

**Anticipating ethical with problems the possible development and distribution  
of Lactoguard in a South African context**

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## 1. Introduction

The possible implementation of our team's Lactoguard device presents some interesting philosophical problems. The device is intended to be used primarily in a rural, resource starved areas in Africa. This is where the need for such a device is greatest as early HPV detection is not very common due to lack of resources etc. An effective, cheap and non-time consuming detection mechanism would therefore be of great benefit to women in these areas. The benefits of lactoguard and other technology of this nature are obvious however ethical issues from synthetic biology abound.

I will be therefore examining the some of the ethical issues that could arise from then implementation of such a device in an African setting. Through my exposition of these problems I hope to show how a conception of ubuntu might be able to address these problems.

I will first mention some important ethical issues and then divide them into two different categories: physical and non-physical harms. I will sketch a workable theory of ubuntu. And finally I will put this theory to work and show how these issues could be addressed. I will not defend my theory against any major criticism, though I will address minor problems in order to tease out a workable theory in greater detail. Additionally this is not meant to be a major exposition of all ethical issues that surrounds the device and its implementation – I only wish to address major problems in order to illustrate key points about ubuntu and thus serve as a case study as to the effectiveness of ubuntu possible ethical stance that policy makers should take note of.

This essay will therefore be a case study in bio-ethics as I hope to bring to light and solve issues that arise through the possible development and use advances in biology.

I will begin by defining terms. By physical harms I mean 'harms the present a mediate and tangible threat.'<sup>1</sup> These would be harms like environmental contamination and bio-terror. In short, they are harms that we can see, smell, hear and touch. The second class would be the class of non-physical harms. This category will also include socio-economic issues like access to the technology, issues of profit and profit and resource sharing. It also includes issues of well-being of individuals and communities. In short these are issues of social justice. To this I will include issues of more a philosophical perspective such as issues of identity and 'perspective' or 'worldview'.

I will not define ubuntu properly here. Instead I will say a few words about the theory in general. It is a normative ethical theory of African origin. It stresses the importance of community and communal relations in proper ethical conduct. As a theory it is quite new to current analytic philosophical discourse and is therefore relatively unknown. It is however a powerful ethical theory and has had a significant impact on South African policy. It therefore deserves some attention on a world stage and I think that it is ideally placed to provide guidance to synthetic biology and to emergent technologies in general.

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<sup>1</sup> Parens E, Johnston J and Moses J; [Ethical Issues in Synthetic Biology: An overview of the debates](#), The Woodrow Wilson International Center for Scholars, June 2009, pg 4

This paper will make use of philosophical concepts and terminology. As such I will provide links and further reading, as well as small definitions to help those not acquainted with the terms and their use.

## 2. Physical and Non-physical harms

In this section I will spell out some of the ethical issues around our team's lactoguard. I will deal with physical harms first. I will not address these problems now. I will do so in section 7, once a workable version of ubuntu has been laid out.

Physical harms have been of primary concern to those currently involved in bio-ethics. I will therefore not spend too much time on these issues. As Dr Caplan notes:

*Most of the ethical commentary and religious commentary surrounding synthetic biology is centred around the risks that might come with the benefits... There are some groups that have been looking at synthetic biology for some time... they [here he is referring to religious groups] had in principle no at that time to the creation of new life forms. Their concerns at that time were issues of social justice... I don't think much has changed since then.<sup>2</sup>*

One of the major concerns would be that of safety. As the device is a living organism there is an inherent unpredictability within in it. Organism struggle to survive and adapt, change and mutate in order to ensure their survival and that of their offspring. Bacteria are no different, and because their life cycles are relatively short (when compared to large, more sophisticated organisms like mammals) they show a propensity to mutate at a rather quickly.<sup>3</sup> Also biological technology has a track record of going where it shouldn't be – GMO seeds have been found in areas where they should not have been.<sup>4</sup>

In an African setting this might be a problem as people would be unsure as to whether it would work or not. They would also be worried of such a device going to where it should not be. This problem is further exacerbated by the sensitive nature of where the device is supposed to work – namely the vagina. People would possibly express concern that the device might affect their children in negative ways. In Africa, rural areas have very high fertility rates and therefore concerns of this nature would be quite prominent. In rural settings more importance is generally placed on being a mother and bearing children. Therefore the risks to fertility and bearing children must addressed with great care and sensitivity. The side effects of the device would need to be fully characterised. How the bacteria react to contraceptives, birth control, and other chemicals would need to be fully characterised. Of

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<sup>2</sup> Parens E, Johnston J and Moses J; [Ethical Issues in Synthetic Biology: An overview of the debates](#), The Woodrow Wilson International Center for Scholars, June 2009, pg 15

<sup>3</sup> Caplan A; The Presidential Commission for the Study of Bioethical Issues, session 4, 13-14 September 2010 <http://www.tvworldwide.com/events/bioethics/100913/default.cfm?id=12777&type=flv&test=0&live=0>

<sup>4</sup> Haslberger a; [GMO Contamination of Seeds](#), Nature Biotechnology, vol 19:7, pp 613 [http://www.biotech-info.net/GMO\\_contamination2.html](http://www.biotech-info.net/GMO_contamination2.html)

particular concern would be how the bacteria would react to dry sex, which is very prevalent in Sub-Saharan Africa.<sup>5</sup>

This problem is linked to the idea of risk. People in rural areas are particularly wary of 'western' style medicines and often opt for traditional healers to cure ailments. This is because people view western medicine as 'other' and potentially harmful and therefore demonstrating a device's safety in a manner that people can understand is paramount. In short rural people tend to adopt a pre-cautionary stance towards new technologies and it is important that a high bar be set by the developers themselves to demonstrate the product's safety. Additionally the information about the safety should be conveyed in a manner that is appropriate and understandable to areas in which illiteracy is rife.

