

Employing theological ethics to draft a professional ethic in research²

ABSTRACT

This paper argues for a professional ethic in research and the contribution of theological ethics thereto. The author points out that although theological ethics is poor at dealing with issues related to professional ethics and its application to research, theological ethics can nevertheless make a meaningful contribution towards a professional ethic for research. It is also emphasised that although there is very limited (South African) literature on this topic, some theological ethics studies can contribute towards the understanding of such ethics. The author works with a triple helix approach to (theological) ethics. This approach to ethics is built upon the concept of responsible acts (Douma), making decisions (Fisher) and a growth ethic (Burggraave). The article concludes with pointers for a professional ethic in research from seen from theological ethics.

“Most universities have not done all they should to protect the integrity of their research” (Bok 2003:77).

1. THE POPULARITY OF RESEARCH ETHICS

Although not a new topic, research ethics is high on the research agenda, partly due to the apparent lack of literature on the topic of research ethics and policies (not limited to a regulatory framework only) to steer a research culture and partly due to new challenges facing the research agenda. The “popularity” of ethics in research is caused by *intrinsic challenges* associated with integrity in the research process such as data capturing, retention of data, ownership of data and research records, the presentation and/or omission of facts (fabrication and falsification of facts), plagiarism; *causality* challenges (the joint use of human and animal tissue in medical research can prevent diseases) and *value adding* challenges such as improvement of *health* (what about the problems posed by a *medical economy* – research introducing new but unnecessary surgery or research leading to expensive treatment that can only be afforded by the rich) and *wealth* (research has become a booming business – labelled as “big business.” The result is that research is no longer conducted to seek new knowledge that can solve problems but is done rather for the monetary value thereof). Needless to say, these and other similar developments impact on research integrity and professional behaviour associated with the research process. Valenkamp (2006) notes these developments and adds his concern by pointing out that economisation threatens professional ethics in two ways: the relationship between the professional and his/her

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client, and the quality of professional standards.

In reaction to these and many other challenges, a number of universities, research organisations and research management associations have placed ethics on the agendas of their research meetings to sensitise and influence members on this important issue. The Medical Research Council (MRC) requires ethical clearance on research topics; the National Research Foundation (NRF) stipulates that the research must be conducted according to ethical guidelines, universities require whistle-blowing on plagiarism, etc. Linked to this is the positive image a university should have as a result of its research. Recently the University of Pretoria obtained a court interdict against an organisation claiming that the university was employing inhumane practices on animals used in research. Such allegations can prevent prospective students from enrolling at the university (Versluis 2008a, 2008b).

Claims regarding the importance of research ethics can easily be substantiated, and to this end, a few references can be provided: a literature search will support the claim that research is not new on the agenda, but it will also confirm that in the South African context it is not yet well reported on. Well-known scholarly works on research such as Mouton (2001), De Vos, Strydom, Fouché and Delport (2005) and Rossouw (editor) (2005) don't deal extensively with this matter. Research councils and funding agencies all refer to research ethics but it is questionable whether these references are sufficient for the challenges associated with research. Needless to say, the challenges created by contract research, technology transfer and intellectual property are hardly reported on at all (see Lategan 2008). The situation is even worse when the subject discipline of "ethics" is considered: many books on subject specific ethics deal with ethics but very few articulate the meaning of this in relation to research.

In response to the renewed interest in research ethics there is a world-wide revisiting of ethical codes. Examples are the Australian National Statement on ethical conduct in human research (2007), the Australian code for the responsible conduct of research (2007) and the "Gedragscode Wetenschapsbeoefening voor Vlaanderen (Working Document, March 2008). From these documents it can be observed that research ethics straddles categories such as management, governance, training, professional behaviour and responsibility, risk, production of knowledge and dissemination of results, intellectual property, and openness to critique.

It would therefore be safe to say that literature and practice on this topic construct the conclusion that the general practice of ethics in research is still in its infancy in South Africa and needs to be further developed and reflected upon.

