

## The Debate on the Use of Genetic Technology and Production of GM Foods in Ghana: Ethical Perspectives

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### Abstract

As has been the case in other parts of the world, recent attempts to pass a bill on the use of genetic technology for food production in Ghana have naturally led to intense debates between those who favour the technology and sceptics. This concept paper points out that both sides of the divide rely on arguments that have been used in other places without sufficiently considering how such arguments relate to the overall political aspirations of Ghana. Using a basic Aristotelian principle of the importance of applying appropriate means for the attainment of an end (*phronesis*), the paper attempts to contextualize the debate and concludes that gene technology can be used in Ghana, if it is purged of the “genomythology” on which it rests and, if the nation will engage in the search for alternatives.

Keywords: *phronesis*, Ghana, GM Foods, biotechnology, ethics.

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### Résumé

Comme ce fut le cas dans d'autres parties du monde, les récentes tentatives de passer un projet de loi sur l'utilisation de la technologie génétique pour la production alimentaire au Ghana ont naturellement conduit à d'intenses débats entre ceux qui sont en faveur de la technologie et les sceptiques. Ce document de réflexion indique que les deux côtés du débat

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invoquent des arguments qui ont été utilisés ailleurs, sans suffisamment prendre en compte la façon dont ces arguments se rapportent aux aspirations politiques globales du Ghana. En utilisant le principe aristotélique de l'importance de se servir des moyens appropriés pour la réalisation d'une fin (*phronesis*), le document tente de contextualiser le débat et conclut que la technologie génétique peut être utilisée au Ghana, si celle-ci est épurée de la «*génom mythologie*» sur laquelle elle repose, et si la nation se consacre à la recherche d'alternatives

## Introduction

Over the years humans have derived great lessons from the study of biology. Benefitting from this experience, modern biological scientists have come to possess tremendous knowledge about how to use cellular and molecular processes to “create” important products that can help to improve human and planetary life greatly. A non-scientist may thus understand biotechnology to mean the use of knowledge from biology for technological purposes. The specific difference of modern biotechnology lies in the extent to which scientists have come to understand the deoxyribonucleic acid (DNA) of living organisms, techniques of fusion, and recombination of cells or organelles.<sup>1</sup> As a result of this understanding, scientists have discovered new ways of applying vast possibilities available for combining different biological systems. These processes go beyond traditional techniques and limitations of breeding and selection to result in the development of important products for human health, agriculture, energy, preservation of rare species, and materials for industry.

Since the processes of molecular combinations usually modify the genetic constitution of the product, organisms developed through such processes are referred to as genetically modified organisms (GMOs). The Cartagena Protocol on Biosafety (2000) uses the more technical description of “living modified

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<sup>1</sup> Convention on Biological Diversity, Article 3, paragraph (i). Available at <https://bch.cbd.int/protocol/text/>

organism” (LMO) and defines it under Article 3 as “any living organism that possesses a novel combination of genetic material obtained through the use of modern biotechnology.”<sup>2</sup> Bacteria, yeast, insects, plants, fish, and mammals are examples of microorganisms that can be genetically modified.

For most of the time, biotechnology and GMOs will be used in this paper to imply the application of genetic engineering for agriculture, and in particular for food production. Though biotechnology is proving to have great promise for improving many aspects of life, there has been some measure of controversy regarding its use generally. Since the passing of the Biosafety Act in 2011 there has been an on-going discussion as to whether Ghana, as a nation, should allow the use of biotechnology and GMOs. The discussion has gained in intensity in recent times, since the Ghanaian parliament is about to decide finally on laws to govern the use of biotechnology in Ghana.<sup>3</sup> On the one hand, there is strong opposition from non-governmental organizations (NGOs) such as Food Sovereignty Ghana (FSG), political parties such as Convention People’s Party (CPP), religious institutions, and other civil society organizations. On the other hand the government, some Ghanaian scientists, and international business organizations have been arguing that much of the opposition is based on unfounded fears, which do not stand the test when subjected to scientific verification.

The ensuing exchange of arguments for or against the use of biotechnology and GMOs is described in this paper as the GM debate. While the GM debate is legitimate, there are some fundamental issues that seem to fall on the blind side of both sides of the divide. The problem is that arguments are provided on both sides as if one could prevent the use of genetic engineering and GM foods in Ghana. Yet, there are indications that Ghana cannot be completely isolated in the use of biotechnology and GM products. GM foods can already be found in the Ghanaian food chain, and we seem to have arrived at a point in the

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<sup>2</sup> Convention on Biological Diversity, Article 3, paragraph (g). Available at <https://bch.cbd.int/protocol/text/>

<sup>3</sup> The Plant Breeders Bill was yet to be passed in Parliament as at the end of October 2015.

debate where a good number of scholars think that there is, in principle, insufficient reason for rejecting genetic engineering.<sup>4</sup>

Besides, one finds in the literature and in the Ghanaian media almost the same economic, political, social and ethical arguments that have been used since the beginning of the technology in other countries. Somehow, these arguments are not sufficiently contextualized, since, for the Ghanaian context, it is not sufficient just to decide for or against the technology. There is an important second order consideration regarding fundamental political-ethical questions that have not yet received sufficient attention in the debate. This paper, therefore, proposes to use a basic Aristotelian ethical concept to contextualize the debate in Ghana and raise consciousness about the important political-ethical responsibility that may not be disregarded in deciding to allow biotechnology for food production in Ghana.