Non-physical harms can be sub-divided into two categories: the distribution and attitude categories. The distribution category is primarily concerned with issues of social justice - that is issues about how to fairly distribute the tools (i.e. information and equipment) needed to do synthetic biology as well as the benefits of synthetic biological development. The attitude class has not gained much traction with scholars and is primarily concerned with how we should view ourselves and the rest of the world.

There are significant issues raised in both classes with the possible implementation of Lactoguard. I will mention issues in the distribution category first.

One issue of chief concern is that of stigmatisation. It is possible that the device could mark its users with some form of visible reporter. An obvious solution to this problem would be to make the reporter as discrete as possible. However, if the reporter is very discrete then there is an increased educational burden – as the women would need more information and knowledge in order to make use of the device. The women would also have to modify their behaviour significantly if the reporter is so discrete that there are no signs that can be readily assessed. In areas more conservative areas this might be problematic as ways of life are more ritualised and thus controlled – this would perhaps make behaviour modification trickier. There is therefore a trade off between the burden of the woman to measure the reporter and the ease of identification.

Additional support for the device is very necessary. There is little point of identifying the presence of HPV unless additional support can be provided. The intention is that eventually the device will be able to neutralise or clear the HPV infection in some manner. However there is no way of doing so currently. In this light, lactoguard would serve to place people into high and low risk categories. Women that have been infected would need to be placed on a priority list in order to monitor them for the beginning stages of cervical cancer. There would be a need to preserve anonymity here – those in the high risk category run the risk of stigmatisation and singling out.

In more traditional communities chastity is very prized and virginity testing is common. This is often invasive and public. Despite the legislation against virginity testing it is common in rural settings.<sup>6</sup> As

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<sup>5</sup> Baleta A; Concern voiced over "dry sex" practices in South Africa, The Lancet, vol. 352, oct 1998, pg 1292 <http://www.cirp.org/library/disease/HIV/baleta1/>

<sup>6</sup> Brulliard K; Zulus eagerly defy ban on virginity test, the Washington Post , Friday, September 26, 2008 [http://www.washingtonpost.com/wp-dyn/content/article/2008/09/25/AR2008092504625\\_pf.html](http://www.washingtonpost.com/wp-dyn/content/article/2008/09/25/AR2008092504625_pf.html)

such the user would need to be able to quickly and effectively turn the reporter off, through a 'kill-switch' or other built in part of the machine. Another option would be to make the machine report in a non-publicly visible manner – such as a change in urine colour.

In essence one of the main concerns about distributing such a device would be maintaining the users' anonymity and but also provide them with a quick and effective response. As mentioned above, there is also a problem of additional support. What this would entail providing additional resources where needed.

### 3. What is ubuntu?

In this section I try to provide an explanation as to what ubuntu is. Historically, ubuntu is an outlook or way of life of certain groupings of African people. The philosophy is especially important to the people of Sub-Saharan Africa. A Forster notes Ubuntu can be seen as a classical ethical theory.<sup>7</sup> What this means is that ubuntu is largely seen as a theory akin to Aristotelian or Platonic ethics and is therefore antiquated. I contend that a version of ubuntu can be expressed that captures the 'Africaness' of the theory but is also at the same time a modern ethical theory which can compete with other modern and more 'western' ethical theories.

Ubuntu is a normative ethical theory. A normative ethical is a theory that provides ethical guidance as to how people should act. In ubuntu's context – the theory places the moral importance on communal relations. The version of ubuntu that I will be defending was put forward by T Metz:

*An action is right just insofar as it produces harmony and reduces discord; an act is wrong to the extent that it fails to develop community.*<sup>8</sup>

I will call this theory U. From U we can derive 5 guidelines that are meant to regulate ethical conduct:

- Informal relations are important and have a role in our decision making.
- Community members should show special 'family-like' concern for one another and that one's actions reflect on the community as well as the individual.
- Every member of that community has a personal stake in its endeavours and should bear some of the responsibility for the community but also share in the fruits of its endeavours
- An individual's contribution to the community does not have to be equal to the benefits that they receive the community. Some members may be more reliant on the community that others and some may be expected to contribute more.
- Members of the community have access to the resources of that community and can make use of them in so far as they contribute to the community and are involved with it. They can also profit of the communities resources provided that the profit generated goes into supporting the community.

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<sup>7</sup> Forster, D A; Validation of Strong Artificial Intelligence: An African Theological contribution, Doctor of Theology, Univeristy of South Africa, 2006 Pg 252

<sup>8</sup> Metz T; Toward an African Moral Theory, The Journal of Political Philosophy, volume 15, number 3, 2007, pg 334

I will go into more detail as to what these guidelines are and how they work in section 7. Let us go into more detail about the theoretical implications and commitments made by U. To do this it will be useful to compare and contrast U with other normative ethical theories.

#### 4. U vs. Deontology

Deontology is roughly a school of ethical thought that maintains that an action is good or bad because of its relation to a moral rule, i.e an action is considered wrong if it violates a moral rule. A good example of this would be Kantian Maxims. According to Kant an action is wrong if it violates a Maxim – that is a universal law. Kant states that one should ' [a]ct only according to that maxim whereby you can at the same time will that it should become a universal law.'<sup>9</sup>

On a meta-level what is considered good is defined and from this normative judgements can then be cashed out as rules. And so long as an agent\* sticks to those rules then he will be considered to be morally good, or at least morally acceptable. Most deontological theories battle to incorporate moral excellence – that is people of very good moral disposition. There seems to be more to their conduct than simply following of a set of rules, no matter how good or comprehensive those rules are. People of extraordinary moral character seem to have an innate sensitivity to moral situations thus are more predisposed to act in a certain way on the fly. They seem to be more morally dynamic as they react more readily to morally challenging situations and show more 'commitment' to their moral choices, whereas the ordinary agent seems to lack both the speed and strength in their beliefs.