2. AIM AND OBJECTIVE OF PAPER

It is evident that there is a need for a professional ethic for research that can go beyond professional ethical codes with their limited influence. This statement is based on the observation that although professional codes are important to direct professional behaviour, the mere existence of such codes is no guarantee that workers will execute professional behaviour. "The reality is that they (ethical codes – LL) are not always effective in encouraging ethical behaviour in organizations" (Robbins, Bergman, Stagg and Coulter 2003:158). Well-known examples are the Enron scandal (2001) and the recent unwarranted speculation at the French bank, Société Générale (2008), which led to a loss of €4.9 billion. Of Enron it was said that it had good corporate values although it couldn't safeguard the company against corruption (see Lencioni 2002). Van Wyk (2008) reacts to the scandal at the Société Générale by saying that rules and codes don't make people honest. Integrity is something that comes from a person him/herself and is based on a particular value system. Shaw and Barry (2004:9) add their voices, commenting that "As a

professional you must take seriously the injunctions of your profession, but you still have the responsibility to critically assess those rules for yourself.”

Theological ethics can make a meaningful contribution in search of a professional ethic for research. This statement is based on the normative contribution theological ethics can make towards science (Smit 2002, Lategan 2007).

The *aim* of this article is therefore to present a framework for professional ethics based on theological ethics to guide research.

The *objective* of this article is (a) to present a framework based on theological ethics, (b) to illustrate the application of the framework to five fields of study, namely research into medicine, engineering, journalism, business and education and (c) to set guidelines for professional ethics in research based on theological ethics.

3. EMPLOYING A TRIPLE HELIX APPROACH

In drafting a professional ethics a *triple helix approach to ethics* will be followed. Although ethics is defined as the study of principles and the application of norms/values, a more articulated description of ethics is warranted to implement ethics in one's daily life. It is in this context that I propose three concepts to deal with ethics. The concepts are *responsible acts* based on *making choices* to get to *growth* in the desired situation. These concepts have their origin in a broader ethics discourse.

Responsible acts

Douma (1983, 1999) considers the notion of *ethics as responsible acts* (“*verantwoordelijke handelingen*”) of man towards God and his fellow persons. Responsible acts are informed by ethical principles and can be described as the implementation/application of these acts. Responsible acts signal that no act can be value-free. A Christian-informed value system will influence one's acts. Responsibility is fundamental to ethical behaviour. Responsible acts are understood in the context of good and bad and include a range of acts. Only human acts can be regarded as being of an ethical nature. Not all acts are ethical since people very often act on the basis of emotional or motivated reasons. Emotional or motivated reasons are not necessarily ethical. Acts often reflect nobility of character (virtue). Eventually all acts are purposeful. It is against this understanding of human acts that Douma (1999:23) defines ethics as the study of moral acts (“*de bezinning op morele handelingen ...*”).

Making choices

Fisher (2000, 2002) specialises in business ethics. For him ethics is about *making choices*. He calls on Peter Drucker who distinguishes between “*doing the right thing*” and “*doing things right*”. He favours a teaching approach where more emphasis is laid on “*issues versus right and wrong*”. For Fisher the role of business leadership is crucial. A profession influences a value system. Senior management has to be engaged in forming their view of right and wrong in a business. From Fisher's perspective it is obvious that a business ethics framework is formed by religious, family and educational values. These values will direct one in making choices. In making choices, a person's individual conviction will be the leading instrument. The value of his perspective is that ethics are not only about judging a situation but also about making a choice based on one's ethical orientation. It should be obvious that decisions themselves can never be removed from responsible behaviour. Badaracco (2000:5-14) presents a framework for making choices on the basis of “*spheres of responsibility*”. He identifies four spheres:

Sphere of responsibility	Contents of responsibility
1. Personal ethical values	1. Personal values consist of the duties, commitments and ideals that shape and guide individuals' lives.
2. Responsibilities as economic agents	2. As economic agents, managers have the fiduciary duty to serve the interests of their company's stakeholders.
3. Responsibilities as organisation leaders	3. As organisation leaders, managers' decisions and actions have significant consequences for the lives, livelihoods and well-being of their employees.
4. Responsibilities in cooperative capitalism	4. Managers' ethical responsibilities do not stop at the boundaries of their companies. This is true not only in dealing with other firms, but also in dealing with international/globalised companies.