### **The Ethical Perspective Envisaged**

Most of the time, applying the term ethics calls to mind only its prescriptive-prohibitive image. Associated with this understanding of ethics is the fact that the foremost expectation when ethics is included in a discussion on the validity of producing GM foods in Ghana is a clear statement of approval or rejection. But this normative stance is only one aspect of ethics. The second and equally important one is the aspect of ethics as an interpretive science. Ethics is both a normative and hermeneutic science in the sense that if *norms* should have the force of *ought*, they must emanate from the meanings given to life by the great myths we constantly create, be they religious, social, scientific, political or economic myths.<sup>5</sup>

Here, myths refer to the grand narratives that societies construct at particular historical epochs, which purport to provide the ultimate meaning of reality, including foundations of the ethos of a society. Such myths usually claim to

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<sup>4</sup> Federoff and Brown, 2006; European Food Safety Authority (EFSA), 2013.

<sup>5</sup> Bibeau, 2011, 354-363.

hold the key to wellbeing and fullness of life, and it is only when they are properly interpreted that the validity of their narrative can be established. Some scholars argue that the idea of grand myths provides a paradigm for understanding the claims of biotechnology.<sup>6</sup> The argument is in connection with the projection of biotechnology as an all round remedy for contemporary problems of society. It looks fruitful, therefore, in the context of this discussion, to approach the issue more from the aspect of ethics as hermeneutics. But is it the case that adopting the hermeneutic approach makes normative concerns of ethics superfluous? Obviously, answering questions regarding what is morally right or wrong to do will still be an important part of ethics even if one adopted the interpretive approach. However, without understanding and interpreting why and how the good must be done, one runs the risk of transforming ethics into a purely pragmatic enterprise.

Concerning the GM debate in particular, a purely pragmatic approach preselects *what* must be done; it does not, or only partially, answer(s) *how* it must be done. I propose that the latter question – *how* – is more pertinent in the debate about GM foods and technology in Ghana, since there would seem to be little dispute regarding the former. Where there is food insufficiency and a situation of hunger, the ethically good *end* to attain – *what* to do – is to eradicate hunger, at least for some portion of the Ghanaian population. From the ethical perspective, then, the debate about the use of biotechnology is not about *what* to do; it is about *how* to do what must be done, *the means* to the end.

### **A Brief Review of the Global GM Debate**

Biotechnology is being intensively used in places like the UK, USA, China, Argentina, Canada and Australia.<sup>7</sup> Discussions on the risks of the technology were carried out in Europe and America many years ago and are still going on.

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<sup>6</sup> Bibeau, 2011, 357.

<sup>7</sup> Perry, 2003, 141-163.

In the UK in particular, the debate was raging already by the later part of the 1980s.<sup>8</sup> At that time numerous committees emerged, set up to address different aspects of the use of biotechnology.<sup>9</sup> Some of these committees involved different segments of society, including religious groups, by collecting their views on policy issues regarding the use of genetic technology and its application to food production. A good example is the “Government-sponsored Polkinghorne Committee, which took evidence from Christians, Jews, Muslims, Hindus and Sikhs.”<sup>10</sup> In terms of bioethical assessments also the UK has, since the 1990s, had a variety of studies conducted as shown, for example, in the reports of the Nuffield Council on Bioethics and those of other non-governmental organizations (NGOs).<sup>11</sup>

On the one side of the divide are those who consider that the use of genetic engineering for food production could have serious negative effects on health and the environment. Such people strongly oppose GMOs and argue that they must not be produced or used. They also disagree with biotechnology on the grounds of some religious beliefs, socio-economic injustices, and disregard for ethics that can arise from genetic engineering in agriculture. On the other side of the divide are those who hold that there is nothing, in principle, against the use of genetic engineering for food production. Among such scholars, Hauskeller refers, for example, to renowned microbiologists like Osborn and Singer,<sup>12</sup> and in recent times the list of proponents of GM technology has increased tremendously as evidenced by a cursory electronic search.<sup>13</sup> Increasingly, those who support the use of biotechnology and GMOs also

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<sup>8</sup> Perry, 2003, 142.