I think that U can adequately answer this problem in light of the discussion about my next problem I shall raise. I will call this problem 'the uncertainty of rules problem'. This problem is one stems from the works of Wittgenstein and I do not wish to be drawn into the debate around this issue. I will only skim over it, as this is enough to make a strong case in favour of this objection.

It is obvious that the best rules can only serve as generalisations. In the chaotic nature of contemporary life a definitive and exhaustive set of moral rules seems difficult, if not impossible to draw up. One can go even further and question if it is even desirable to create such a list as we could merely be recoiling from the vertigo that we experience from recognising the 'whirl of organism.' Cavell expresses the 'whirl of organism' as such:

*We learn and teach words in certain contexts, and then we are expected, and expect others to be able to project them into further contexts. Nothing insures that this projection will take place... Human speech and activity, sanity and community, rest upon nothing more than this [shared forms of life].<sup>10</sup>*

If we cannot posit rules with any degree of certainty and ground them in something other than human tradition and common practice then it seem moral rules are not strong enough to prescribe behaviour to us. This problem is made worse by the non-binding mechanical nature of rules .As

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<sup>9</sup> Kant, Immanuel; translated by James W. Ellington [1785] (1993). *Grounding for the Metaphysics of Morals* 3rd ed.. Hackett. pp. 30.

\* by agent I mean a normally functioning person who is free from undue influence. An agent is able to engage in abstract thought

<sup>10</sup> McDowell J; Non-Cognitivism and Rule Following, pg 206-207

McDowell notes that 'there is nothing that keeps our practices [i.e. following a rule] in line except the reactions and responses we learn in learning them.'<sup>11</sup>

I am not concerned with how other deontological theories might respond. I am only interested in U's response. How then might U respond?

To my mind there is no real solution to this concern. This is probably part of the unsettling nature of the vertigo that we experience. We cannot find the firm ground needed ground the rules that we hold dear. And what could be more important than correct moral conduct. Ernest Gellner provides a

*The inward aspect was that at that time the orthodoxy best described as linguistic philosophy, inspired by Wittgenstein, was crystallizing and seemed to me totally and utterly misguided. Wittgenstein's basic idea was that there is no general solution to issues other than the custom of the community. Communities are ultimate. He didn't put it this way, but that was what it amounted to. And this doesn't make sense in a world in which communities are not stable and are not clearly isolated from each other. Nevertheless, Wittgenstein managed to sell this idea, and it was enthusiastically adopted as an unquestionable revelation. It is very hard nowadays for people to understand what the atmosphere was like then. This was the Revelation. It wasn't doubted. But it was quite obvious to me it was wrong. It was obvious to me the moment I came across it, although initially, if your entire environment, and all the bright people in it, hold something to be true, you assume you must be wrong, not understanding it properly, and they must be right. And so I explored it further and finally came to the conclusion that I did understand it right, and it was rubbish, which indeed it is.<sup>12</sup>*

If deontology is to be an effective force of prescribing moral action to an individual, then it seems that it is necessary that its rules are grounded in something other than community. This is because communities are dynamic entities and change a great deal over time and it is therefore unsettling to think that our moral duties, which we hold dear, are therefore subject to change as well.

Unfortunately, U grounds moral duties within community. It contends that the shared forms of life that people experience do provide enough traction for moral duties in the objective sense that Gellner is after. According to U, moral duties are functions of the shared forms of life in which they are embedded, and therefore

To illustrate this point I will use the example of polygamy. In Zulu society polygamy traditionally has been seen as morally desirable. During that time it was seen as moral duty for men to acquire more than one wife. However in the here and now there has been a great revision of this custom – many people see this tradition as outdated and immoral. Here is Justice Malala satirising the practice of polygamy in an article for the Financial Mail:

*No matter. We were keen to go back to So Yum, so three days later there I was, the first of a party of four. No, the other three members of my party were not my lovely wives. I have only one despite certain allegations about my culture being polygamous.*

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<sup>11</sup> McDowell J; Non-Cognitivism and Rule Following, pg 207

<sup>12</sup> Interview with Gellner, section 2 <http://www.lse.ac.uk/collections/gellner/Section2.html>

*By the way, I personally do not have a single Zulu or Tswana or Pedi friend or relative who has more than one wife. Makes you wonder why suddenly this culture business is in vogue.<sup>13</sup>*

What he makes fun of is the polygamy and the claim that it is part of his culture. It may well have been that it might have been part of what was to become his culture, however as cultures change of over time, it is not part of what he inherited as his culture (or so he would claim).

Insofar as we hold traditions to be moral then we can derive moral duties from them. There are two questions that arise from seeing moral duties in this light; 'Does seeing moral duties in this light make them strong enough to be binding?' and 'what role should the concept of moral duty play in this context?'

To answer the first question, yes, moral duties would be considered strong enough to be binding (that is guide an agent's actions by appealing to the relevant duty) insofar as they correspond to the relevant tradition and do not violate any other moral component of U. So traditions such as giving to charity on certain dates, such as giving money to veterans associations on Remembrance Day, would be preserved as such an act does not violate any other components of U (I will defend this claim later in the paper). From this tradition one could derive the rule –'on certain occasions on has a duty to be charitable' or something to that effect.