Growth ethics

Burggraave discusses the growth ethic. Fundamental to this ethic is the approach that although the ethical choices one makes might not be the perfect choices, they are still aimed at meeting the ideal for the situation. The choices made will guide one always to aspire to the ideal situation. Within his growth ethic there are several ethical guidelines that can assist in making an ethical choice. Firstly, Burggraave calls for a Christian engagement. Secondly he argues in favour of mercy in ethics. Thirdly he frames it within an ethic of growth. God is the cause for ethics. One cannot place his/her faith in God without reaching out to other people (Burggraave 2000:198). When Burggraave (2000:81) calls for a Christian engagement it is based on the love for God who demands that we love our neighbours like ourselves (Burggraave 2000:81). The first sign of God's love is that He gives life (Burggraave 2000:48). *Life is therefore fundamental in ethics*. Life can therefore be associated with God's love. Responding to God's love implies a total change of mind and behaviour (Burggraave 2000:52).

In an imperfect world one should accept that the desired ethical behaviour is not always possible. Although one strives towards the "absolute good" (*vere bonum*) one very often has no choice other than that of the "lesser good" (*minus bonum*). This is an improvement on the lesser evil (*minus malum*) (Burggraave 2000:257). Situations occur where one takes on a less desired ethical behaviour (ignore the advice of a supervisor regarding an experiment if there is evidence to suggest that there is a better methodology to follow) but one still wishes to behave ethically (inform the supervisor that his/her advice was not followed and the reason for this). This is the basis of a growth ethic – one grows towards the ideal situation. Growth ethics represent the "lesser good" (Burggraave 2000:259).

Integration of ethical approaches

Acts and *choices* already signal that the subject of ethics is no desktop exercise and no theoretical activity only. Ethics come into effect when making choices but become meaningful once the identified principle and its norm/value are applied to the challenges at hand. Against the framework of the definition of ethics one can say that principles and their values/norms are identified and analysed based on informed choices and responsible acts with a view to addressing a conflict of interests in a meaningful way. Throughout the process a person should grow to seek the ideal decision and to know that a compromised decision might be best for a particular situation but not always for the desired situation. Lips (2006) reminds one that ethics

can never be removed from the search for the meaning of life. It is in this context that Remans' (2005) ethic of care ("*zorgvuldigheidsetiek*") can be presented. He lists three categories to explain his understanding of ethics: welfare and luck of the self and others, control of risks, and that the advantages should far outweigh the disadvantages. Remans' view links to the creation of a meaningful life for the self and others. Ethics is never about excluding other people but about creating an environment of neighbourly welfare.

These suggested approaches to ethics can be useful in dealing with professional ethics in research. Consider the following example. The development of new forms of energy is high in demand. In South Africa new forms of energy are necessitated not only to be more environmentally friendly but also to secure sufficient resources of energy to keep the economy going and to meet household demands for energy (*making choices*). For researchers the scientific challenge is to develop new forms of energy. But their scientific endeavours will be influenced by ethical challenges such as the environment and cost considerations (*responsible acts*). Ethical questions would be whether the environment can be ignored in developing these new forms of energy; whether the environment should be protected at all costs; and whether the sustainability of the economy is not more important. After all, the economy in South Africa is slowing down at such a rate that one might debate that all stops should be pulled to save the economy from negative growth (*growth ethic* to desired situation).

With these principles in mind, a professional ethic in research based on theological ethics can now be presented.

4. A FRAMEWORK FOR PROFESSIONAL ETHICS IN RESEARCH BASED ON THEOLOGICAL ETHICS

The discourse up to now advocates professional ethics in research and discusses the contribution of theological ethics in this regard. The examples have made it clear that ethics is not a theoretical exercise only but should be implemented in all activities. The preferred approach to ethics is that of the suggested triple helix approach. Based on this approach, the next framework for professional ethics can be presented.