<sup>9</sup> Bull, Holt, and Lilly, 1982; OECD, 1986; Advisory Committee on Releases to the Environment (ACRE), 1996/97; Reports from other committees like House of Commons Agriculture Committee and others are available at <http://www.ncbe.reading.ac.uk/ncbe/gm-food/publications.html>

<sup>10</sup> Committee on the Ethics of Genetic Modification and Food Use, Great Britain Ministry of Agriculture, Fisheries and Food, 1993.

<sup>11</sup> Nuffield Council on Bioethics (NCB), 999; NCB, 2003; NCB, 2012.

<sup>12</sup> Hauskeller, 2005, 66.

<sup>13</sup> White, 2014.

adopt the argument of precaution. This argument proposes that GMOs can be produced and used when great care has been taken to contain the potential adverse effects that may arise from biotechnology.

It would seem that the support side of the divide is becoming increasingly stronger, and some sources believe to have found indications to the fact that even religious groups are shedding their scepticism about the use of GMOs on condition that precaution is observed.<sup>14</sup> Such sources refer to, say, the Catholic Church, known for its conservative tendencies in ethics, and claim that the church is moving from its official neutrality and silence on GMOs to a stance of cautious tolerance or acceptance.<sup>15</sup> Pope John Paul II, for example, is cited to have indicated some measure of tolerance in 2003, albeit emphasizing the precautionary principle,<sup>16</sup> when he stated that GM agriculture couldn't just be based on short-term economic interests, but on "a rigorous scientific and ethical process of verification."<sup>17</sup>

More recently, the November 11, 2013 issue of *America* carried a report on a keynote address delivered by the current head of the Pontifical Council for Justice and Peace, Peter Cardinal Appiah Turkson (who happens to be a Ghanaian), on GM foods. He was speaking as the recipient of the World Food Prize in October 2013, and the news report was calling attention to Turkson's expression of support for biotechnology "when it is married to ethics, compassion, morality and prudence",<sup>18</sup> thus maintaining the posture of cautious acceptance. By pleading for a close connection between genetic engineering and ethics, the Cardinal was thinking about respect for human dignity, the common good – particularly universal access, transparency to consumers, and environmental monitoring among others. Above all, he emphasized that the Church's call for caution was because "It is hazardous –

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<sup>14</sup> Coleman, 2005.

<sup>15</sup> Coleman, 2005, 14-15.

<sup>16</sup> Krämer, 2013.

<sup>17</sup> As cited by Coleman, 2005, 15. See especially, John Paul II, 1987 and John Paul II, 1990.

<sup>18</sup> The text of Cardinal Turkson's address is available at <http://ofwlaw.files.wordpress.com/2013/10/cardinal-turkson-at-world-food-prize-in-des-moines-10-17-2013.pdf>

and ultimately absurd, indeed sinful – to employ biotechnology without the guidance of a deeply responsible ethics.”<sup>19</sup>

In contrast to the religio-moral stance of the church conveyed in the words of Appiah Turkson, another opinion considers that the more serious ethical question to consider was not the moral imperative to take precaution with regard to GM crops, but the “imperative to make GM crops available to developing countries.”<sup>20</sup> In its 1999 report, the Nuffield Council on Bioethics (NCB) asserted that there was no drastic difference between conventional and genetically modified ways of plant breeding so as to make the latter objectionable. The Council argued that the potential of GM crops to alleviate hunger and provide more employment and income made it morally binding to introduce GM crops on a large scale in poor and developing countries that needed food the most.

But the question is by no means settled. There are strong arguments for and against the acceptability of GMOs and biotechnology, and the debate has remained as lively and polarized as before. What this means is that even if, as a nation, Ghana should presume the acceptability of biotechnology, there are still important issues that must be understood and carefully considered. This makes a national debate legitimate. From a purely philosophical perspective, concerns about norms, respect for human dignity, potential technological/economic injustices, conceivable abuse of trust (transparency), and future consequences for life and the environment, unarguably form core ethical issues in the development and use of genetic technology. These concerns have received widespread discussion in the literature and will not be repeated here directly. As hinted earlier, the main task would be to attempt to contextualize the GM debate in Ghana, using the Aristotelian principle of *phronesis*.

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<sup>19</sup> Turkson, 2013, 6.

<sup>20</sup> NCB, 1999, 57-79.

### Contextualizing the Ethical Perspectives of the GM Debate in Ghana

There are several ways in which we can attempt to contextualize the ethical perspectives of the GM debate in Ghana. For example, one could argue from the perspective of justice and fairness, or the risk of exploitation and the creation of a relation of dependence between the Ghanaian farmer and the source of GM seeds. One may also want to consider the risk of powerful companies playing on the ignorance of many Ghanaian farmers and consumers. In this case the farmers and consumers may lack the capacity for informed consent because of their lack of understanding about the technology or because of the lack of transparency on the part of the companies.