This is a very restrictive view of moral duties as they are not as binding as many would like. It is not essential that we follow them and at times it may be the morally correct course of action to break them. Moral duties in this view are supplementary to the more powerful virtue ethics and consequentialist components of U. To use Rossian terminology all moral duties are thus *prima facie* as they are subject to being overruled by more important moral considerations. Moral duties, seen in this light, can be considered of lesser moral importance to the other components of U. Furthermore one can only establish moral duties on the grounds of already held traditions – one cannot make derive a moral duty from a tradition that one would expect a culture to possess in the future. For example, one could not derive the duty 'one has a duty to remove genetic predispositions to illness from babies through genetic manipulation' because the tradition of genetic alteration has not yet been established. Duties are thus backward looking, as they can only refer to traditions that have already been established.

Tradition is therefore the lynch pin moral duties. However how are traditions established and how do they change over time? There is not much I can say to answer these questions. What I can say is that on a philosophical level traditions can change through debate between community members. The debate between those in favour of polygamy and those against it is far from settled. It is a continuous process and may never reach a conclusion - the argument is not fixed waxes and wanes from one side to the other. It is the deliberative nature of such debate that can on occasion overturn previously accepted traditions, and as such change or generate new moral duties. The process of deliberation is therefore of vital importance to U. I will return to this notion of deliberation later in the paper – to flesh it out in more detail.

## 5. U and Virtue ethics

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<sup>13</sup> Justice Malala; Food for Thought, 12 February 2010, The Financial Mail  
<http://free.financialmail.co.za/10/0212/life/zmalala.htm>

In this section I will argue that U has a virtue ethics component to it. Virtue ethics is traditionally understood as an alternative to deontological and consequentialist theories. It is the oldest type of 'western' ethical thought and its roots can be found in the works of Socrates, Plato and Aristotle. As with the other sections I will not be going into the ins and outs of virtue ethics. I will be concentrating on what is relevant to U.

A virtue ethicist argues that morality should be understood in terms of character.<sup>14</sup> This is opposed to theories like deontology and consequentialism which argue that morally good or praiseworthy actions can be understood in terms of some factor which makes the act good or bad, such as an adherence to a rule or a good consequence brought about by the act. An agent's character is of chief concern and this is what is analysed and ultimately said to be responsible for an action being considered good for a virtue ethicist. Therefore virtue ethicists do not care for rules for the most part. Some may use them as rules of thumb or guidelines, however what is of importance is the agent herself and the character traits that she exhibits as it is the agent's character that determines how she will act in a given situation.

People who are of good moral character are said to be of virtuous character, and those of bad moral character are said to possess vice. We can understand virtue to mean a propensity to act in a way that is considered to be morally praiseworthy or good. Vice is the opposite.

The internet encyclopaedia of philosophy has this to say about virtue ethics:

*Most virtue ethics theories take their inspiration from Aristotle declared that a virtuous person is someone who has ideal character traits. These traits derive from natural internal tendencies, but need to be nurtured; however, once established, they will become stable. For example, a virtuous person is someone who is kind across many situations over a lifetime because that is her character and not because she wants to maximize utility or gain favors or simply do her duty. Unlike deontological and consequentialist, theories of virtue ethics do not aim primarily to identify universal principles that can be applied in any moral situation. And virtue ethics theories deal with wider questions—"How should I live?" and "What is the good life?" and "What are proper family and social values?"<sup>15</sup>*

From this I will elaborate on 3 key points: virtue derives from natural tendencies, virtue needs to be nurtured and the stability of a fully virtuous character.

I take it as very obvious that people are born very differently. Our genetic inheritance affects not only our physical make-up but also our personalities and characters. It is therefore no big leap of the imagination to assert that some people are born with a greater (or smaller) sensitivity to ethical issues. In terms of running, most people express an 'average' amount of innate running ability whilst some express either very good or very bad ability. The same can be said for character traits, some people are naturally more aggressive than others and some are less so. Therefore people with an inherited predisposition towards certain character traits are naturally predisposed to act in morally praiseworthy ways.

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<sup>14</sup> See: <http://plato.stanford.edu/entries/ethics-virtue/>

<sup>15</sup> See: <http://www.iep.utm.edu/virtue/>

Where then does this leave virtue ethics? Not all of us are naturally good people, so it looks like virtue ethics is a theory about the Mandela's and the Ted Bundy's of this world. However what is also important to virtue ethics is the ability to learn and develop one's character into one that is more virtuous. To extend the running analogy, runners develop their natural ability to run through training. The same goes for character. I will not provide a full explanation of character development here – to my mind there has been no exhaustive account of how one does so. What I will do is make several key points about what character development entails. It is these key areas that link to U and thus one can consider U to contain, at least in part, some form of virtue ethics.

Key to character development is what Lear calls 'being and becoming'. By being a runner one is constantly shaping one's self into being a certain type of person – that is a person who runs. Also by 'becoming' a runner one strives for a better understanding of what it is to run.<sup>16</sup> This process is unending, in the practice of being a runner one is moving forward and examining how one's action contribute to being a runner. If we extend this practice to one's character one is constantly shaping one's self into being a certain type of person – a person of good character. One strives for a better understanding as to what is to be a good person or what it is to be of good character. Finally, one is unendingly examining how and what it is to be a good person. What being and becoming is therefore is a way of believing things. Therefore being and becoming does not imply that one's character is in constant flux – in fact quite the opposite. One's character is more rooted in the process of 'being and becoming'.