The nucleus of professional ethics should be moral or value-driven responsibility. Here I would be inclined to follow Heyns' *theology of obedience* as developed in "Lewende Christendom" (Living Christianity) (1972) although the perception of obedience might not fit comfortably into a post-modern society. Heyns emphasises the fact that one must respond to God in any given situation. Essential therefore is how one "hears" God and how one reacts to hearing God. In reacting to God's call the kingdom of God is proclaimed. The value of Heyns' approach is that through one's responsible acts, which are part of our obedience, there is a definite approach to the proclamation of the kingdom of God – including science. The kingdom of God leads to another perspective, namely that of God's *omni presence* in creation – once again including science. Following on this is the *confession* that God is the Creator of molecules, DNA structures, gravity, numbers, concept, etc. Confession in ethics shouldn't be seen as a rigid *summary* of one's ethical beliefs but rather as an active *practice* of one's Biblically-informed ethics. Confession in ethics should be seen in juxtaposition to one's *calling*. Here too is the emphasis of living one's religious beliefs in everyday life. Venter (2007:215) emphasises the effect of God's "character" on one's life. He argues from a Trinitarian perspective. The question then is not *Who am I?* but rather *How does God's being influence my understanding of calling?* Calling from a Trinitarian perspective is never about one's own preferences but always about the kingdom. A similar view is expressed by Schuurman (1998), who says that the Christian *Call* to follow Christ should spill over to all other *callings* in life. He distinguishes between lawful and unlawful callings. God calls

lawfully and it serves the common good. Characteristic of one's calling is the central religious command. All love should be selfless. *Shalom* should be experienced in all one's callings. *Shalom* refers in this context to enjoyment. Schuurman says: "In all their callings – home or extended family, friendships, paid work, cultural activity, political life – Christians must strive to establish justice, contribute to the common good and promote enjoyment of life in creation under God's reign" (Schuurman 1998:347). Vocation should keep on reforming personal and institutional life. Höver (2005) deals with the Barmen Declaration which establishes guidelines for ethical behaviour. He refers to two fundamental perspectives in this declaration. Firstly, Christ is God's assurance for the forgiveness of sins (*Zuspruch*) and secondly He is also God's claim over our entire life (*Anspruch*). Given this, it means that Christian ethics relate to all areas of life. No neutrality can exist. Man is equally responsible for his own and his neighbour's wellbeing. Ethics therefore demands compassion. Compassion is embodied in love. No absolute and final answers can be given, and there must be an ongoing search for correct moral behaviour. One can regard obedience to the Kingdom of God as motivation for one's moral responsibility. Living moral responsibility should be a confession which is part of one's calling. Responsibility therefore has three ethical dimensions: obedience, calling and confession.

The centre of the proposed framework consists of the ethos of the individual or profession. *Ethos can also be translated as ultimate commitment*. A Reformed (professional) ethic's commitment is situated within Scripture. This commitment comes in an age during which the authority of the Scripture is questioned and therefore not regarded as a straightforward issue. Although both the morals and the context of ethical decisions have shifted, this doesn't mean that the Bible cannot be the foundation for a social ethical discourse or framework. Even if the authority of the Bible is called into question, it doesn't mean that for Christians the authority of the Bible no longer exists (De Villiers 2004). Neither will this study pretend to give a final answer. The point of departure is rather to understand the meaning of God's revelation for science than to prove the existence of God. Theology is *understanding* and *interpreting* the revelation rather than *proving* the revelation. Here hermeneutics plays a specific role (see Smit 2006). A good example is given by Du Toit (2000; 2005), who has made an enormous contribution to stimulating the debate on religion and science in the South African theological community by indicating that in a post-modern world strict rationalistic categories for interpreting God in science no longer suffice. Pure objectivity doesn't exist either – man is too much influenced by presuppositions which influence his reading of Scripture and his understanding of the context of application.

Responsibility must be evident in all actions (choices/decisions). Actions are influenced by ethical orientations such as *attitude* (decisions based on individual motives or morals: *Why am I doing this?*), *consequences* (What will be the outcomes and impact of one's decisions?) and *virtue ethics* (uses practical wisdom and character for emotional and intellectual problem solving: *How best can I deal with this situation?*) (Towsley-Cook and Young 2007:9,10). Following on action is impact. The long-term effect or impact cannot always be predicted in advance. Although the possible implications of the development of nuclear power were well-known to its inventors, nobody could imagine the disaster it would bring to the victims of the explosion at the Chernobyl nuclear plant. The same can be said about developments in bioengineering. Human defects can be minimised, but what about the evils of cloning? Actions should always be weighed. De Gruchy (1996) says that responsibility is not to over-exploit the environment, animal world or created order because man is placed in command of the earth (the so-called cultural mandate in Genesis 1:28). He understands responsibility in the context of service and thankfulness. He writes:

“The gospel transforms our understanding of being human by insisting that human responsibility is not a mandate derived from our creation in the image of God, but an expression of gratitude to God for the gift of life in Jesus Christ. It is not simply a moral duty but a response of thankfulness” (De Gruchy 1996:104).

