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UNEARTHING THE RELATIONSHIP BETWEEN DISEASE AND CAUSATION IN SOUTH AFRICAN GOLD MINES

LISA DE WAAL

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Lisa de Waal
B.Soc.Sci. (UCT)
LL.B (UCT)
LL.M Candidate (UCT)
13 March 2016
University of Cape Town, Western Cape
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Chapter 1

1.1 Introduction

This dissertation explores legal issues related to factual causation in silicosis and tuberculosis compensation claims against gold mining companies in South Africa. Its focus is the silicosis and tuberculosis class action certification judgment of *Nkala and Others v Harmony Gold Mining Company Limited and Others* ("Nkala/the certification judgment"),¹ *Mankayi v Anglogold Ashanti Ltd* ("Mankayi"),² and the seminal Constitutional Court ("CC") judgment, *Lee v Minister of Correctional Services* ("Lee").³ This dissertation follows the *Nkala* judgment in order to add clarity to further *Nkala* class action litigation and future silicosis and tuberculosis compensation claims heard in South African courts.

1.1.2 Structure of the Dissertation

Chapter 2 serves as a definitions section, briefly outlining the definitions, causes and relationship between silicosis, silico-tuberculosis and pulmonary tuberculosis within the South African gold mining sector. It also includes an explanation of the relationship between these diseases and HIV/AIDS to explain that HIV/AIDS, as well as silicosis, are both risk factors that can contribute to a mineworker’s susceptibility to TB.⁴ The engineering and medical measures which mining companies should be incorporating to mitigate and even prevent exposure to silicosis and tuberculosis will also be addressed.⁵

Chapter 3 outlines the history of silicosis and tuberculosis litigation in South Africa, from the *Mankayi* judgment to the *Nkala* class action certification

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¹ *Nkala and Others v Harmony Gold Mining Company Limited and Others* (48226/12, 31324/12, 31326/12, 31327/12, 48226/12, 08108/13) [2016] ZAGPJHC 97; [2016] 3 All SA 233 (GJ); 2016 (7) BCLR 881 (GJ) (13 May 2016).
² *Mankayi v Anglogold Ashanti Ltd* 2011 32 ILJ 545 (CC).
³ *Lee v Minister of Correctional Services* (CCT 20/12) [2012] ZACC 30.
⁵ Ibid.
judgment, and explains why it has taken approximately a century for delict compensation claims for silicosis and TB to be brought before South African courts. These reasons include the fact that Mankayi was a seminal moment in our law, which allowed for such a claim to be brought, because the CC ruled that legislation does not exclude mineworkers from bringing a common law claim by way of the law of delict for compensation for occupational diseases. Further reasons for the delay are explored, including the lack of legal representation of mineworkers during the apartheid era.

Chapter 4 discusses the reasons why the Constitutional Court’s Lee judgment is precedent for assessing the factual causation element with reference to the TB class. Analogies are drawn between the powerful positions of the State and mining companies and the vulnerable positions of prisoners and mineworkers. Focus is put squarely on the horizontal application of constitutional rights provided for in section 8(2) of the Constitution. It is argued that section 8(2) places a legal obligation on private parties to uphold and to respect the rights of other private persons, and that mining companies are therefore obliged to respect and protect mineworkers’ constitutional rights. This chapter concludes with an analysis of the nature and contents of the constitutional duties owed by mining companies to their employees. Reasons why the factual causation of the silicosis class can be assessed fairly by the

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6 Supra note 2 (Mankayi) at 107.
8 See note 3 (Lee) at para 65 for a discussion on the vulnerability of prisoners in South Africa; See also Nkala and Others v Harmony Gold Mining Co Ltd and Others 2016 (5) SA 240 (GJ) Applicants’ Submissions at footnote 221 Available at: http://lrc.org.za/lrcarchive/images/pdf_downloads/Court_papers/2015/2015_Silicosis_Applicants_Heads_of_argument.PDF.
9 Section 8(2) of the Constitution states the following: “A provision of the Bill of Rights binds a natural or a juristic person if, and to the extent that, it is applicable, taking into account the nature of the right and the nature of any duty imposed by that right.”
application of the material contribution test are also addressed.\textsuperscript{11}

Chapter 5 includes an analysis of the specific common law and statutory duties of care owed by the Respondents to the Applicants.\textsuperscript{12} Proving a duty of care is a requirement of the material increase of risk test relevant to the TB class, as well as a requirement of the material contribution test, pertaining to the silicosis class.\textsuperscript{13} The English cases discussed are \textit{Fairchild v Glenhaven Funeral Services Ltd},\textsuperscript{14} \textit{McGhee v National Coal Board}\textsuperscript{15} and \textit{Bonnington Castings v Wardlaw}.\textsuperscript{16} It is argued that the mining companies ("the Respondents/the Respondent mining companies") were aware of the duties of care owed to their employees, yet breached them over years of systematic unlawful treatment in their mines.\textsuperscript{17}

Chapter 6 briefly discusses the proper avenue through which compensation should be claimed – a delict claim or a statutory compensation scheme. It is noted that a delict claim is, in certain circumstances, a proper remedy for the vindication of constitutional rights.\textsuperscript{18} It is argued that should the mineworkers be successful in their claim for compensation, that a private trust could be set up to fairly distribute the compensation,\textsuperscript{19} and that a delict claim is the appropriate legal avenue through which to claim compensation until a statutory compensation scheme is realised.

\textsuperscript{12} Supra note 1 (Nkala) at para 59.
\textsuperscript{13} McGhee \textit{v} National Coal Board [1973] 1 WLR 1 at 76.
\textsuperscript{14} Fairchild \textit{v} Glenhaven Funeral Services Ltd [2002] UKHL 22; [2003] 1 AC 32.
\textsuperscript{15} McGhee \textit{v} National Coal Board [1973] 1 WLR 1.
\textsuperscript{16} Bonnington Castings \textit{v} Wardlaw 1956 AC 513 at 3.
\textsuperscript{17} Nkala \textit{and Others v Harmony Gold Mining Co Ltd and Others} 2016 (5) SA 240 (GJ) Applicants’ Submissions at 15 Available at: http://lrc.org.za/lrcarchive/images/pdf_downloads/Court_papers/2015/2015_Silicosis_Applicants_Heads_of_argument.PDF.
\textsuperscript{18} Law Society of South Africa \textit{v} Minister of Transport 2011 (1) SA 400 (CC) at paras 74 and 79.
1.2 Research Methodology

This dissertation is predominantly supported by primary sources in the form of legislation and policy documents, South African and English case law, on the one hand, and secondary sources, including the writing of legal scholars who have focused on the subject, on the other. A portion of this dissertation also includes interviews with a legal expert and a medical expert.

Legal research is predominantly focused on scholarly writing and black-letter law, which stems from a reliance in courts and legal academia on primary and substantiated legal rules and research. Yet there is motivation for legal research to welcome other forms, such as qualitative research, which includes interviews. Interviews can provide a concrete, practical perspective on a legal issue. This is particularly necessary in new or developing areas of the law, as existing legal research and writing may be unable to offer this kind of perspective on the law.

I have therefore gathered knowledge from key experts in the legal and medical fields by way of interviews to offer a richer perspective on silicosis and tuberculosis class actions in the South African gold mining sector. I interviewed Dr Rodney Ehrlich, a medical doctor who specialises in lung diseases, such as silicosis, silico-tuberculosis and pulmonary tuberculosis. Dr Ehrlich provided me with information regarding the manifestation and treatment (or lack thereof), of these diseases. I also spoke with Richard Spoor, a human rights attorney who specialises in occupational health and safety, and who is also one of the legal representatives of the Applicants in the Nkala class action. This qualitative research humanises the topic at hand, and provides valuable insight into information gathered by experts who engage with silicosis and tuberculosis within

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21 Ibid at 290-291.
22 Ibid at 290.
23 Ibid at 292.
the mining sector, be it through legal or medical practice.