Two people might believe the same facts, however what would mark them apart is that way in which they believe them. Imagine that there are two physics students during the Copernican Revolution. \* They both believe that the same things, that the sun is not the centre of the universe, that the earth revolves around the sun, etc. Student A is unmoved by the facts – he believes them, and asserts them in an argument by it does not 'move' him. Student B on the other hand is deeply 'moved' by these facts – he is full of amazement and wonder at the fact that the world is *here* when it could just as easily be *there*. He is in awe as to how people can come to know these things about the universe, even though he can precisely articulate the process that lead up to the discoveries. Student B has 'internalised' the beliefs in a different way to that of student A and this explains why he feels so differently about them. It is therefore the way in which student B believes that sets him apart from student A. Student B's beliefs are thus more strongly tied to her character than the beliefs of student A. Student A does not feel any amazement and wonder at the beliefs being true, nor does she feel and dread or fear that they may be false.

Therefore by 'internalising' a belief in a certain way anchors that belief to a person's character. In the ethical sphere, one in order to be an effective moral agent one must not only believe something like a moral fact, but one must also believe it in the right way. I.e. one must form one's character in such a way that the belief is rooted in within the person and thus instils in them a propensity to act in a certain way effectively. Consider students A and B again, if they were at an academic debate they would both defend that the earth is not the centre of the universe. However student B would defend it in a more effective and vigorous manner as she has more to lose by losing the debate, that

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<sup>16</sup> Lear J; Therapeutic Action: An Earnest Plea for Irony, publishing details not given, ISBN 1-59051-143-3, pg 18-19

\* I have adapted this example from Lear pg 5

belief is at the core of who she is. Therefore such a debate is not only a factual debate but it extends into a debate about identity.

Nurture therefore, provided that it embraces the concept of 'being and becoming', provides one with an avenue for moral development. We can train and hone our ethical sensibilities in order to develop into effective moral agents. Therefore virtue ethics can provide a workable solution for those who are born of average or low ethical sensitivity.

In light of the above, how then is virtue ethics supposed to be part of U? At its core U, is about a person's character. U is more about the manner in which someone believes and 'internalised' what they believe than it is about what a person believes. This is why a member of the Thembu dynasty (a Bantu royal house in the Western Cape of South Africa) , i.e. Nelson Mandela, and an Anglican Archbishop, i.e. Desmond Tutu, can be said to both possess ubuntu. Here is Desmond Tutu describing a good person:

*When we want to give high praise to someone we say, "Yu, u nobuntu"; "Hey, so-and-so has ubuntu." Then you are generous, you are hospitable, you are friendly and caring and compassionate. You share what you have. It is to say, "My humanity is caught up, is inextricably bound up in yours."<sup>17</sup>*

What it means to be human is to have oneself bound up in the process of being and becoming a person through other people. It is through community that one asserts one's humanity as it is in a context of one's community that one's ethical sensitivities are developed. What makes U unique though, is that implicit acceptance of the principles 'being and becoming'. As a runner develops her running skills through physical training, a person develops their ethical sensitivities through ethical debate and through dialogue. Augustine Shutte alludes to this point in his book on ubuntu. In a study done of a convent of nuns a marked difference between the German nuns and the nuns from Africa was observed. After all the compulsory chores had been completed, the German nuns would continue to work industriously by sewing and knitting. In contrast the African nuns spent their time in conversation with each other. Both groups regarded each other as morally lacking in some regard. The German nuns saw the African nuns as lazy and possessing a poor work ethic, whereas the African nuns saw the German nuns as uncaring about people.<sup>18</sup> Another striking feature of U is the importance placed on reaching a consensus. In traditional societies, ethical disputes were often only considered resolved when a consensus was reached.<sup>19</sup> This notion has led to some interesting theories being advanced in political philosophy. For example, Kwasi Wiredu has put forward a theory of a 'non-party polity' which is based on the traditional politics of the Akan people.<sup>20</sup>

What got up the German nuns' back is precisely what I contend is what is necessary for leading a good moral life – a way of life in which ethical debate, dialogue and consensus forming is used to develop a person's ethical sensitivity.

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<sup>17</sup> Metz T; Toward an African Moral Theory, The Journal of Political Philosophy, volume 15, number 3, 2007, pg 323

<sup>18</sup> Augustine Shutte, Ubuntu: An Ethic for the New South Africa (Cape Town: Cluster Publications, 2001), pp. 27–8.

<sup>19</sup> Ramose M. African Philosophy through Ubuntu, Mond Books, Harare, 1999 pg 135–53

<sup>20</sup> See: Wiredu K; Cultural Universals and Particulars: An African Perspective, Indian University Press, Bloomington, 1996, pt. 4.

Therefore it is this way of 'being and becoming' that identifies U, at least part of it, as a virtue ethical theory. The African nuns were conforming to the Zulu saying '*umuntu ngumuntu ngabantu*' (A person is a person through other people). Therefore U is more a world view, a way life, than it is an ethical theory. By adopting this way of life, this view point, the ethical issues that arise from our Lactoguard device can be addressed.

## 6. U vs. Consequentialism

Consequentialism is an ethical school of thought that argues that the normative weight of an action solely depend on the consequences of that action.<sup>21</sup> A classic example of consequentialism would be Utilitarianism. For a utilitarian the moral weight of an action lies in the utility that it produces. Utility can be variously understood but traditionally it is seen as the 'greatest happiness for the greatest number'.<sup>22</sup>

U can be seen to be consequentialist. This is because U sees consequences that produce harmony and reduce discord as good on the basis that they do exactly that. There are actions that one does not describe or qualify further than the effects that they produce on one's relevant community. For example, one could argue that removing a genetic predisposition to illness, like cancer, is morally good because of the harmony that results in the community by reducing cancer.

According to U, the consequences of an action matter in so far as it produces harmony and reduces discord. Most of our actions tend to be consequence orientated – we perform moral actions because they tend to produce a tangible good. For example by respecting one's family members one would realise greater harmony in one's community and household.

There is debate as to what one considers a consequence. To be clear, is a consequence is the actual consequence that is to be considered a consequence, or is it the consequence that the agent expects to come about when he performs an action? This point needs further illustration.