He continues to say that through Christ man is able to execute his freedom. “... but precisely because we have regained our freedom to be human beings we can now exercise our responsibility as God’s stewards” (De Gruchy 1996:104). He subscribes to Bonhoeffer’s understanding of responsibility namely that man surrenders his life to the service of others (De Gruchy 1996:105). Responsibility also refers to discipleship – Christians learn to follow Jesus Christ day by day (see Romans 14:12, Colossians 3:23). Conradie (2003) adds similar ideas. He says that the stewardship principle can hardly be understood outside the Christian tradition. Genesis 1:28 deals with *kabash* (to subject, to dominate) and *radah* (to rule). The general application is ideologically understood as domination. He argues instead for an interpretation of care and protection. These words cannot be freed from their violent connotation, and neither can it be justified to limit their meaning to exploitation only. The inclination is rather to add responsibility to the interpretation of these words. An unwarranted and undisciplined application of responsibility should be avoided. Dzansi (2006:176, 180) captures the essence of ethics well when he says that ethics must provide guidance so that decisions can be made with honesty, respect and fairness. The *ubuntu* approach has the common good as integrator for hospitality, care and neighbourly love. Van Niekerk (2005:214-217) says that an ethic of responsibility demands accountability of ethical decisions. Responsibility is the midway between inflexible rule, morality and utilitarianism, which regards all ethics as unimportant and ignores them.

The ethical dilemma grows in situations where very little choice is left (“the minimisation of choices”). Two concepts inform this debate: *minus malum* (the lesser evil) and *minus bonum* (the lesser good). These concepts relate to two ethical figures: the compromise and a growth ethic or an ethic of possibility (Burggrave). The argument is driven that no choice should be made between these concepts but that these concepts can help to address the conflict in borderline situations. This view relates to the compromise. A compromise has to do with the choice between two conflicting norms in a borderline situation. In a borderline situation norms are in conflict with each other and a conflict of interest is created. It then necessitates a choice between the norms. A growth ethic should assist one to grow through the current situation to the desired situation. The value of a growth ethic is its assistance in dealing with the results of the borderline situation after the choice of the lesser of two evils has been made. In practice this means that the choice for an abortion to save the life of the mother is a lesser evil (*minus malum*) and the research following on the aborted embryos is the lesser good (*vere bonum*). The choices of the *minus malum* and the *vere bonum* should contribute towards the ethical growth of the researcher. Ethics aspire to the ideal situation but are very often confronted by a reality where no clear-cut options are available. Burggrave (2006:25) also says that an ethic of growth will lead to meaningful living and acting. He emphasises that although people might not be living according to meaningful Christian norms it doesn’t mean that there is no validity in these norms. He makes an important observation: “Ethics has to be transcended in a double direction: both downward and upward.” Downwards means it is part of one’s daily life and actions. Upwards means that it is directed towards a hopeful future which mankind cannot create or enforce since it is given in grace only (Burggrave 2006:26). Eventually it becomes an ethic of mercy. He says: “Going along life’s way is not an aimless wandering about but having a horizon – literally a “panoramic view” – before you that not only reaches farther but also higher and invites you to

go to the top.” Another feature of a growth ethic is its humbleness and its hope (as desire and expectation). It opposes the perception of perfection. It also calls on care and forgiveness. The crux is that man should strive to keep his moral behaviour as close as possible to the Biblical norm.

It would be unrealistic to think that all situations are faultless, non-problematic and not ethically challenged. No one should shy away from the imperfect world in which we live. Hart and Neil Brady (2005) remind us that no manager or organisation is free from making mistakes. The challenge is how can mistakes be corrected and imagination for research maintained. It is in this context that the triple helix approach to professional ethics can be scaffolded in the broader context of *workplace spirituality*. Workplace spirituality is not primarily linked to religion in the workplace but rather to how the workplace contributes towards the meaning of existence. This is warranted by, amongst other things, the disconnecting of individuals due to the specialisation in organisations (Hart and Neil Brady 2005:422). Robbins *et al.* (2003:60) write:

“What is workplace spirituality? It is not about organized religious practices. Rather, it is a recognition of an inner life that nourishes and is nourished by meaningful work that takes place in the context of the community. Employees are looking for meaning, purpose and a sense of connectedness or community from their work and their workplace.”