It seems to me, however, that of the possibilities available, contextualizing the ethics of the GM debate in Ghana must prioritize the aspect of the confounding connection between “means” and “ends”, which is also a key element of Aristotelian ethics. Aristotle dedicated his concept of *phronesis* to the means-ends connection and its importance to moral decision and action. But before we explore the concept of the connection between means and ends in ethics, we must establish why it is chosen as the preferred approach for contextualizing the ethical aspects of the GM debate in Ghana.

First, the means-ends approach is preferred, because it helps us to include as many sides of the question about global hunger. Other approaches tend to focus on either the *production* or *distribution* aspects of world hunger in a dichotomy that does not sufficiently accommodate the complexity of the problem.<sup>21</sup> For example, it is argued that GM agricultural technology is important, since it will bring great benefits to the greatest number of people by helping to alleviate hunger and suffering among the poor, particularly in developing countries. This is a consequentialist approach. Yet valid as this utilitarian calculus may be, it would seem to suggest that only production accounts for global hunger. By forgetting the question of distribution as the

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<sup>21</sup> See FAO report on food insecurity which claims that there are around 805 million chronically undernourished people in the world, most of which are in the developing nations (<http://www.fao.org/publications/sofi/en/>).

other important variable affecting global hunger, some scholars think the consequentialist approach could be providing good ethical answers for the wrong questions.<sup>22</sup>

A second reason for placing the means-ends approach above others is because solving the food security challenges of the country is beyond the capability of individual Ghanaians or even recognized groups of farmers. By the principle of subsidiarity, it is the responsibility of the state to lead the people in working towards food security. Decisions about how to eradicate hunger are, properly speaking, political decisions. In relation to such state responsibilities, some scholars who aim at interpreting Aristotelian ethics for contemporary times have noted that Aristotle ascribed the job of ethical theory to philosophy, but billed ethical praxis – *phronesis* – to politics.<sup>23</sup> The third reason is closely related to, and derives from, the second. *Phronesis* is regaining significance in post-modern ethics along with post-structuralism and post-colonialism. In its resurgence, it is being claimed for use particularly in bioethics and politics.<sup>24</sup> Both areas are directly related to the GM debate and must be taken seriously if we should make good decisions that can help resolve the challenge.

The final, yet most important, reason for prioritizing *phronesis* is because it is an element of traditional ethics, which many Ghanaian communities use in daily life. I submit that if the people would be given the opportunity to deliberate on the issue at their level, they are most likely to adopt a “*traditional phronetic approach*.” The term ‘traditional’ is used here to imply a foundational anthropology, that is, a shared constitution of all humans. This means that Aristotle did not create out of nothing what his ingenuity and mental power harnessed for Greek traditional ethics under the concept of *phronesis*.<sup>25</sup>

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<sup>22</sup> Falkner, 2007, 99-110.

<sup>23</sup> Murray, 2013, 51.

<sup>24</sup> Gallagher, 1993, 298-305.

<sup>25</sup> Murray, 2013, 47.

The *phronesis* concept pre-existed Aristotle in Platonic and Socratic philosophies, and reached beyond them into history as a foundational moral element of the traditional ethics of different cultures and peoples. One would most likely find an aspect of *phronesis* in all traditional ethical systems across cultures. For example, using the proverbs of the Ewe of Ghana, Dorothy Akoto-Abutiate<sup>26</sup> has convincingly demonstrated how parallels of the concept of *phronesis* occupy central place in the moral system of the Ewe. According to Akoto-Abutiate, the proverbs invoking the principle of prudence are formulated around the comparative marker “*better than*” (my italics) and imply that one way of acting in any given situation is likely to be better than another. An example of such proverbs says, “*Nyi diku nyo wu laxo gbolo*” – translated, “a lean cow is better than an empty kraal.”<sup>27</sup> Successfully choosing and applying the better option is, among other things, the fruit of *phronesis* according to Ewe proverbs.<sup>28</sup>

### GM Technology in Ghana: The Problem of Means and Ends

The statement that the means does not justify the end may be clichéd, but holds some important information. To address this problem of means versus ends, we shall depend on Jessica Moss’ explication of this important Aristotelian ethical principle. Exploring the connection between means and ends, Aristotle considered that “choice cannot be correct in default either of prudence or of goodness, since the one identifies the end and the other makes us perform the acts that are means towards it.”<sup>29</sup> This argument constitutes an important aspect of Aristotle’s concept of *phronesis* (prudence or practical wisdom) as a rule for making appropriate moral choices. As Moss rightly observes, there are conflicting interpretations of the concept. However, Moss

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<sup>26</sup> Akoto-Abutiate, 2014.

<sup>27</sup> Akoto-Abutiate, 2014, 91.

<sup>28</sup> Akoto-Abutiate, 2014, 89.