Chapter 2

2.1 Understanding Silicosis

Miners contract silicosis by inhaling crystalline silica dust when working underground in gold mines.\(^{24}\) Crystalline silica is generated by various mining processes, including blasting and drilling for gold.\(^{25}\) Upon inhalation, silica dust particles are deposited in the lungs, whereafter these particles attack the cells of the lung, causing irreversible damage to the lung tissue, eventually causing irreparable scarring of the lungs.\(^{26}\) A person whose lungs have been damaged in this manner suffers lower breathing capacity and functioning, which eventually develops into the primary symptoms of silicosis.\(^{27}\) These symptoms include shortness of breath, chronic coughing and an overall depletion of the immune system and general health.\(^{28}\)

The type of silicosis that a patient is diagnosed with, which can be either classic, accelerated or acute silicosis, depends on the amount of airborne silica dust that the patient is exposed to, as well as the length of exposure and the amount of fibrotic nodules which eventually attach to the lung tissue and cause scarring.\(^{29}\)

The most common form of silicosis, the form that will be analysed in this paper, is known as classic ‘simple’ silicosis.\(^{30}\) Classic simple silicosis usually manifests after a person has been exposed to small amounts of silica dust on a

\(^{24}\) Supra note 1 (Nkala) at para 12.
\(^{25}\) Ibid.
\(^{26}\) Ibid at paras 13-14.
\(^{27}\) Ibid at paras 13-15.
\(^{29}\) Ibid at 6.
\(^{30}\) Ibid at 7.
long-term basis, as gold miners often are.\textsuperscript{31} This form of silicosis manifests approximately 10 to 30 years after initial exposure to silica particles.\textsuperscript{32} Silicosis also increases its sufferers’ susceptibility to other microbial infections such as TB.\textsuperscript{33} Further complications of silicosis include being diagnosed with lung diseases generally, progressive massive fibrosis, ‘loss of vital capacity’ and lung cancer.\textsuperscript{34}

2.2 How Should Gold Mines Mitigate Silica Exposure?

By implementing certain measures, gold mining companies operating in South Africa are able to mitigate the degree of silica dust to which miners are exposed.\textsuperscript{35}

These measures include:

- Using cold water to water down areas filled with dust;
- Watering down ‘foot and sidewalks with water and surfactants’ to prevent airborne dust;
- Managing ventilation more effectively;
- Installing filtration units which filter ‘respirable dust from the air’ before the dust enters the ‘air system’; and
- Providing protective personal equipment in the form of dust masks.\textsuperscript{36}

In addition, all gold miners who work in conditions in which they are exposed to underground dust should at the very least undergo annual medical examinations in order to verify whether or not they have contracted silicosis, as is

\textsuperscript{31} Ibid at 7.
\textsuperscript{33} Op cit note 28 (Roberts) at 7.
\textsuperscript{34} Ibid at 6-7.
\textsuperscript{36} Ibid.
required by section 25 of the Occupational Diseases in Mines and Works Act ("ODIMWA"). These engineering controls mentioned above and medical examinations have been proven to mitigate or entirely prevent silicosis and other lung diseases. However, the various gold mining companies listed in *Nkala* were not effectively implementing these measures. This led to the claim by the mineworkers in the matter that these companies were unlawfully exposing them to ‘excessive levels of harmful silica dust’, and that such exposure ultimately led to their silicosis and/or tuberculosis diagnoses.

I interviewed Rodney Ehrlich, a former senior research scholar at the School of Public Health and Family Medicine at the University of Cape Town, and asked him about the measures that mining companies should be employing to prevent silicosis. Ehrlich stated the following:

“There is no medical treatment of silicosis, which is the replacement of healthy lung tissue by fibrosis (scar tissue). [However], *prevention* of silicosis requires reduction of the amount of silica dust inhaled by miners. I have not seen evidence that dust respirators are a long-term solution underground, which puts the burden on reducing the amount of dust in the air ... Another solution is mechanisation, which involves the replacement of workers by equipment. There has already been major shrinkage of the gold mining industry with attendant social repercussions (although not because of mechanisation).”

Ehrlich added that, in recent years, the Department of Minerals and Energy has started to publicise dust information obtained from certain mining companies. This data suggests that the percentage of dust concentrations in South African gold mines has started to decline to a level lower than the ‘statutory silica dust occupational exposure limit’ over the past two decades —

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37 Occupational Diseases in Mines and Works Act 78 of 1973; Section 25(1) of the ODIMWA states that ‘every person who performs risk work at a controlled mine or a controlled works shall be medically examined at such intervals as may be prescribed by the Minister.’
38 Supra note 1 (*Nkala*) at para 61.7.
39 Ibid.
40 Ibid at para 59.
41 Op cit note 4 (Ehrlich Interview).
since the implementation of the Mine Health and Safety Act of 1996.\textsuperscript{42,43} This decline can be attributed to both legislative and public pressures. For example:

“Recent pressures to reduce dust concentrations underground (and in dusty surface operations) have come from the Mine Health and Safety Act (1996) which requires a number of actions in respect of disease surveillance and prevention; studies showing a very high prevalence of silicosis (dating from late 1990s); the technical insolvency of the Compensation Fund under the Occupational Diseases and Mines and Works Act and the substantial hike in levies (insurance premiums) on mining companies; the ILO/WHO programme to eliminate silicosis (dating from 2003); lawsuits (dating from 2008) and the public sentiment in favour of justice linked to these lawsuits.”\textsuperscript{44}

However, as noted by Ehrlich, even though the dust concentrations have declined over the past few years, this data still needs to be independently verified, which is problematic seeing as the State has limited resources to do this.\textsuperscript{45} The State should seriously consider allocating resources and funding towards such verification in order to prevent and avoid a future crisis of silicosis in South Africa.

Although mining companies now seem to be making progress towards mitigating silica exposure in mines by employing engineering and medical measures to try to prevent their employees from developing silicosis, the truth is that there are hundreds of thousands of former mineworkers in South Africa who are living with silicosis and/or TB and who need relief in the form of compensation. In fact, this figure is most likely an underestimate of the true number of people living with silicosis in South Africa today as a result of having worked in underground mines.\textsuperscript{46}

\textsuperscript{42} Mine Health and Safety Act 29 of 1996.
\textsuperscript{43} Op cit note 4 (Ehrlich Interview).
\textsuperscript{44} Ibid.
\textsuperscript{45} Ibid.
The primary reason so many mineworkers, including former and currently employed mineworkers, are living with occupational diseases today is to be found in a report by the Leon Commission.\textsuperscript{47} As noted by Ehrlich, ‘there was little pressure on the gold mining industry to control dust between the 1940s and the 1990s. [Their] general view was that airborne dust concentrations had not fallen for 50 years, as stated in the 1996 Commission of Enquiry, although the actual evidence in the public domain of dust counts over this long period is scarce.’\textsuperscript{48} The Leon Commission did indeed conclude that throughout the second half of the twentieth century, dust levels in South African gold mines remained approximately the same.\textsuperscript{49}

2.3 The Relationship Between Pulmonary Tuberculosis, Silicosis, Silico-Tuberculosis and HIV/AIDS

Pulmonary tuberculosis can be described as a bacterial lung disease, caused by inhalation of a bacterium referred to as ‘mycobacterium tuberculosis complex’, which is found in infected droplets of another person’s sputum or saliva, which find their way into the air when someone coughs, for example.\textsuperscript{50} However, pulmonary tuberculosis, unlike silicosis, is often treatable and curable with antibiotics, especially when detected at an early stage.\textsuperscript{51} Silica dust, which eventually causes silicosis, increases a miner’s susceptibility to TB, meaning that mineworkers who are diagnosed with silicosis are therefore clearly more susceptible to TB infection.\textsuperscript{52}

\textsuperscript{47} Op cit note 4 (Ehrlich Interview).
\textsuperscript{48} Ibid.
\textsuperscript{49} Op cit note 46 (Leon Commission Report) at para 4.6.5.
\textsuperscript{50} Supra note 1 (Nkala) at para 17.
\textsuperscript{51} Ibid at paras 17 – 18.
\textsuperscript{52} Ibid at para 18.
When miners are diagnosed with both silicosis and tuberculosis, this condition is referred to as 'silico-tuberculosis'.

