b, 175). Adams makes the generalized claim that the meaning of vegetarian is being "widened," but a look at descriptive data ranging back over the last several decades suggests that Adams's current attempt is to narrow the meaning to suit a particular view consonant with her beliefs. It seems unfair to stipulate a definition narrower than common or scientific usage and then condemn others for using its ordinary and scientific meaning.

Criticisms C7. Although Gaard and Gruen claim that "nowhere has anyone issued a mandate for universal ethical vegetarianism," Adams argues categorically against meat eating for women in other cultures in her "Feminist Traffic in Animals" (1993). The tone of the critics here also suggests that one must follow an ethical vegetarian regime unless one has some valid excuse. The burden then falls upon the nonvegetarian to justify her actions—she is assumed immoral unless she offers an extensive list of her health reasons for being granted a permission to eat meat or consume milk. It is difficult to see how Adams's view, at least, represents a contextual ethics that avoids acting from more or less categorical rules that have exceptions in special circumstances, that is, the traditional view of morality.

Gaard and Gruen claim my interpretation of Regan and Singer is incorrect. Theirs is a simple assertion, unsupported by explanation. My interpretation was discussed in a public forum with Tom Regan present; he appeared to agree with my interpretation, especially the rejoinder to Gruen. He also received an early version of my article and made no complaint of misinterpretation. In fairness, critics should support their claims, especially when questioning the scholarship of colleagues.

Donovan claims that feminist animal vegetarianism is not based on traditional moral theory but on ahimsa. From A10, A11, and A12 above, you can see that I do not rely on traditional moral theory as a foundation for feminist claims about ethical vegetarianism. Instead, I argue that
feminists have bought into the false "factual" assumptions of physiological interchangeability and in so doing are tripped up on discrimination—something no feminist of any description can agree to. As for her claim that feminist animal vegetarianism is or may be based on *ahimsa*, I find no mention of it in her 1990 work nor have I seen well-developed arguments linking *ahimsa* to ethical vegetarianism. Deane Curtin (1991, 1992a, 1992b, and personal communication) has begun work relating Buddhist conceptions of nonviolence (*ahimsa*) to feminist vegetarianism. Although Jain interpretations of *ahimsa* rule out flesh consumption, Buddhist conceptions of nonviolence do not (Gier 1994). The theory of *ahimsa* is a complex area of philosophical inquiry (see Gier 1993, 1995) that is considered in the context of Curtin's work, along with several other theoretical concerns, in my recent work (George 1994a).

**Criticism C8.** It is true that I was not able to devote sufficient space to discussing the political implications of food distribution. These issues are complex. In speaking with a feminist nutritional anthropologist colleague, I came to see that food distribution cannot be understood outside of the family (see Sharman et al. 1991). Nutritional anthropologists have studied the patterns of distribution in families both in the United States and abroad. I frankly do not yet feel knowledgeable enough in that literature to comment on the power structures of food distribution, although I would not wish to diminish its importance to global feminist concerns. Some discussion of these issues appears in another work (George 1994a), developing further the arguments of my present work.

The style of my argumentation above may seem too quintessentially "rationalistic" to incorporate the qualities that are sought in a feminist ethic. Yet, I regard it as an attempt at clarity that springs from a well of concern in my own life—what shall I feed my daughter? (See George 1994c, 405, 416). Like Jane Austen's Elinor, I regard sense to spring from caring about the many people (and animals) who are a part of my life. I also regard my work as an attempt at unifying "sense and sensibility" in an imperfect world. So for all the reasons stated above, then, my critics should set aside their charges and reflect on my arguments once again. Interested readers may also wish to consult the entire special issue of the *Journal of Agricultural and Environmental Ethics* (vol. 7, no. 1 [1994]). A valid contextual ecofeminist ethics will require more thought about the relation of humans, animals, and food.

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18 Some feminist writers have used this term, of course. See, e.g., Ruddick 1989.
George REPLY

References


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