<sup>29</sup> Aristotle, *Ethics 1145a5-7*. Moss (2011, p. 204) offers a different translation: “Decision (προαίρεσις) won’t be right without *phronesis* nor without virtue: for the one makes us do the end and the other the things toward it”.

argues that Aristotle himself used the term *phronesis* to designate the capacity to select the (most appropriate) means for the attainment of a goal, and that there is good reason to understand Aristotle literally.<sup>30</sup>

Moss reads Aristotle as saying that goodness (“virtue”) determines which goal is to be pursued, while prudence or practical wisdom determines the means, “[t]hat is, practical intellect does not tell us what ends to pursue, but only how to pursue them.”<sup>31</sup> The implication is that, since the manner in which ends are pursued is a significant part of virtue, *phronesis* provides a person the ability to see which means is morally acceptable in the circumstance. In Aristotelian language, *phronesis* helps a person to perceive and affirm the true means in a kind of syllogistic reasoning at different levels. According to Aristotle’s own description, *phronesis* is “a reasoned and true state of capacity to act with regard to human goods”,<sup>32</sup> “a truth-attaining rational quality, concerned with actions in relation to things that are good and bad for human beings”,<sup>33</sup> or in the rendition of Thomas Aquinas, “prudence is the right reason in matters of action (*recta ratio agibilium*)”,<sup>34</sup> or “[the application of] universal knowledge to a particular case”.<sup>35</sup> Aristotle was at pains to distinguish *phronesis* from the other intellectual virtues like belief (*doxa*), art (*techne*) and science (*episteme*):

Regarding practical wisdom ... it follows that in the general sense also the man who is capable of deliberating has practical wisdom. Now no one deliberates about things that are invariable, nor about things that it is impossible for him to do. Therefore, since scientific knowledge involves demonstration, ... and since it is impossible to deliberate about things that are of necessity, practical wisdom cannot be scientific knowledge nor art; not science because that which can be done is capable of being otherwise, not art because action and making are different kinds of thing. The remaining

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<sup>30</sup> Moss, 2011, 205.

<sup>31</sup> Moss, 2011, 205.

<sup>32</sup> Aristotle, *NE Book VI.5*; Murray, 2013, 49.

<sup>33</sup> Akoto-Abutiate, 2014, 89 citing Rackman’s (1968) English translation of *NE*. Abutiate also records some of the definitions of Aquinas referred to here.

<sup>34</sup> Aquinas, *Summa theologiae (2a2ae. 47–56)*. Translated by Gilby, 2006.

<sup>35</sup> Aquinas, (2006). 47.1- 3; 47.3; 47.6 c.; 47.16.

alternative, then, is that it is a true and reasoned state of capacity to act with regard to the things that are good or bad for man. For while making has an end other than itself, action cannot; for good action itself is its end. It is for this reason that ... we consider that those can do this who are good at managing households or states.<sup>36</sup>

Evidently, this excerpt from Aristotle's own description of what constitutes *phronesis* does not only distinguish it from the other intellectual virtues, but also demonstratively denotes who an agent of *phronesis* can be. They are those who "are good at managing households or states." The hint here is that while *phronesis* is important for virtue, it is also a political behaviour. Managing a state definitely requires constant decision making and selecting the best among varied and complexly connected options in view of the common good and the stability of the state. The ability to make good decisions at the level of the polis is obviously a good example of *phronesis*. Regarding the understanding of *phronesis* as "political science", Murray points out that among those factors that constituted the human good, Aristotle ascribed special place of importance to prudence or practical wisdom.<sup>37</sup> He did so because he saw in it a transcending psychological force for harnessing the most suitable means for the attainment of the good from diverse possibilities.

Consequently, Aristotle claimed the highest place of importance for politics on his ladder of sciences, since he considered politics to be ultimately concerned with the successful realisation of the human good. Having lifted politics that high, it was important for Aristotle to "conceive of an individualistic virtue that informs practical political judgement in a moral sense, [and make it] the heart of [his] political science (*episteme politike*)."<sup>38</sup> This politically important practical judgement is *phronesis*.

By putting the weight of the interpretation of *phronesis* on its political implications, I seek to draw attention to the fact that the debate about the use of

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<sup>36</sup>Aristotle, *Ethics*, 1145a5-7.

<sup>37</sup>Murray, 2013, 47.

<sup>38</sup>Murray, 2013, 49 citing Moskop, 1996, 619.

GM foods and technology in Ghana has ultimate political implications. It is a decision that concerns the human good, which cannot be reduced to some economic or materialistic benefits of, say, abundant food supply alone. I assume that in the Ghanaian specific context, the lesson we can learn from the ancient value of *phronesis* is the fact that the debate cannot be about GM technology in isolation, but within the broader picture of the overall good of the country.