Research has confirmed a relationship between silicosis and pulmonary tuberculosis, which shows that 'workers who are exposed to silica dust have increased morbidity and mortality from PTB' (pulmonary tuberculosis). There is however a lack of epidemiological evidence to prove whether or not miners who are exposed to silica dust, but whom have not developed silicosis, also have an increased risk of being diagnosed with pulmonary tuberculosis. Nevertheless, Ehrlich explained that there is laboratory evidence proving that "silica particles impair the ability of the lung's defence system." This means that even if a mineworker does not have silicosis, it is likely that exposure to silica dust does indeed increase the miner’s risk of developing tuberculosis.

This dissertation will not focus on an analysis of HIV/AIDS and mineworkers in South Africa, due to the fact that the class action suit does not provide for a class of mineworkers living with HIV/AIDS. However, it is important to note that although combatting silicosis and tuberculosis among mineworkers in South Africa is necessary, it should not overshadow the importance of addressing HIV infection among miners, given the fact that approximately 24% of mineworkers in South Africa were infected with HIV in 2009. This ‘triple epidemic’ of tuberculosis, silicosis and HIV is obviously fatal to mineworkers. Decreasing HIV rates among miners could thus lead to a decrease in silicosis.

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53 Op cit note 17 (Applicants’ Submissions) at para 7.
55 Ibid at 500.
56 Op cit note 4 (Ehrlich Interview).
57 Ibid.
59 Op cit note 4 (Ehrlich Interview).
and tuberculosis levels.60

It is also important to realise that currently employed mineworkers do have access to mining services, including medical services, while former mineworkers living with HIV/AIDS, and/or silicosis and/or TB do not; they depend on under-resourced State health services, often located in rural South Africa and neighbouring countries and are therefore in an extremely vulnerable position.61 The Leon Commission noted this in its published findings, stating that former mineworkers need to undergo regular examinations after retirement.62 Not only because these mineworkers may migrate back to other African countries, or other regions within South Africa, and be left without check-ups and necessary treatment, but also because silicosis may only manifest years after retirement.63

A large part of the legal inquiry in the class action suit will necessarily surround a discussion of these diseases and how they manifest. Hence defining these key concepts and analysing the relationship between silicosis, silicotuberculosis, pulmonary tuberculosis and HIV/AIDS within the South African gold mining industry is crucial. Although this chapter also outlined engineering and medical controls that mining companies should utilise in order to protect current and future employees from diseases, the class action suit in Nkala concerns ex-miners who are already suffering from these diseases. The focus here is less prevention than legal remedy. The following chapters thus deal with the appropriate tests for factual causation that should be applied by the trial court in Nkala in order to assess whether or not the Applicants have grounds to be afforded a legal remedy in the form of compensation.

60 Ibid.
61 Ibid.
63 See op cit note 46 (Leon Commission Report) at para 4.1.4.
Chapter 3

3.1 The History of Silicosis and Tuberculosis Litigation in South Africa

The number of former and current gold mineworkers living with silicosis and tuberculosis in South Africa has reached epidemic proportions.64 Hundreds of thousands of mineworkers in South Africa are suffering from the physical, psychological, economic and emotional effects of these diseases, not to mention those who have already passed away from silicosis and other complications.65

Moreover, it is not only these mineworkers who are experiencing the devastating consequences that these diseases bring to the fore. Dependants of mineworkers also endure various types of loss, including loss of loved ones and financial support.66 It is therefore paramount that South African courts hold mining companies to account, and that mining companies compensate mineworkers and their dependants for the harm suffered in the form of occupational diseases. It is also crucial that mining companies implement appropriate measures to minimise the manifestation of these diseases among current and future employees, and also provide adequate treatment to those already suffering from these diseases.

The South African gold mining industry began in 1886 on the Witwatersrand, colloquially referred to as “the Rand”.67 The gold mining sector contributed significantly to South Africa’s gross domestic product and the stabilisation of the South African economy.68 This was a period of economic growth and prosperity for many, including investors in the gold mining sector, but

65 Supra note 1 (Lee) at para 1.
66 Ibid at para 187.
67 Ibid at para 1.
68 Ibid.
it came at a cost for gold-mine workers who were diagnosed with silicosis, which was referred to as “phthisis”, as well as, in some cases, tuberculosis.\(^{69}\)

Between the years 1902-1912, gold mining companies in the Johannesburg area of the Rand were confronted with a ‘silicosis crisis’.\(^{70}\) To combat this problem, these companies began to recognise silicosis as an occupational disease.\(^{71}\) In 1912, certain mining companies began compensating miners for silicosis, which led to the establishment of a compensation scheme for tuberculosis in 1916, for TB was recognised as a consequence of silicosis.\(^{72}\) These companies also introduced measures to reduce silicosis and tuberculosis exposure within mines, thereby creating an ‘enviable reputation’ for themselves from the point of view of mining companies in other countries.\(^{73}\) These measures included ventilation systems and blasting and watering down mine surfaces, which ultimately directly affected the prevalence of silicosis in these mines.\(^{74}\)

Although these mining companies exemplified a novel culture of fairness of treatment and protection for their employees, their actions clearly did not take root.\(^{75}\) It is argued that it is due to unfair treatment and poor protection of mineworkers that hundreds of thousands of miners in South Africa are either living with silicosis and/or tuberculosis, or have died as a result of these diseases, and they themselves, or their dependants, are hoping to be adequately compensated.\(^{76}\)

2.1.1 The *Mankayi* Judgment

Fortunately, the silicosis and tuberculosis epidemic has come under legal

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\(^{69}\) Ibid.  
\(^{71}\) Ibid.  
\(^{72}\) Ibid.  
\(^{73}\) Ibid.  
\(^{74}\) Ibid.  
\(^{75}\) An analysis of the reasons why this is the case will be assessed in Chapter 3.  
\(^{76}\) See supra note 1 (*Nkala*) generally for a discussion of the dependants’ claims.
scrutiny in recent years. In 2006, Richard Spoor instituted a civil claim on behalf of Mr. Mankayi (“the plaintiff”) against Mr Mankayi’s former employer, AngloGold, (“the defendant”), for compensation for occupational diseases in the form of silicosis and pulmonary tuberculosis, which Mr. Mankayi had contracted while employed by AngloGold.\(^77\) The plaintiff was employed by the defendant as a mineworker between the period 4 January 1979 to 11 September 1995, and alleged that he contacted silicosis and pulmonary tuberculosis during this time.\(^78\)

Both silicosis and tuberculosis are compensatable occupational diseases under the ODIMWA, meaning that miners who are diagnosed with these diseases are entitled to compensation.\(^79\) However, Mankayi based his claim in delict, alleging that the defendant owed him ‘a duty of care under both the common law and statute to provide a safe and healthy environment in which to operate’ but breached this duty.\(^80\) This duty is embedded in the common law and the ODIMWA.\(^81\) The plaintiff further alleged that being exposed to silica dust, as well as certain gases, materially contributed to his development of TB and silicosis.\(^82\)

On 3 March 2011, the Constitutional Court handed down its judgment in favour of Mr. Mankayi.\(^83\) The \textit{Mankayi} judgment is a seminal piece of South African legal jurisprudence because it advances the right of all former mineworkers suffering from compensatable diseases under ODIMWA to claim delictual damages from former employers, albeit until contrary legislation is


\(^{78}\) Supra note 2 (\textit{Mankayi}) at para 1.