Many reasons can be provided as to why workplace spirituality is in demand. Man has an ongoing search for meaning – also in the workplace. Work should entail more rewards than simply a job and a salary. Since people spend so much time at work, they continue asking how work can give purpose and meaning to their lives. Another reason is the uncertainty of the modern workplace. Uncertainty creates anxiety. The ethical question is *How are these issues addressed?* (Robbins *et al.* 2003:60-61).

Workplace spirituality can bring ethical meaning to the professional environment. It hinges on enhancing meaning in the workplace through professional behaviour. Meaning is best articulated through the armour of ethics as a lifestyle. Consider the following remark by Strydom (2005). He says that ethical principals should be internalised in the personality of the researcher to such an extent that ethically guided decisions become part of the researcher’s lifestyle.

Having an ethical standard is therefore the one behavioural essential without which no workplace can be. There is value in the remark of Harris, Pritchard and Rabins (2005), namely that ethics have a preventive role to play. Ethical people can safeguard society from many malpractices. Ethical people can bring safety and wellness to society. This in no way means that they are policing the world, and neither that they are whistle-blowing all the time. Ethical people adopt normative behaviour as a life style. Ethical professionals live up to ethical behaviour that goes far beyond (in the positive sense!) that which is expected by their ethical codes. Ethical behaviour in the research environment creates new knowledge that improves the well-being of people and their society. It is for this reason that integrity should be the branding of the modern workplace. Audi and Murphy (2006) rightly point out that there are many faces to integrity. From its Latin origin, *integritas*, it can mean completeness, purity or uprightness. Although these are not synonyms for integrity, its opposites signal precisely what integrity is not: defects, underdevelopment of moral aspects or behaviour. In analysing different uses of the word “integrity”, it can imply *oneness* of character (person lives by his/her standards which are aligned with universally accepted behaviour – shall not lie, cheat, steal, etc.), Doing the right thing requires reflection. Integration of conduct and character in individuals, groups, institutions and society is therefore beyond debate. Essentially two kinds of integrity are needed

in professionalism: integrity as a certain kind of unity of character, and integrity identified either with specific moral virtues or with moral virtues in general.

From a Reformed perspective the approach to ethics advocated in this study means that the Reformed researcher must be influenced by the Reformed ethos. This ethos must direct his/her understanding, unfolding and interpretation of reality. An ethos is not subject to scientific proof but is *a priori* for a researcher. For the Reformed researcher the Bible will provide the *principle* (how things ought to be) which has to be applied to a concrete situation (the *norm* for the situation).

Any framework is meaningless, however, if it cannot be implemented. In the next paragraph this framework will be tested against examples taken from medicine, engineering, journalism, business and education.

5.APPLICATION

The triple helix approach (responsible acts, making decisions, growth) can be applied to the following research challenges in five fields of research: medicine, engineering, journalism, business and education. Examples will be related to the research context:

Pro-fessional ethics	Medicine	Engineering	Journalism	Business	Education
Example	Designer babies	Design and manufacturing of light motor vehicles	Unnamed resources to support news story	Manipulation of research budgets to meet own research objectives	Poor supervision
Ethical problem	May one interfere with the unborn baby's sex and / or physical characteristics?	Light motor vehicles can save on energy and more people can have access to cars. Light vehicles not so safe on troublesome roads. More vehicles mean more pollution.	Claims are made but how is the information verified?	A lack of effective budget and risk controls can endanger the successful completion of a project.	Problem of plagiarism, mediocre work, science is a fallacy, under-prepared supervisors.