From this transhistoric political perspective,<sup>39</sup> Murray's understanding of *phronesis* as "a superior architectonic psychological capacity to bring together diverse forms of knowledge that bear on a practical situation, that affords action that will serve the human good"<sup>40</sup> can apply adequately to the Ghanaian context. Understood this way, the "phronetic approach" will allow us to make a couple of systematic progressions in our discussion concerning the ethical validity of introducing genetic technology as a means for obtaining the goal of a bounteous food basket for Ghana. We can proceed by first determining our goal (end or *telos*), which naturally is identified to be the eradication of hunger. Second, having ascertained the goal, the next step is to find the "morally intelligent" (or most appropriate) means for the attainment of this end. Third, we note the various means, of which genetic technology is '*a means*' among others. Finally, we come to the level where we make the logical transition to appreciate genetic engineering as '*the means*' to our end.

If the principle of *phronesis* is applied in this simplified moral decision making process, a number of questions arise. For example, among other questions, we may ask whether genetic technology is the most appropriate means, a) in relation to the holistic aspirations of the nation, b) at this time and in view of the future, and c) given the economic, technological and ethical challenges it entails.

Obviously, these questions cannot be answered that simply. They do not only form the foundations of the economic, social, legal, and political concerns

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<sup>39</sup> Murray, 2013, 47.

<sup>40</sup> Murray, 2013, 49.

of the debate, but also take it beyond the stimulus-response approach. These questions compel us to examine the implications of our decision regarding GM technology for the meaning and significance of the overall political ideas and political life that we envisage for the nation now and in the foreseeable future. I admit that this approach smacks of idealism. However, it is not unusual to find moral philosophy trading with ideals, since pragmatism without fruitful ideation is sporadic and often ends in short sightedness.

### **Implications of *Phronesis* for the GM Debate in Ghana**

Bibeau<sup>41</sup> was not writing specifically for the Ghanaian context, but he has appropriately explored the concern I am contemplating. He calls it the celebration of the “genomyth.” Focusing on how genomics is developing and sustaining a “science-based ideology” that began from the time of Galileo through Descartes to Harvey, he points out how the new genomythology is domesticating the very idea of the human. Dwelling on insights from Taylor’s philosophy, Bibeau reminds his readers that post-modernism itself grew out of the belief that the days of the “grand narratives” were over. Post-modernism held that people would no longer be slaves to any ideologies. Interestingly, the major goal of modernism was this same idea of demythologizing and gaining structural liberty from what were thought to be universal myths held by religion and politics. It was a goal, which modernist philosophers and scientists believed would be achieved through reason and the scientific project.<sup>42</sup>

However, the dream of freeing humanity from grand myths seems to be continuously beyond reach. The claim of post-modernism arose from its belief that the demythologizing project failed under modernism. But the same could be said about the post-modernist project too. Somehow, each succeeding epoch finds some unfinished business regarding the scientific project, and while reasons for the failure are sought outside of science, it would seem that the

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<sup>41</sup> Bibeau, 2011, 357-359.

<sup>42</sup> Bibeau, 2011, 358.

greatest hindrance to the project of freeing humanity from grand myths must be found in the tendency of science itself to continually develop a cultural monologue. Bibeau makes this point forcefully:

In our era, humanity has acquired a new set of enemies to replace the grand narratives of the past. ... The new genomyth promises a better life for everybody, the prediction of future diseases, a new generation of drugs ... transgenic plants that will prevent famines, to produce better food, and to anticipate natural disasters. One finds in the genomyth the same stuff old myths have offered in the past to an insecure and more naïve humanity.<sup>43</sup>

Particularly for countries like Ghana, which are still struggling to work their way up from the underside of history, the weight of the genomyth is experienced as a permanent jostle and throttle. It is as if somebody is always holding the most efficient solution to life's problems in a hand that is raised high above us, and to which we must always stretch beyond our efforts to reach. One can feel this jostle in our own impatience with ourselves in matters of development. The sand under our feet is permanently swept away by the high waves of biotechnology, computer technology and informatics. At the instance of the new "grand narrative" of science and technology, the Ghanaian society, like other societies still to attain technological development, is compelled to skip important, even if rudimentary, steps of development in a mad chase of a developmental present that, however, always comes forth as a future achievement.<sup>44</sup> As it were, our dreams for self-fulfilment and transformation by way of scientific and technological development are always domesticated by a politics of temporality in which the present of the developed world permanently poses as the future of underdeveloped societies.<sup>45</sup>

From this perspective, when it comes to answering the question of means and ends by applying the principle of moral or practical intelligence (*phronesis*), there are reasons to suggest that while GM Foods certainly hold great promises for humanity, the world is not compelled to place all of its eggs

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<sup>43</sup> Bibeau, 2011, 358.

<sup>44</sup> See Appiah, 2013, 46-54.