\(^{79}\) Ibid at para 1.


\(^{81}\) Ibid.

\(^{82}\) Ibid at para 22.

\(^{83}\) Supra note 2 (\textit{Mankayi}) at para 112.
passed.\textsuperscript{84} The Constitutional Court’s decision has also made it possible for former mineworkers to institute legal proceedings to claim delictual damages on behalf of all other former gold miners living with silicosis and/or tuberculosis in the form of a class action suits.\textsuperscript{85}

It is important to address the probable reasons why it took nearly a century since the legislative recognition of occupational diseases in mines for a mineworker to claim compensation for occupational diseases by way of the law of delict in South Africa.\textsuperscript{86} One has to begin by assessing section 35(1) of the Compensation for Occupational Injuries and Diseases Act\textsuperscript{87} ("COIDA"), which provides that:

“No action shall lie by an employee or any dependant of an employee for the recovery of damages in respect of any occupational injury or disease resulting in the disablement or death of such employee against such employee's employer, and no liability for compensation on the part of such employer shall arise save under the provisions of this Act in respect of such disablement or death.”\textsuperscript{88}

Section 35(1) of COIDA thereby prevented employees from bringing a damages claim against their employers, and also limited compensation to ‘that payable under COIDA’.\textsuperscript{89} However, section 100(2) of the ODIMWA precludes mineworkers, such as Mankayi, from compensation in terms of COIDA.\textsuperscript{90} The CC therefore held that COIDA does not apply to Mankayi, and that it is not irrational to preserve an employees’ common law claim against employees...’\textsuperscript{91} In doing so, this Court upheld its duty to protect the constitutional rights of delictual claimants and to give effect to the vindication of their human rights, including the

\textsuperscript{85} Op cit note 70 (McCulloch) at 2.
\textsuperscript{86} Ibid: As noted above, certain mineworkers began being compensated for silicosis in the early 1900s.
\textsuperscript{87} Compensation for Occupational Injuries and Diseases Act 130 of 1993.
\textsuperscript{88} Ibid section 35(1).
\textsuperscript{89} Supra note 2 (Mankayi) at para 57.
\textsuperscript{90} Ibid at para 18.
\textsuperscript{91} Ibid at para 111.
‘right to freedom and security of the person’, as per section 12 of the
Constitution, that Mr Mankayi held.

Thus, the most obvious reason for the delay in bringing a damages claim was
because of the assumption that ‘various Mines Acts’ (including COIDA, for
example) precluded a claim for damages, which is why Mankayi had to first
‘establish the right to sue his former employer’, before he could go ahead with his
claim. A further reason it has taken so long for a delictual claim to be brought is
arguably due to the lack of legal representation and access to courts for black,
underprivileged persons, and hence also many mineworkers, during 20th century
South Africa.

Of course, the Constitution provides for a right of access to court under section
34 of the Bill of Rights. Although this right exists in theory for all persons living
in South Africa, it is not practically enforceable for all people, especially persons
who are impoverished and thereby lack the means to finance their legal
representation. Thus, this right was obviously not easily enforceable, neither in
theory nor in practice, for many persons, prior to 1994. For example, during the
1900s, black workers, including black mineworkers in South Africa, received a
meagre minimum wage. As recently as 2012, the minimum wage for the gold
industry was R3,500 per month. This lack of access to financial resources and
consequent lack of access to courts was especially problematic during the early
1900s and much of the apartheid era, because the Legal Aid Board, which

93 Supra note 2 (Mankayi) at para 115.
94 Op cit note 70 (McCulloch) at 1.
95 Section 34 of the Constitution states that “Everyone has the right to have any dispute that can
be resolved by the application of law decided in a fair public hearing before a court, or, where
appropriate, another independent and impartial tribunal or forum.”
96 See Mathias Nyenti ‘Access to justice in the South African social security system: Towards a
97 Gumani Tshimomola ‘A minimum wage must restore the dignity of black people’ (25/11/2016)
Mail & Guardian Accessed on: 15/02/2017 Available at: https://mg.co.za/article/2016-11-25-00-a-
minimum-wage-must-restore-the-dignity-of-black-people.
98 Lisa Steyn ‘Miners earn a R7000 ‘pittance’” (24/08/2014) Mail & Guardian Accessed on:
15/02/2017 Available at: https://mg.co.za/article/2012-08-24-miners-earn-a-r7000-pittance/.
provides free legal services to those in financial need, was only established in 1969,\(^99\) and neither was there was any resource, equivalent to legal aid, prior to this.

Yet access to justice still remains a systemic problem, for although South Africa does have a commendable public interest litigation sector,\(^{100}\) which includes Legal Aid, there is still a lack of legal representation in civil litigation matters in South Africa (including, of course, delict cases).\(^{101}\) This is so because the Legal Aid Board is not under a duty to provide free legal assistance in all civil matters.\(^{102}\) As stated by the Constitutional Court in *Legal Aid South Africa v Magidiwana and Others*:\(^{103}\)

‘The right to claim legal representation at state expense is limited to cases where substantial injustice would occur. Even where this right is available to an applicant, Legal Aid may still refuse to fund legal representation, if for example the applicant is a person who indisputably can afford to pay for legal representation.’\(^{104}\)

Another barrier to access to justice and legal representation during the constitutional era may be a widespread lack of the necessary knowledge of constitutional rights, and thereby the lack of enforcement of such rights.\(^{105}\) Furthermore, as noted by Ehrlich, although occupational disease legislation dates back approximately a century, a study of 200 farm miners established that there was an unfamiliarity of the statutory compensation system and legislation among these miners, which reflects ‘the failure to educate black workers about

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\(^{101}\) Ibid at 217.


\(^{103}\) *Legal Aid South Africa v Magidiwana and Others* [2015] ZACC 28.

\(^{104}\) Ibid at para 26.

\(^{105}\) Op cit note 7 (Nyenti) at 913.
their rights."\textsuperscript{106}

3.1.2 The *Nkala* Class Action Suit

In 2015, a historic number of gold-mine workers instituted an action for civil damages from their current and former employers on the basis of their silicosis and/or tuberculosis diagnoses.\textsuperscript{107} The Applicants sought an order for the certification of a single consolidated class action consisting of two classes: a silicosis class and a tuberculosis class.\textsuperscript{108} The Applicants sought to bring this class action on behalf of ‘past and current mineworkers who contracted silicosis or tuberculosis, and on behalf of the dependants of mineworkers who died of silicosis or tuberculosis contracted while employed in the gold mines’.\textsuperscript{109} In an unprecedented move in South African legal history on 13 May 2016, the South Gauteng High Court certified the class action application ‘in the interests of justice.’\textsuperscript{110} The *Nkala* High Court thus allowed all relevant parties to institute delictual a claim for compensation for silicosis and tuberculosis in the form of a class action suit.\textsuperscript{111}

This class action will take place through a bifurcated process.\textsuperscript{112} The first class (“the silicosis class”) will consist of ‘current and former underground mineworkers who have contracted silicosis and the dependants of underground workers who died of silicosis (whether or not accompanied by any other disease)’.\textsuperscript{113} The second class (“the TB class”) will be comprised of ‘current and former underground mineworkers who have contracted pulmonary tuberculosis, and the dependants of deceased underground mineworkers who died of pulmonary tuberculosis (but excluding silico-tuberculosis), where such