Pro- fessional ethics	Medicine	Engineering	Journalism	Business	Education
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Respons- ibility	No gender discrim- ination. Individual consumer prefer- ences should be avoided, such as colour of hair, height and physical character- istics. No scien- tific arrogance should be tolerated. Positive use - to cure genetic defects in children.	Design cars that don't compromise on safety and don't contribute towards pollution.	Anonymity of resource can be respected but not if the person is unlawfully protected.	Not to use funding for items not approved in the budget.	Integrity to science.
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Pro- fessional ethics	Medicine	Engineering	Journalism	Business	Education
Decisions	Choosing sex should never be for consumer (heir to the family business, men needed in war time situations) or pragmatic reasons (already have three sons). Positive decision if it contributes towards human health.	Invent alternative transport systems. Road safety would be a special requirement.	Sensation must never be the reason for publishing information to the detriment of other people.	To adjust and approve and to have control mechanisms in place.	No student should be assigned to supervisor not qualified for the job.

Pro- fessional ethics	Medicine	Engineering	Journalism	Business	Education
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Growth	Value of person beyond gender. Gender equality should be promoted.	Owning a car is a sign of prosperity but not at the expense of other people and the environment. Individual interest less important than group's interest.	A good scoop less important than the moral commitment towards people.	Access to funding doesn't mean that one can misuse funds or use it to entertain personal needs.	Supervisors should learn how to supervise. This is a skill alongside their professional scientific field of study. Cannot argue that if a supervisor knows his/her field of study then it will follow automatically that he/she is also an effective supervisor.
Contribution by theological ethics	God is Creator; children are changed from persons to products, dignity of human life, children as gifts from God (Psalm 137), family life not based on gender.	Personal wealth (individual gain) can never outweigh responsibility towards the group and the environment.	No unverified information should be revealed.	Eighth commandment forbids stealing of money.	Having a work ethic means commitment to profession and also to update oneself on things that one is not well informed of.

Pro- fessional ethics	Medicine	Engineering	Journalism	Business	Education
Meaning for professional ethics	God created equality of gender. Gender imbalances due to cultural behaviour and not creation order.	Individual advantages should not ignore the impact on the group and <i>vice versa</i> .	Individuals should be treated with dignity. How will sensation change behaviour?	Understand risk, financial control, accountability in view of the eighth commandment.	Part of being a professional is to have (and master) skills associated with job.

6. THE IMPLICATIONS FOR A RESEARCH CULTURE

Doing research cannot be without *ethical responsibility*. Responsibility in the ethical sense means the identification of the principles laid down for doing research and contextualising the related norm for a given situation. Ten (there should be more!) virtues can be identified from theological ethics for professional ethics in research.

- God is the creator of all things and has entrusted man to take care of them. Part of the cultural mandate (Genesis 1:28) is to find answers to the challenges associated with the universe. Christian scientists will affirm that God is present in all forms of knowledge. True knowledge will be linked to God (Psalm 111:10), that God is the Truth (John 11:25). At the same time the Christian scientist will also affirm that Christ is the Redeemer of a fallen world and that salvation should be evident in the world of knowledge as well (Matthew 28:18-20). Doing research in a professional manner is not to prove God but to rejoice in His presence in the created world.
- Human life is God-given. It should be protected and never subjected to research where the risk is of such a nature that life and dignity are challenged (Exodus 20:13, Job 10: 8-12, Psalm 139: 13-16). Human life can never be regarded as laboratory equipment. Medical/ Health ethics committees have the responsibility to see to the humane treatment of all people in controlled research experiments. Legislation must be progressive and should not allow the “fabrication” of human embryos for research only.
- Although the animal kingdom is subject to man’s control this doesn’t mean that animals can be exploited for research. Although animal life is not equal to human life (Genesis 2: 19-20, 9:6, Psalm 8:6-8), animals can be used in research if risk controls are in place. Man’s control over all created creatures doesn’t mean that these creatures can be exploited or experimented upon without controls in place.
- The environment must never be exploited at the expense of ecology, natural resources and healthy living conditions. God gave the earth to man to keep it on His behalf. As part of this covenant, the earth must be preserved in such a manner that it contributes to the welfare of mankind. Researchers must be mindful that God is the true Owner of the land