<sup>45</sup> See Kanneh, 1998, 1-6.

in one basket. Ghana, for example, cannot deny itself the use of genetic technology; at the same time, there is no reason why Ghana should busy itself with a technology that already exists, and not consider the possibility of researching into alternative means for the attainment of the same goal. Even if such an alternative may lack the efficiency of biotechnology, it will still hold the potential of choice and so reduce global servitude to one “grand narrative.” Here also Bibeau makes a remarkable contribution: “we still have the choice: it is not because a powerful technique such as genetic engineering has been invented that we have to use it.”<sup>46</sup>

### Conclusion and Recommendation

In light of the questions raised above and the concerns about the Ghanaian specific context of the GM technology debate, we must attempt a resolution, even if at the risk of incompleteness. From the philosophical-ethical perspective, such resolution does not aim at giving warmth but light. This means our conclusion and recommendations can draw on the discussion above not to provide answers, but an orientation towards the decision-making process concerning gene technology in Ghana.

First, it is important to reiterate the fact that one can no longer dismiss the important advances of biotechnology. Genomics are here and they have come with significant implications for the various aspects of human life.<sup>47</sup> Especially with respect to food production, genetically modified crops have shown undeniable success, when in the early 1960s a real boom of productivity led to what came to be known as the green revolution.<sup>48</sup> Since then the technology has moved on and so holds newer prospects of making great contributions to dealing with famine in many places in the world.<sup>49</sup> Ghana is neither an island, nor is any dream of secluding the country from global trends in the production

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<sup>46</sup> Bibeau, 2011, 362.

<sup>47</sup> Bibeau, 2011; Perry, 2003.

<sup>48</sup> Pires-O'Brien, 2000, 19.

<sup>49</sup> Miller and Conko, 2006, 61-69.

and consumption of GM foods realistic. In a sense, there are pragmatic reasons for Ghana to want to participate in GM technology and to seek to control hunger.

However, it is clear that such a conclusion cannot be based on isolated technological or economic arguments. Neither do utilitarian arguments alone offer sufficient room for contextualizing the decision to use GM technology. It seems to me that practical wisdom or *phronesis* is important for determining the proper means to the end. *Phronesis* is not just an ancient Greek discovery. It is a concept that occurs in different ways in different cultures, and can be found among Ghanaian peoples too. When Ghanaian Ewes say, “a lean cow is better than an empty kraal”, they are probably not too far from the realization that some ways are more prudent than others.<sup>50</sup> Since variants of the Ewe proverb can be found among other Ghanaian communities, we can presume that if the chance were given for the decision to be taken at the grassroots, people would most likely adopt a “phronetic approach”.

The “phronetic approach” is important at higher political levels of decision making too, particularly in view of the holistic aspirations of the nation. As is the case with other places where the technology is being used, Ghana must also be concerned with questions about implications of GM for the environment and the capitalistic role of multinational companies in the bio-industry, about justice, transparency, and the possible burdens farmers and consumers may have to bear because of the temptation to manipulate the weak for profit purposes. Ghana needs also to assess the implications of GM for the freedom of its citizens. Above all, the “phronetic approach” implies that Ghana must consider whether the decision to mimic developmental interventions of the developed nations is not a matter of convenience and the fear of taking the risk to look beyond the status quo. This means that even if GM technology is good, Ghana needs to establish if it constitutes the *means of means* to the end, and if it serves the *overall political aspirations* of the nation.

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<sup>50</sup> Akoto-Abutiate, 2014, 90.

In conclusion, the view represented in this paper is that while genetic technology may be good, the decision to introduce it in Ghana must also clearly interpret its associated mythology and so be in the position to adopt the technology properly. Closely related to this point is the fact that moral responsibility usually presumes a certain level of freedom of choice, and Ghana must of necessity avail itself of such moral freedom. This may not be the choice of rejecting the technology, but of providing alternatives through investing in research leading to the development of additional means for the attainment of the goals for which genetic technology holds so much promise. In a sense, we are back to where we started. Biotechnology can be used in Ghana, if it stays married to ethics, responsibility and freedom for self-determination.