\textsuperscript{107} Supra note 1 (*Nkala*) at para 5.
\textsuperscript{108} Ibid at para 6.
\textsuperscript{109} Ibid at paras 5-7.
\textsuperscript{110} Ibid at para 227.
\textsuperscript{111} Ibid at paras 241-243.
\textsuperscript{112} Ibid at paras 241-243.
\textsuperscript{113} Ibid at paras 241-243.
mineworkers worked or have worked’ at one or more of the Respondent mining companies for at least two years.\textsuperscript{114}

This class action suit is important because that it expedites the litigation process.\textsuperscript{115} It allows one or more plaintiffs to institute a claim on behalf of a group of persons, or a ‘class’, against one or more defendants, instead of each plaintiff bringing an individual claim to court.\textsuperscript{116} This process is beneficial for both plaintiffs and defendants, as it is more economical for plaintiffs to bring one action together, and it prevents defendants from being saddled with a multiplicity of actions.\textsuperscript{117}

Shortly after the High Court certified the class-action suit, six mining companies appealed the High Court’s certification.\textsuperscript{118} The High Court dismissed the application for leave to appeal to the Supreme Court of Appeal (“SCA”).\textsuperscript{119} Yet the mining companies then applied for leave to appeal directly to the SCA.\textsuperscript{120} This application was granted, and will be heard in 2017.\textsuperscript{121} These mining companies represent the Chamber of Mines in South Africa (African Rainbow Minerals, Anglo American South Africa, AngloGold Ashanti, Gold Fields, Harmony and Sibanye Gold), and were granted leave to appeal by the SCA ‘on all aspects of the certification by the South Gauteng High Court.’\textsuperscript{122}

Furthermore, it is possible that the appeal procedure could find its way to the Constitutional Court, meaning that the class action matter, if certification is

\begin{itemize}
  \item \textsuperscript{114}Ibid at para 230.
  \item \textsuperscript{115}Ibid at paras 33-34.
  \item \textsuperscript{116}Ibid at paras 33-34.
  \item \textsuperscript{117}Ibid at paras 33-34.
  \item \textsuperscript{118}Ibid.
  \item \textsuperscript{119}Ibid.
  \item \textsuperscript{120}Ibid.
  \item \textsuperscript{121}Ibid.
  \item \textsuperscript{122}Ibid.
\end{itemize}
upheld by the SCA or the CC, may take years before it is finally concluded.\textsuperscript{123} It is likely that the mining companies will exhaust all appeal procedures in an attempt to prevent the class action suit from going to trial, for if the mining companies are unsuccessful in such a matter, and ordered to pay compensation, the cost to them would be exorbitant.\textsuperscript{124} On the other hand, an alternative end to the matter would be for the mining companies to settle for a fair and just amount.\textsuperscript{125}

The SCA could dismiss the application of the mining companies, allowing the potentially historic class action suit to go ahead, and may find in favour of the mineworkers. Such an outcome has the potential to allow for the compensation of hundreds of thousands of miners and their dependants, and for the vindication and recognition of miners’ constitutional rights to dignity, equality and non-discrimination, life, bodily integrity and the right to a non-harmful environment.\textsuperscript{126}

Chapter 4

4.1 The Applicants’ Cause of Action

The Applicant mineworkers outlined their cause of action as follows:

1. That the Respondent mining companies owed them a duty of care (as embedded in the common law and in certain statutes) to protect them from harm in the workplace, and furthermore, that the Respondents are under an obligation, in terms of section 8(2) of the Constitution, to protect the Applicants’ constitutional rights;\textsuperscript{127} and

2. That the Respondent mining companies breached their duties of care

\textsuperscript{123} Ibid.
\textsuperscript{124} \textit{Biz Community} ‘Mining houses appeal silicosis class action suit’ (27 June 2016) Accessed on: 15/12/2016 Available at: \url{http://www.bizcommunity.com/Article/196/608/146972.html}.
\textsuperscript{125} Ibid.
\textsuperscript{126} Supra note 1 (\textit{Nkala}) at para 58.3; as stated in this paragraph, these rights were owed to/held by the mineworkers who were employed since 1994.
\textsuperscript{127} Op cit note 17 (Applicants’ Submissions) at paras 21-23
by failing to take reasonable measures to protect their employees from unlawful dust exposure, as well as the silicosis and tuberculosis risks that necessarily resulted from such a breach, as well as violating certain constitutional rights owed to the Applicants;\textsuperscript{128} and therefore

3. That the breach of these duties, and violation of these rights, entitles the Applicants to adequate compensation at common law, and that the Respondents should be liable in delict for the unlawful damage suffered by the Applicants.\textsuperscript{129}

This chapter discusses the delictual element of factual causation in light of the \textit{Lee} judgment. It also provides reasons why the \textit{Lee} judgment is precedent for tuberculosis compensation claims in the mining sector, and why the material contribution test should be used to assess factual causation in claims of the silicosis class.\textsuperscript{130}

4.2 Understanding Factual Causation in South African Law

In order for a plaintiff to be successful in his or her delictual claim, he or she must satisfy the element of factual causation as one of the elements of a delict in South African law.\textsuperscript{131} Causation invokes two separate inquiries: one inquiry into factual causation and one into legal causation.\textsuperscript{132} This dissertation will focus on factual causation and the various tests relied on by South African and English courts in order to assess factual causation.

The purpose of the factual causation enquiry is to determine whether or not ‘the negligent act or omission \textit{caused} the harm giving rise to the claim.’\textsuperscript{133} In other words, the enquiry is for deciding whether or not there is a link between the

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{128} Ibid.
\item \textsuperscript{129} Ibid.
\item \textsuperscript{130} Op cit note 11 (Price) at 11.
\item \textsuperscript{132} Supra note 3 (\textit{Lee}) at para 38.
\item \textsuperscript{133} Ibid at para 38. (Emphasis added).
\end{itemize}
\end{footnotesize}
act or omission in question and the harm sustained by the plaintiff.\textsuperscript{134} The most commonly regarded determinant of factual causation in South African law is the but-for test.\textsuperscript{135} The but-for test can be explained as follows:

‘The test entails that one mentally eliminates the wrongful conduct which one suspects was the cause of the harm and that one then asks what probably would have happened if the lawful conduct had been substituted for the conduct which had been eliminated. If the answer to this question is that the harm would have occurred in any event, the conduct in question is not a cause of the harm. If the answer is that it would not have occurred, the conduct complained of does constitute a cause.’\textsuperscript{136}

In the case of an omission on behalf of a defendant, the test involves a substitution of ‘a hypothetical positive act’ into the facts, and in this way requires mentally removing the defendant’s omission.\textsuperscript{137} Therefore, the but-for test entails a mental elimination of wrongful, positive conduct in the case of a commission, and a mental substitution of positive, lawful conduct in the case of an omission.\textsuperscript{138}

This chapter focuses on omissions with regard to the test for factual causation, as the Lee judgment involved an omission on the part of the State.\textsuperscript{139} Similarly, the Nkala suit is also likely to turn on a discussion of omissions on the part of the mining companies for failure to take action (in other words, their inaction) to take necessary measures to protect the Applicants from TB and silicosis.

4.3 A Brief Outline of the Constitutional Court’s Judgment in Lee

\textsuperscript{135} Ibid at 1117.
\textsuperscript{136} Ibid at 1117-1118.
\textsuperscript{137} Supra note 3 (Lee) at para 41.
\textsuperscript{138} Ibid at para 48.
\textsuperscript{139} Ibid at para 2.
After being released from prison, Lee (“the plaintiff”) instituted a damages claim against the Department of Correctional Services, which was represented by the Minister of Correctional Services. Lee sued on the following basis:

“[Mr Lee] alleged that the prison authorities had failed to take adequate precautions to protect him against contracting silicosis, [and] that he had contracted the illness in consequence of their omission ... [and that] the responsible authorities failed to take adequate, or any steps, to protect him against the risk of TB infection.”