Suppose, suppose you see a child drowning in a lake. You dive in to save the child, i.e. you expect to bring about a good consequence. However in the course of the attempted rescue things go very, very wrong and you end up in unintentionally causing the death of the child, its mother, its father and the family dog. The actual consequence is much worse than what would have happened had you not intervened. Some theorists like J C C Smart<sup>23</sup> argue in favour of the actual consequences being the consequences of actual moral consideration. However this notion is incompatible with U – instead U favours expected consequence. This is because a like the one taken by Smart would be not dynamic enough. If this conception were to be held by moral agents then they would refrain from actions like trying to save the drowning child as they would not be willing to risk bringing about events that could be worse. However this seems skewed to me, such a conception of morality does not

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<sup>21</sup> SEP <http://plato.stanford.edu/entries/consequentialism/>

<sup>22</sup> SEP <http://plato.stanford.edu/entries/consequentialism/>

<sup>23</sup> See: Smart J C C; Extreme and Restricted Utilitarianism, The Philosophical Quarterly, vol. 6, no. 25, Oct 1956, pg 344-354

encourage moral excellence. Instead it encourages a moral mediocrity as agents would be unwilling to take risks for the sake of others.

Therefore I contend that U embraces the alternate view, that one should consider the expected outcome as where the action should be judged. Thus by U, your actions in trying to save the drowning child would be considered good or morally praiseworthy as your intention was to bring about a consequence that was by far and above more praise worthy than letting a child die for fear of the possible risks.

How does U cash the notion of consequentialism without describing the actions in terms of duties and therefore into deontology or virtue ethics?

The answer, paradoxically, is the opposite of the way in which I set out this paper. It is unhelpful to describe the moral stance advanced by U in terms of its constituent components. I have set the paper out in this manner in order to tease out the different aspects of U. However U is a unitary theory therefore it only appropriate that we speak of U in its entirety and focus on the substantive content of what U says, rather than continue to view its different components as separate entities.

It is U in its entirety that advances the ethical stance and as such the views ascribed to it can only be described in terms of the substantive content advanced. The aspects of U are complementary linked by a common conceptual thread. To parallel Nussbaum, we should 'do away with the category of "virtue ethics" in teaching and writing... and then, most important, let us get on with the serious work of characterizing the substantive views of each thinker about virtue, reason, desire, and emotion - and deciding what we ourselves want to say.'<sup>24</sup>

## 7. Putting U back together

When we put U back together after examining it in the sections, in particular section 6, above are in a position to assert 5 basic 'rules of thumb' that I asserted in section 3. These rules are not moral duties or rules that tend to bring about good consequences. Are commitments that one is obliged to accept in light of one's acceptance of U. They inform moral actions but they do not guide it in the way a moral principle like 'on certain occasions one has a duty to be charitable' does, they instead guide how duties and moral thought should be applied. In this section I will offer a justification for these principles, which I hope to show provide a way to address the problems raised in section 2. For ease of reference I will state the 'rules of thumb' again:

- Informal relations are important and have a role in our decision making.
- Community members should show special 'family-like' concern for one another and that one's actions reflect on the community as well as the individual.
- Every member of that community has a personal stake in its endeavours and should bear some of the responsibility for the community but also share in the fruits of its endeavours
- An individual's contribution to the community does not have to be equal to the benefits that they receive the community. Some members may be more reliant on the community that others and some may be expected to contribute more.

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<sup>24</sup> Nussbaum M; Virtue Ethics: A Misleading Category?, The Journal of Ethics, vol. 3, no. 3, 1999, pg 201

- Members of the community have access to the resources of that community and can make use of them in so far as they contribute to the community and are involved with it. They can also profit of the communities resources provided that the profit generated goes into supporting the community.

Consider the first statement. It is obvious that an individual is influenced by the context in which they are embedded. Socio-economic status, up-bringing, nationality etc all have an impact on how we think. Informal relations and networks are therefore intimately linked with what an individual believes. Furthermore, they are linked to how an individual believes something. The continuous and discursive nature of informal relations is a mode of interaction which sharply distinguishes itself from those of formal relations. Informal interactions are fluid and dynamic. In contrast, formal relations are embedded with in established roles and patterns of interactions. This in not to say that formal relations are not discursive and continuous, they can be – however they lack the fluidity that characterises informal relations. In short informal relations display no obvious structure, but formal relations do.

For example, one is more inclined to confide in one's close friend than one's boss at work. However what if they were one in the same thing? If one were to confide in one's friend/boss during office hours one's boss/friend might reply 'Let's not talk about this here. As your boss I must ensure that you are productive during the day. However as your friend I am sympathetic and we can talk about this at the pub after work.'

From this we can see that people often take on multiple roles at the same time. One can be a boss and a friend at the same time. It is therefore necessary to make such relations explicit as they inform an agent's moral actions. One's boss has different moral obligations to you when compared to one's close friend. Often these moral obligations conflict and therefore the individual's sensitivity as to which role should dominate during the interaction should be informed moral duties, or expected consequences.

What is apparent though is that informal relations do matter and that one should be aware that it is not always necessarily the case that formal relations have stronger obligations on us. Indeed informal relations enforce very strong obligations. It seems right that one should take off time at work to look after one's sick mother. One could frame such an act in terms of a duty or in terms of realising harmonious relations, but what is common is that these moral obligations are very strongly directed at those closest to us and our relations with our 'nearest and dearest' has some informal aspect to it. This also extends to those whom we are not very close to we can and do relate to them informally, however that bond is not as strong as those that one is closest to. Our informal relations to people whom we are not close to are grounded in the recognition of our own agency and the agency of other people. We are able to recognise that they are individuals like us, as they like us recognise that they are individual entities that are separate from their environment, but somehow intimately linked to it. There is therefore common ground in the sense that we recognise each others' inherent humanity as part of being human is being conscious of one's distinctness from others and the environment. It is this common ground that a moral agent pins a concern 'special' concern for others.