- (Psalm 24) and that the earth also suffers due to man's sin (Romans 8:19).
- As part of man's calling to rule creation, new knowledge must be created to solve mankind's problems and to improve living conditions. The development of knowledge must contribute towards an orderly creation (Isaiah 28:23-29). Man is not living up to his scientific calling if the same knowledge is simply repacked without improving on what is already known (the problem with many publications in journals), if misbehaviour is encouraged (Proverbs 9:17) and if destruction is promoted. A peace culture should be the branding of scientific development. Research is not there to replace God or to vest all trust in mankind (Genesis 11:1-9).
 - Research must promote a lifestyle coined by the characteristics of the kingdom. The attitude of the professional scientist must continuously be scrutinised. The Biblical way is to examine one's motivations for doing something (Proverbs 4:23), not to mislead anyone with one's knowledge (Proverbs 4:25, Exodus 20:16) and to take on the truth as a lifestyle. He/she who does that will be responsible (obedient) towards the values of God's kingdom as especially proclaimed through the Sermon on the Mount (Matthew 5-7).
 - Theological ethics call on a different professional behaviour. It acknowledges the triumph of God's grace over man and his world, it reminds researchers that their research is a sacrifice to God, that research behaviour contributes towards the proclamation of God's kingdom, that the salvation and mercy of Christ are carried into research practices and that research in return continues this into man's world.
 - Professional ethics in research should live a culture of *koinonia* and *diakonia* which, in turn, should constitute a *shalom* community. Professionals should recognise other people and their needs through research. The supervisor should assist his/her student to unlock his/her potential, the postgraduate student should commit him/herself towards his/her study, the university should provide an environment conducive to research, research groups should contribute towards the betterment of people's social and physical living conditions and researchers should set the example of a professional lifestyle.
 - The Frankenstein monster image of the scientist should be replaced by a scholarly community committed to integrity in the research environment. Other people's ideas and knowledge should be respected, trustworthiness should be the orientation of all research activities and the protection of the integrity of the research environment should be upheld.
 - Research should never degenerate into quasi-religion. Good research is the result of one's commitment towards the kingdom. Good research is the sacrifice of praise for being part of God's mysterious creation that a researcher is privileged to unravel parts of. Professional behaviour is a thanksgiving to God for affording the opportunity to serve society through one's creation of new knowledge.

To contextualise these values, the holiness of life and the dignity of a person may be considered as an example. The researcher who follows Biblical norms associated with human life will recognise the uniqueness of man, his personal values, faith and traditions. The preservation of dignity will follow this recognition. Freedom of choice for a person who is competent to take independent decisions will be respected. Protection and promotion of the welfare of the individual will be top priority. This will lead to treatment of all personal information with confidentiality and coupled to this, the acknowledgement that every person has a right to privacy. The right to privacy is not transferable, not hereditary and not liable to seizure or renunciation. Research findings should be presented in such a way that the anonymity of the patient is protected. Researchers

will at all times take reasonable precautions to ensure that patients will be disadvantaged as little as possible. Researchers will keep strictly to the approved and responsible methods of the experimental procedure. All research programmes should ask whether the programme/project is really necessary, whether the research has been correctly planned from both a scientific and economic viewpoint and whether there is a balance between the risks and the potential value.

7. SUMMARY

The discussion in this article presents the cornerstones of a basis theory for professional ethics in research informed by theological ethics. Five principles can be identified.

Principle one: Religious orientation informs ethos of approach. It illustrates that no framework can be value-free. A rational orientation might find no ground for religious influences on understanding of reality. A confessional orientation can take its point of departure in Scripture.

Principle two: Ethics is not about evaluation of a situation or decline of immoral behaviour only. Ethics are principles in action via the application of norms/values. The designated framework embodies the preferred approach to ethical challenges, namely that decisions must lead to acts. Actions are subject to ethical behaviour. Decisions can never be **Principle three:** Since one is dealing with ethical challenges, ethical growth to the desired situation must always be linked to making decisions and responsible acts.

Principle four: Professional behaviour must incorporate the notions of responsible acts, making decisions and growth.

Principle five: Professional ethics based on theological ethics will be informed by principles such as responsibility, obedience, respect for others, oneself, possessions, the environment, not to steal, not to lie, not to desire what isn't yours, to live to truth, to be of service to one's fellow person, not to do harm, to be committed although other people might not follow suit, not to compare other's weak outputs and to follow their behaviour, etc.

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KEY WORDS

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Theological ethics
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Responsibility

TREFWOORDE

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Navorsingsetiek
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