The plaintiff alleged that these omissions ‘violated ... [his] right to freedom and security of the person and the right to be detained under conditions consistent with human dignity, and to be provided with adequate accommodation, nutrition and medical treatment at State expense.’

The Western Cape High Court found in favour of Lee. The Minister then appealed to the SCA, which upheld the appeal for insufficient proof of the claim that Lee would not have contracted TB had the prison in fact implemented a ‘reasonably adequate system’ to prevent TB contagion among prisoners. Lee then appealed to the Constitutional Court. The key issue that the Constitutional Court faced was whether or not the delictual element of factual causation was satisfied. The CC held that factual causation was satisfied and therefore effectively overturned the SCA’s unanimous decision.

4.4 The Influence of the Lee Judgment on Factual Causation

The Constitutional Court’s verdict in Lee caused uncertainty with regard to the test for factual causation and the manner in which courts should be
addressing this delictual requirement.\textsuperscript{148} This is because it appears that the Constitutional Court did not apply the commonly used but-for test to assess factual causation in \textit{Lee}, but rather applied a more ‘flexible’ legal approach to factual causation.\textsuperscript{149}

Price notes that the Constitutional Court abandoned the orthodox but-for test in two significant ways.\textsuperscript{150} First, the Court seemed to accept that the factual causation element could be established ‘if a defendant’s negligent conduct increased the risk of the plaintiff’s harm, so that a smaller risk of harm would have existed had the defendant acted reasonably.’\textsuperscript{151} The Court stated that if a ‘proper’ medical process and tuberculosis screening had been implemented and followed through, it was probable that Lee would not have contracted tuberculosis, and this warranted imposing delictual liability on the defendant.\textsuperscript{152}

Therefore, the first significant example of the majority’s departure from the orthodox test for factual causation occurred when the majority appeared to confirm that factual causation would be founded if a defendant’s negligence ‘\textit{increased the risk}’ of harm to a plaintiff.\textsuperscript{153}

This interpretation is analogous to the test that the House of Lords in \textit{McGhee} used in order to analyse the element of factual causation in that matter.\textsuperscript{154} Indeed, the South African law of delict does differentiate between the ‘material increase of risk’ test and ‘material contribution to harm’ test – otherwise known as the ‘material contribution’ test.\textsuperscript{155} The difference between the two tests is that the material contribution test investigates whether the defendant’s act/omission ‘caused or materially contributed’ to the \textit{harm} suffered by the

\textsuperscript{148} Ibid at 491.
\textsuperscript{149} Ibid at 492.
\textsuperscript{150} Ibid.
\textsuperscript{151} Ibid.
\textsuperscript{152} Supra note 3 (\textit{Lee}) at para 62.
\textsuperscript{153} Op cit note 145 (\textit{Price}) at 492.
\textsuperscript{154} Op cit note 131 (Loubser et al) at 81 (see especially footnote 170 of the \textit{Lee} CC judgment at note 3).
\textsuperscript{155} Ibid at 80-82.
plaintiff. However, the material increase of risk test assesses whether the 
defendant’s conduct increased the risk of harm to the plaintiff, thereby creating 
an opportunity for harm to occur.

The second significant manner in which the majority in Lee deviated from the orthodox but-for test was by stating the following:

‘That in applying the but-for test, the court need not always ask itself whether the 
harm would hypothetically have been suffered had the defendant acted 
reasonably; that is, the court need not always substitute hypothetical reasonable conduct for the defendant’s actual conduct.’

Substituting hypothetical, reasonable conduct for the conduct that the 
defendant omitted is an integral part of the but-for test, as explained above.
Nkabinde J in Lee supported abandoning such a substitution, which essentially 
amounts to abandoning the but-for test. Writing for the majority, Nkabinde J 
stated that courts are permitted, under the South African law of delict, to 
determine factual causation by asking ‘whether the factual conditions of Lee’s 
incarceration were a more probable cause of his tuberculosis, than that which 
would have been the case had he not been incarcerated in those conditions.’

The CC concluded that failing to prove that the risk of tuberculosis 
contagion to Lee would have been entirely eliminated had the defendants acted 
lawfully did not prevent factual causation from being satisfied, for factual 
causation would nevertheless be satisfied if it could be proved that ‘the risk of 
contagion would have been reduced by proper systemic measures’, and not

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156 Op cit note 131 (Loubser et al) at 79.
157 Ibid at 81.
158 Op cit note 145 (Price) at 493.
159 Op cit note 131 (Loubser et al) at 72.
160 Supra note 3 (Lee) at para 55.
161 Ibid and see Andrew Paizes ‘Factual causation: which “conditio” must be a “sine qua non”? A critical discussion of the decision in Lee v Minister of Correctional Services (2014) 131:3 SALJ 500 at 501.
necessarily eliminated any risk entirely.\textsuperscript{162}

4.5 A Discussion of the ‘Material Increase of Risk’ Test

In \textit{Fairchild}, three appeals came before the House of Lords.\textsuperscript{163} Each appeal concerned cases in which employees had developed mesothelioma from exposure to asbestos dust at their workplaces.\textsuperscript{164} The House of Lords held that a claimant who is able to prove that his or her mesothelioma was caused by exposure to asbestos dust, but where this exposure was the contribution of more than one employer, then the conclusion is that each defendant who ‘materially increased the risk of the claimant’s contracting the disease contributed to his injury’, which thereby justified a ‘modified approach to proof of causation’.\textsuperscript{165}

Assessing the increase in risk in the matter was therefore important to concluding whether or not the omissions of the employer in \textit{Fairchild} were the factual cause of the harm suffered by the claimant.\textsuperscript{166} The Applicant mineworkers in \textit{Nkala}, by analogy of this reasoning, should be permitted to rely on proof of a material increase of risk to prove that the omissions of the Respondent mining companies were the factual cause of their harm. The Court in \textit{McGhee}, a prior case confirmed by \textit{Fairchild}, explained the material increase of risk test as follows:

‘If it is an established fact that the conduct of a particular kind creates a risk that injury will be caused to another or increases an existing risk that injury will ensue, and if the two parties stand in such a relationship that the one party owes a duty not to conduct himself in that way; and if the first party does conduct himself in that way; and if the other party does suffer injury of the kind to which the risk related; then the first party is taken to have caused the injury by his breach of duty, even though the existence and extent of the contribution made by the

\begin{footnotes}
\item[162] Op cit note 3 (\textit{Lee}) at para 60 (emphasis added) and see op cit note 17 (Applicants’ Submissions) at para 123.4.
\item[163] Supra note 14 (\textit{Fairchild}) headnote.
\item[164] Ibid.
\item[165] Ibid at 35 and see headnote.
\item[166] See supra note 14 (\textit{Fairchild}) generally.
\end{footnotes}
breach cannot be ascertained. 167

If we contrast this test with the but-for test, it is clear that the but-for test necessitates a higher standard of proof than that which is required by the material contribution of risk test as determinant of factual causation. 168 The but-for test requires a plaintiff to prove, on a balance of probabilities, that there was at least a 51% chance that the harm would have been eliminated had the defendant’s omission or commission not occurred. 169 If we apply this to the class action suit, the onus on the mineworkers would be to prove that the employers' breach of their common law and statutory duties increased their risk of developing silicosis and/or becoming infected with TB by at least 51%. 170

As stated by Spoor, “it cannot be the case that the employer's breach has to have increased the risk of disease by more than 50% before it can be held liable.” 171 This alludes to one of the criticisms of the but-for test, namely that it is an ‘all-or-nothing’ approach which leads to unfair outcomes because it relies on a mathematical, statistical approach, which the but-for test should not be based on. 172 The but-for test is, and should be, based on common-sense reasoning infused with ‘everyday-life experiences’ to analyse factual causation in a given matter. 173