This concern can be considered special as it goes over and above what is considered normal concern. It is concern that is based not only on formal relations but on informal relations as well. Therefore if one's boss were to fall ill one would show concern for her light of one's formal relation to her (that

of being her subordinate) as well as showing concern for her in light of her being a fellow human being.

This concern is embedded within the context of a community. All human interaction takes place within the context of society. Furthermore, as mentioned above, individual agents are in part shaped by and comprised of their relevant communities. Mutual recognition between members of the same community, and between the individual and the community at large are therefore important to an individual's identity. It is therefore fitting to afford the agent the responsibility for maintaining and developing that community as well as the right to identify with that community.

From this discussion one can see solutions to the problems raised in section 2 start to emerge. In terms of physical harms, the major issue is the lack of consensus forming.

Whilst a large scale consensus is impractical and therefore undesirable, it is possible to reach local consensus. The development of such a device should therefore be undertaken with a regionalist view point. What might be considered adequate information and safety in one community might also be considered inadequate in others. The onus is thus on the researchers to be open and disclose all information about the device. By engaging communities in dialogue until a consensus is reached solutions can be reached.

Platforms for dialogue where individuals can debate and share information on a continuous basis should be set up, as the process of dialogue is as important as the information that is shared. These platforms should remain open for vigorous debate, however for the sake of harmonious relations there might need to be information that should be withheld. In particular, anonymity should be provided for if a person should wish to remain anonymous. There would be an obligation on the individuals within the community to respect a person's desire for anonymity. Models for platforms of this nature are beginning to emerge. The internet provides a perfect mechanism for facilitating dialogue and debate. Therefore initiatives such as the UBC's pHpBB forum should be lauded and nurtured.<sup>25</sup>

This would be in sharp distinction, to a common complaint by Africans that 'westerners' are often patronizing when providing help. A Nathalie Rothschild article on the proposed damming of Omo River in Ethiopia is a good illustration of this.<sup>26</sup> The western environmental campaigners are well-meaning and have good intentions – but it is clear that they have lost touch with reality as she argues:

*It is true that many people are dependent on the Omo River, which flows from southern Ethiopia into Lake Turkana in northern Kenya, for some form of subsistence, mainly through flood-retreat cultivation. But they also live in abject poverty and many suffer from chronic hunger. The fact that the precarious Omo is their most reliable source of food is a travesty, not a situation anyone in their right mind would campaign to sustain. Yet International Rivers refers to the Omo as a 'lifeline' for Ethiopians and says 'the rise and fall of the Omo waters is the heartbeat of the Lower Omo Valley'.*

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<sup>25</sup> See: <http://forum2010.ubcigem.com/index.php>

<sup>26</sup> Rothschild N; [Dam these patronising western campaigns](http://www.spiked-online.com/index.php/site/article/8339/), Spiked, 24 March 2010 <http://www.spiked-online.com/index.php/site/article/8339/>

Such problems arise from two things – lack of debate and consensus. I am pretty sure that most, if not all, Ethiopians living on the river bank would consent to it being damned if it meant that they would have some form of food and energy security. Furthermore, it is immoral and unjust that western eco-campaigners refuse to identify with Ethiopians and then think it is acceptable to tell them how to act and to try thwarting their ambitions. By refusing to acknowledge the Ethiopians' shared humanity by recognising their precarious position in terms of food and energy security, the eco-campaigners lost the right to enter into the conversation as they refuse to meet those on the other side as equals.

Researchers and marketers of Lactoguard must be wary of slipping into such a trap. In order to guard against this, it is essential that research and development must take on a human edge. This is to say consumers must not simply be seen as numbers and statistics but as people. Their agency must be respected which includes their right to refuse to take product or insist on stricter safety protocols.

Social justice issues should also be considered in ethical debate. As the consumers and developers of Lactoguard can be considered a community they should display a concern for one another over and above their formal relations. As part of a community – the members would be obligated to help other members who are in need of support. Furthermore, as Lactoguard would be developed in a communal context there is a clear obligation that the profits generated from Lactoguard's sale and distribution be, at least in part, ploughed back into the community. The individuals who have used the communal resources to develop Lactoguard would therefore be responsible for ensuring the profits be distributed in a manner that allows members of the community who need it most to access it most readily.

The scope of ethical debate should be considered at multiple layers on specificity – as one should consider the global, regional and local communities as of equal importance. Individuals are also obligated, by their mutual identification with their communities and the individual's personal stake in said community, to inform themselves of the current ethical issues at the table and to partake in the debate personally. In a democratic context, this entails that every member of the society avail themselves and make it their business to understand and debate the political. Though on such a scale true consensus is practically impossible – it is still an ideal worth striving for. Hopefully technological advance could one day make such a consensus possible.

It is necessary that the device only be marketed where communities are fully aware of both the risks of Lactoguard and the nature of HPV infection. Support structures in terms of educational programs that extend further than knowledge that is strictly relevant to Lactoguard should be created. It is essential that individuals gain a broader understanding of the technical and methodological approaches as well as the ethical issues of synthetic biology so they can make informed decisions about the device and synthetic biology as a whole. Research should be conducted in an open manner and there should be an emphasis on characterising the device fully – including how it reacts to creams and tonics that are used by women in rural areas. It would be a critical mistake to think that 'all vaginas are the same' and as such developers should take note of how tradition in forms how women in different communities treat their bodies. To avoid stigmatising those infected by HPV the reporting mechanism should be agreed upon by community members to balance what is technically possible and what is desirable. Individuals in charge of administering and monitoring the users of Lactoguard would be obligated to provide support for those placed in the high risk group

through continual exposure to infection, or the inability of the individual's immune system to clear the infection. Those who are placed into a high risk group should be provided with access to regular PAP-smear tests to try prevent the onset of cervical cancer. There should be constant interaction between the women of the community (which includes the developers) in order to discuss how they feel. It is important that individuals feel free to express their feeling within their community as this would add to the feeling of safety and openness and thus encourage the harmony within the community.