## References

- Akoto-Abutiati, D. B. (2014). *Proverbs and African tree of life: Grafting biblical proverbs on to Ghanaian Ewe folk proverbs*. Leiden/Boston: Brill.
- Appiah, S. K. (2013). Continuity and discontinuity in traditional African narrative ethics. *Research on humanities and social sciences*, 3(5), 46-54.
- Aquinas, Thomas. (2006). *Summa theologiae. Vol. 36: Prudence (2a2ae. 47–56)*. Translated by Thomas Gilby. Cambridge: Cambridge University Press.
- Aristotle, (1976 Edn.). *Ethics* [1145a5-7]. H. Tredennick (Trans.). J. Barnes (Intro.). Aylesbury: Hazell Watson & Viney Ltd.
- Aristotle. *NE Book VI.5*. URL: <http://classics.mit.edu/Aristotle/nicomachaen.6.vi.html>, retrieved on 20/08/2014.
- Banner, Michael. (1995). *Report of the committee to consider the ethical implications of emerging technologies in the breeding of farm animals*. UK Ministry of Agriculture, Fisheries and Food.
- Bibeau, Gilles. (2011). Perry, Joe N. (2003). Genetically modified crops. *Science and Christian belief* 15 (2), 141-163.
- Bibeau, Gilles. (2011). What is human in humans? Responses from biology, anthropology, and philosophy. *Journal of medicine and philosophy*, 36, 354-363.
- Bull, Alean T., Holt, Geoffery, and Lilly, Malcolm, D. (OECD). (1983). *Biotechnology: International trends and perspectives*. Paris: OECD. URL: <http://www.oecd.org/sti/bio-tech/2097562.pdf>, retrieved on 13/02/2014.
- Coleman, G. D. (2005). Is genetic engineering the answer to hunger? *America*, (February 21), 14-17.
- Convention on Biological Diversity, The Text of the Cartagena protocol on Biosafety, Article 3, paragraph (g). Available at <https://bch.cbd.int/protocol/text/>

- European Food Safety Authority (EFSA). Panel on Genetically Modified Organisms (GMO). URL: <http://www.efsa.europa.eu/en/panels/gmo.htm>, retrieved on 20/08 /2014.
- Falkner, R. (2007). The global biotech food fight: Why the United States got it so wrong. *Brown journal of world affairs*, xiv(1), 99-110.
- Federoff, Nina and Brown, Nancy Marie. (2006). *Mendel in the Kitchen: A Scientists view of Genetically Modified Foods*. Washington, DC: Joseph Henry Press.
- Gallagher, C. (1993). The place of phronesis in postmodern hermeneutics. *Philosophy Today*, 37, 298-305.
- Great Britain. Committee on the Ethics of Genetic Modification and Food Use, Great Britain. Ministry of Agriculture, Fisheries and Food. (1993). *Report of the committee on the ethics of genetic modification and food use*. London: HMSO.
- Hauskeller, M. (2005). Telos: The revival of an Aristotelian concept in present day ethics. *Inquiry* 48(1), 62-75.
- Kanneh, Kadiatu. (1998). *African Identities: Race, Nation and Culture in Ethnography, Pan-Africanism and Black Literatures*. London and New York: Routledge.
- Krämer, L. (2013). *Genetically modified living organisms and the precautionary principle. Legal dossier commissioned by Testbiotech e.V.* Munich: Testbiotech e. V., Institute for Independent Impact Assessment of Biotechnology. URL:<https://www.testbiotech.org/sites/default/files/GMO%20and%20precaution.pdf>, retrieved on 09/08/2014.
- McGee, M. C., (n.d.). Phronesis in the Habermas vs. Gadamer debate. URL: <http://mc-geefragm-ents.net/OLD/Phronesis.in.the.Habermas.vs.Gadamer.Debate.htm>, retrieved on 01/09/2014.
- Miller, Henry I. and Conko, Gregory. (2006). Scary Food. *Policy Review*, 137, 61-69.
- Moss, Jessica. (2011). “Virtue makes the goal right”: Virtue and phronesis in Aristotle’s Ethics. *Phronesis* 56(2011) 204-261.

- Murray, F. (2013). Understanding Aristotle's prudence and its resurgence in postmodern times. *Phronimon*, 14(2), 45-85.
- Nuffield Council on Bioethics (NCB). (1999). *Genetically modified crops: The ethical and social issues*. London: NCB.
- NCB. (2003). *The use of genetically modified crops in developing countries: A follow-up discussion paper*. London: NCB.
- NCB. (2012). *Emerging technologies: technology, choice and public good*. London: NCB.
- OECD. (1986). *Recombinant DNA safety considerations: Safety considerations for industrial, agricultural and environmental applications of organisms derived by recombinant DNA techniques*. Paris: OECD, URL: [http://dbtbiosafety.nic.in/guideline/OACD/Recombi-nant\\_DNA\\_safety\\_considerations.pdf](http://dbtbiosafety.nic.in/guideline/OACD/Recombi-nant_DNA_safety_considerations.pdf), retrieved on 13/02/2014.
- Perry, Joe N. (2003). Genetically modified crops. *Science and Christian belief*, 15(2). 141-16.
- Pires-O'Brien, Joaquina. (2000). GM Foods in perspective: Part one. *Contemporary Review*. 276 (1608) 19-24.
- Taylor, P. W. (1986). *Respect for nature: A theory of environmental ethics*. Princeton University Press.
- White, Michaels. (2014). The scientific debate about GM foods is over: they are safe. Pacific Standard and the Miller-McCune Centre for Research. URL:<http://www.psm-ag.com/navigation/health-and-behavior/scientific-debate-gm-foods-theyre-safe-66711/>, retrieved on 20/08/2014.