Furthermore, the CC’s reference to the duty of care owed by the State to inmates in Lee provides a useful explanation for why the but-for test should not be applied to the tuberculosis class. As noted, the CC accepted that ‘a reasonably adequate system may not have “altogether eliminated the risk of [TB] contagion,”’ and added that this should not, however, lead to the conclusion that the prison authorities had no duty to reduce the risk of tuberculosis contagion in

167 Ibid at 76.
168 See op cit note 131 (Loubser et al) at 79.
169 Supra note 3 (Lee) at para 47.
171 Ibid.
172 Minister of Finance and Others v Gore NO 2007 (1) SA 111 (SCA) at para 33.
173 Supra note 3 (Lee) at para 47; See also Minister of Finance and Others v Gore NO 2007 (1) SA 111 (SCA) at para 33.
prison.\textsuperscript{174}

The CC noted that ‘it would be enough … to satisfy the probable factual causation where the evidence establishes that the plaintiff found himself in the kind of situation where the risk of contagion would have been reduced by proper systemic measures.'\textsuperscript{175} If the relevant court hearing the \textit{Nkala} class action decides that the ‘material increase of risk’ test should be used to prove that the Respondent mining companies were the factual cause of the Applicants’ harm, then the element of factual causation will be satisfied, if it can be proved that:

1. The conduct of each mining company created a risk of injury to its employees; or if it is proved that the Respondent mining companies increased an already existing risk (in other words, that the mining companies materially increased the risk suffered by the mineworkers); and that

2. Each mining company owes a duty of care to its employees, and finally;

3. That the Applicant mineworkers did in fact become infected with pulmonary tuberculosis.

If all of the above is proved, the conclusion is that the mining companies have factually caused the Applicants’ injuries, even if the extent of the mining companies’ negligence is not ascertainable.\textsuperscript{176} In brief, it is argued that the aforementioned test of ‘material increase of risk’ will be a fair standard in the matter, and should apply to the TB class. In other words, if the trial court agrees that assessing the possible increase of risk is the correct factual causation standard to be applied to TB class, then this will mean that the TB class of mineworkers do not have to prove that the company’s negligence caused their

\textsuperscript{174} Ibid at para 60.
\textsuperscript{175} Ibid.
\textsuperscript{176} Supra note 14 (Fairchild) at 76.
occupational disease in a but-for manner, but rather that it increased the risk of them becoming infected with TB.\textsuperscript{177}

4.6 Which Test for Factual Causation Should Apply to the Silicosis Class?

The silicosis class will include mineworkers, both ‘former and current, who suffer from silicosis, as well as the dependants of mineworkers who have died from the disease (whether or not accompanied by any other disease).\textsuperscript{178} This means that this class may include mineworkers who have been diagnosed with both silicosis and tuberculosis, meaning those who suffer from silicotuberculosis.\textsuperscript{179}

Price argues that the silicosis class is probably going to be regulated by the following principle applied in \textit{Bonnington Castings v Wardlaw} 1956 AC 513:

That ‘a plaintiff can hold a defendant liable whose negligence has materially contributed to a totality of loss resulting partly from the acts of other persons or from the forces of nature, even though no precise allocation of portion of the loss to the contributing factors can be made.’\textsuperscript{180}

Price notes that this principle can be interpreted as ‘the but-for test or as an alteration to it’ in the form of “‘material contribution’ to harm”\textsuperscript{181} and therefore not a material increase of risk, as should be applied to the TB class. Price argues that it is likely that, in order to prove a factual link in the matter, the silicosis class will not have to rely on \textit{Lee}, and that ‘each employer could be held liable only for the approximate extent of a claimant’s silicosis that the former’s negligence had caused or contributed to on a balance of probability.’\textsuperscript{182} The material contribution test thereby allows for a defendant to be held fully liable (in other words, to pay

\textsuperscript{177} See note 11 (Price) at 11.
\textsuperscript{178} Supra note 3 (\textit{Lee}) at para 230.
\textsuperscript{179} Op cit note 171 (Spoor Interview).
\textsuperscript{180} Op cit note 11 (Price) at 11.
\textsuperscript{181} Ibid.
\textsuperscript{182} Ibid.
the full amount of compensatory damages to a plaintiff), even though it can only be proved that the defendant contributed to the harm.\textsuperscript{183}

In \textit{Nkala}, the mineworkers conceded that proving factual causation in the TB class would be difficult because of the nature of the disease and the fact that it is difficult to prove the ‘direct or actual cause of the harm suffered,’ which creates an evidential problem for this class.\textsuperscript{184} This is a reason why the trial court should be able to rely on the \textit{Lee} judgment, and the Constitutional Court’s development of the but-for test, to assess factual causation in the TB class.\textsuperscript{185}

This evidential burden is made more difficult by the fact that silica dust is not the only risk factor to TB infection, but that ‘tobacco smoking, positive HIV infection, [and] cramped and poor living conditions’ are known to be risk factors to TB infection.\textsuperscript{186} The combined effect of HIV infection and silicosis makes a mineworker sixteen times more likely to develop tuberculosis and also greatly enhances the risk of a miner developing recurrent silicosis, which occurs when a mineworker suffers a later occurrence of tuberculosis.\textsuperscript{187}

However, the question of the cause of the disease is not an evidential hurdle for the silicosis class, as silicosis is a progressive disease because the symptoms of silicosis worsen over time and cause irrepairable harm, even after exposure to silica dust has ceased.\textsuperscript{188} Thus, silica dust is the ‘only cause’ of silicosis, whereas inhaling silica dust ‘increases the risk’ of TB infection, but does not cause this infection.\textsuperscript{189} The nature of silicosis therefore allows for a factual link to be made between the defendant’s conduct and the harm in the form of a contribution to that harm, because had the mineworker not worked for the mine,

\begin{footnotesize}
\begin{enumerate}
\item[\textsuperscript{183}] Op cit note 131 (Loubser et al) at 79.
\item[\textsuperscript{184}] Supra note 1 at para 76.
\item[\textsuperscript{185}] Ibid.
\item[\textsuperscript{186}] Ibid at para 18 and see note 11 (Price) at 11.
\item[\textsuperscript{187}] Op cit note 4 (Ehrlich Interview).
\item[\textsuperscript{188}] Op cit note 1 (\textit{Nkala}) at paras 15 – 16; See also op cit note 11 (Price) at 11.
\item[\textsuperscript{189}] Supra note 1 (\textit{Nkala}) at para 18.
\end{enumerate}
\end{footnotesize}
and had the mine protected its mineworkers from silica exposure, the mineworker would not have developed silicosis, which ultimately leads to the conclusion that the mining company’s conduct contributed to the disease.\textsuperscript{190}

Thus, assessing whether or not a defendant has contributed to the disease can be easily ascertained if the employee had worked for one single mining company during his career, for then it will be easy to prove that the silicosis manifested during the mineworker’s time working at that specific mine.\textsuperscript{191} However, even if a mineworker worked for multiple mining companies, the material contribution test would allow for each mining company to be held liable for the extent of their contribution to the harm suffered by a plaintiff.\textsuperscript{192}

4.7 Alternatives to the But-For Test with Regard to the TB Class

The TB class will include ‘current and former underground mineworkers who have or had contracted pulmonary tuberculosis and the dependants of deceased mineworkers who died of pulmonary tuberculosis, where such mineworkers worked or have worked for at least two years on one or more of the gold mines listed...’\textsuperscript{193} The TB class is therefore limited to mineworkers and their dependants who were or are only infected with TB and not infected with silico-tuberculosis.\textsuperscript{194}