## **8. Conclusion**

In light of sections above it clear that calling U moral theory is inadequate. U is more than that – it is a 'world view' as it not only provides a set of beliefs about what is considered that we can justify but also a way of believing them. This world view is based on the recognition of not only an agent's own identity but the identity of other individual's as well. It is because one is embedded within a communal context that one effectively develops and expresses one's moral agency.

Ubuntu can be seen as having three different components to it. It can be seen as being deontological, consequentialist and also containing a virtue ethics component. It is a theory that should be seen gestalt, this is to say that ubuntu is as a unified ethical world view that emphasizes the need for harmonious existence within a community.

In this case study, the importance of debate and open dialogue has been emphasized. It should be noted though that debate implies not simply a once off thing, but a continuous process that is conducted on the grounds of equality and mutual concern and understanding. To do any less would be to do one's interlocutor a disservice as it would be a denial of their inherent humanity and intrinsic value. One should therefore bear in mind that in order to conduct oneself in an effective moral nature one should acknowledge one's agency as well as that of others.

There is cluster of ethical issues that are particular to a rural South African context. These issues arise from cultural practices in these areas. In order to overcome these issues, there is an obligation on the part of the developers to foster a spirit of ubuntu within themselves and encourage the growth of community amongst between themselves and the consumers of Lactoguard. The solutions also require of those using the device that they respond to efforts to build community as it is through open dialogue, debate and consensus forming the ethical issues can be address. It is also important to hold that it is a continuous process and therefore it is important to donate time and resources to nurture and maintain efforts in linking community in order to keep the dialogue going.

## Biography and references

- Parens E, Johnston J and Moses J; Ethical Issues in Synthetic Biology: An overview of the debates, The Woodrow Wilson International Center for Scholars, June 2009, pg 4
- Caplan A; The Presidential Commission for the Study of Bioethical Issues, session 4, 13-14 September 2010  
<http://www.tvworldwide.com/events/bioethics/100913/default.cfm?id=12777&type=flv&test=0&live=0>
- Haslberger a; GMO Contamination of Seeds, Nature Biotechnology, vol 19:7, pp 613  
[http://www.biotech-info.net/GMO\\_contamination2.html](http://www.biotech-info.net/GMO_contamination2.html)
- Baleta A; Concern voiced over “dry sex” practices in South Africa, The Lancet, vol. 352, oct 1998, pg 1292 <http://www.cirp.org/library/disease/HIV/baleta1/>
- Brulliard K; Zulus eagerly defy ban on virginity test, the Washington Post , Friday, September 26, 2008 [http://www.washingtonpost.com/wp-dyn/content/article/2008/09/25/AR2008092504625\\_pf.html](http://www.washingtonpost.com/wp-dyn/content/article/2008/09/25/AR2008092504625_pf.html)
- Forster, D A; Validation of Strong Artificial Intelligence: An African Theological contribution, Doctor of Theology, University of South Africa, 2006 Pg 252
- Metz T; Toward an African Moral Theory, The Journal of Political Philosophy, volume 15, number 3, 2007, pg 334
- Kant I; translated by James W. Ellington [1785] (1993). *Grounding for the Metaphysics of Morals 3rd ed.*. Hackett. pp. 30.
- McDowell J; Non-Cognitivism and Rule Following, pg 206-207
- McDowell J; Non-Cognitivism and Rule Following, pg 207
- Interview with Gellner, section 2 <http://www.lse.ac.uk/collections/gellner/Section2.html>
- Justice Malala; Food for Thought, 12 February 2010, The Financial Mail  
<http://free.financialmail.co.za/10/0212/life/zmalala.htm>
- See: <http://plato.stanford.edu/entries/ethics-virtue/>
- Internet Encyclopaedia of Philosophy <http://www.iep.utm.edu/virtue/>
- Lear J; Therapeutic Action: An Earnest Plea for Irony, publishing details not given, ISBN 1-59051-143-3, pg 18-19
- Augustine Shutte, Ubuntu: An Ethic for the New South Africa (Cape Town: Cluster Publications, 2001), pp. 27–8.
- Ramose M. African Philosophy through Ubuntu, Mond Books, Harare, 1999 pg 135–53
- <sup>1</sup> See: Wiredu K; Cultural Universals and Particulars: An African Perspective, Indian University Press, Bloomington, 1996, pt. 4.
- Stanford Encyclopaedia of Philosophy SEP  
<http://plato.stanford.edu/entries/consequentialism/>
- SEP <http://plato.stanford.edu/entries/consequentialism/>
- <http://plato.stanford.edu/entries/ethics-virtue/>
- Smart J C C; Extreme and Restricted Utilitarianism, The Philosophical Quarterly, vol. 6, no. 25, Oct 1956, pg 344-354
- Nussbaum M; Virtue Ethics: A Misleading Category?, The Journal of Ethics, vol. 3, no. 3, 1999, pg 201
- See: <http://forum2010.ubcigem.com/index.php>
- Rothschild N; Dam these patronising western campaigns, Spiked, 24 March 2010  
<http://www.spiked-online.com/index.php/site/article/8339/>