Seeing as Lee’s claim was vindicated, the question becomes: Are the factual circumstances in Lee analogous to those of the Applicant mineworkers, thereby warranting an abandonment of the but-for test? Although the majority in Lee did emphasise the flexibility of the but-for test, it did not entirely do away with

\textsuperscript{190} See note 11 (Price) at 11.
\textsuperscript{191} Ibid.
\textsuperscript{192} Op cit note 11 (Price) at 11.
\textsuperscript{193} Op cit note 1 (Nkala) at para 41.
\textsuperscript{194} Ibid at para 230.
it.\textsuperscript{195} Instead, the implications of the majority’s decision are that the test will in all likelihood be relaxed in specific instances only, and not as a general rule.\textsuperscript{196}

Due to the fact that the CC’s jurisprudence in \textit{Lee} has led to much confusion within legal academia and practice in South Africa, we rely on the interpretations of legal scholars to make sense of the degree of importance, and the role that the \textit{Lee} judgment will play in future cases, such as the \textit{Nkala} class action suit. For example, Price interprets the CC’s \textit{Lee} judgment to imply that the relaxed traditional but-for test will in all likelihood be applied to certain ‘exceptional’ cases, such as matters involving evidentiary gaps.\textsuperscript{197}

Another exceptional circumstance, as noted by Fagan, would arise if application of the but-for test would cause an ‘injustice’, as stated by the CC in \textit{Lee}.\textsuperscript{198} Fagan notes that there are in fact cases in which the strict application of the [but-for] rule would result in an injustice, hence a requirement of flexibility.\textsuperscript{199} Yet the CC failed to explain which kinds of injustices would merit a more flexible approach to factual causation, and this creates difficulties in applying this test in this manner.\textsuperscript{200}

4.8 Evidential Gaps as an ‘Exceptional circumstance’ in the TB Class

The CC in \textit{Lee} noted that the application of the but-for test to delict cases which involve evidentiary gaps, or successive/multiple causes, is unjustifiable.\textsuperscript{201} Furthermore, Cameron J, writing for the minority in \textit{Lee}, also noted that the inflexibility of the but-for test is problematic cases involving evidentiary gaps.\textsuperscript{202}

\textsuperscript{195} Op cit note 145 (Price) at 497.
\textsuperscript{196} Ibid.
\textsuperscript{197} Ibid.
\textsuperscript{198} Fagan, Anton ‘Causation in the Constitutional Court: \textit{Lee} v \textit{Minister of Correctional Services}’ (2013) \textit{5 Constitutional Court Review} 104 at 114.
\textsuperscript{199} Ibid.
\textsuperscript{200} Ibid.
\textsuperscript{201} Supra note 3 (\textit{Lee}) at para 49.
\textsuperscript{202} Ibid at para 94.
Evidentiary gaps are created when there are multiple potential causes to a plaintiff’s harm, in other words, multiple employers who may have caused the harm, which can occur either simultaneously or successively.\textsuperscript{203} Price notes that there could potentially be two sub-classes within the TB class.\textsuperscript{204} These two classes could potentially consist of mineworkers suffering from TB after negligent exposure ‘to excessive silica dust by only a single employer’, on the one hand, and a second class involving mineworkers who developed TB from exposure by multiple employers, on the other hand.\textsuperscript{205} In this second potential class, each employer could be the potential cause of the mineworkers’ harm.\textsuperscript{206}

Applying the but-for test to cases involving successive causes is problematic because of the difficulty in proving factual causation by way of the but-for test in these kinds of matters.\textsuperscript{207} The following examples expose the problems created by applying the but-for test to cases of successive causes and evidentiary gaps:

‘Two cars. D1 and D2 are hitwomen independently employed to destroy C1’s car. Each places a small explosive device near C1’s car. The devices explode, but only one device destroys C1’s car, whilst the other device destroys C2’s car. It cannot be determined which D’s device destroyed which car.’\textsuperscript{208}

Using the but-for test in order to establish causation in this scenario would lead to an outcome in which neither D1 nor D2 could be held liable for the destruction of C1’s car.\textsuperscript{209} The reason for this is that, on a balance of probabilities, there is an equal chance that either one of the defendants caused the harm, and therefore that both defendants would be absolved of liability because the element of factual causation would not be fulfilled on the but-for

\textsuperscript{203} Op cit note 131 (Loubser et al) at 73.
\textsuperscript{204} Op cit note 11 (Price) at 12.
\textsuperscript{205} Ibid at 12 and see op cit note 131 (Loubser et al) at 82.
\textsuperscript{206} Op cit note 11 (Price) at 12.
\textsuperscript{207} Ibid.
\textsuperscript{209} Ibid.
This outcome would leave the claimant without a legal remedy, which seems both legally and morally unfair based on any right-minded person’s intuition regarding the facts above.\(^{211}\)

Similarly, imagine an underground mineworker in South Africa works for two gold mining companies, Company A and Company B, over a 6-year period, for periods of 3 years, respectively. The mineworker, while working at Company B, is diagnosed with pulmonary tuberculosis. If we were to apply the but-for test to this scenario, both mining companies would, like the two cars in the aforementioned scenario, be absolved from liability. It would be impossible with this test to prove on a balance of probabilities whether or not the mineworker developed TB while working for company A or company B, or both. The mineworker and/or his dependants would be left without compensation, an untenable legal position.

The two examples above highlight the problems presented by the but-for test. These scenarios are examples of delict cases involving evidentiary gaps, which represent one of the instances where the revised factual causation test in \textit{Lee} will be justified.\(^{212}\) Examples of cases involving evidentiary gaps are characterised by factual scenarios whereby a claimant lacks the evidence to hold one employer to account, because the cause of the employee’s infection cannot be proved, on a balance of probabilities, by simply applying the but-for test.\(^{213}\)

In other words, an employee would be able to prove that each employer \textit{may} have contributed towards the risk of infection, but will necessarily be unable to prove exactly which employee did so.\(^{214}\) As noted, this will often be the case if an employee is employed at two or more workplaces, and then becomes infected with TB, but fails to successfully hold one employer accountable for the harm on

\[^{210}\] Ibid at 733.
\[^{211}\] Ibid.
\[^{212}\] Op cit note 145 (Price) at 497.
\[^{213}\] Supra note 3 (Lee) at para 95.
\[^{214}\] Ibid.
the basis of the but-for test, thus justifying the use of a different test.\textsuperscript{215} Therefore, it is submitted that abandoning the but-for test in favour of the ‘material increase of risk’ test in \textit{Lee}, is justified in respect of the first sub-class (those mineworkers who have worked for multiple employers).\textsuperscript{216}

However, the minority of the CC in \textit{Lee} also relied on the shortcomings of the but-for test in the context of ‘evidentiary gaps’ cases to justify abandoning this test in the case.\textsuperscript{217} The Court explained that, because tuberculosis is caused by a ‘single fibre’, and because Lee could have been infected by a number of people, including prison guards, fellow inmates, or even a visitor, it ‘defies the but-for test’, for it is impossible to conclude which one of those persons was the cause of Lee’s infection.\textsuperscript{218} This clearly points to the specific evidentiary gap in the \textit{Lee} case.\textsuperscript{219}

It is argued that similar evidentiary gaps will undoubtedly present themselves within the first TB sub-class of mineworkers who will find it very difficult to prove, in terms of the but-for test, the direct cause of their infection.\textsuperscript{220} If follows that abandoning the but-for test with reference to that specific class is also justified.\textsuperscript{221}

\textbf{4.9 Systemic Omissions by Mining Companies as an ‘Exceptional Circumstance’}

The above section explained why the but-for test should not apply to the first TB sub-class.\textsuperscript{222} It will now be argued that the systemic omissions of the gold mining companies implicated in the \textit{Nkala} judgment also qualify as an

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{215} Ibid at para 96.
\item \textsuperscript{216} See note 11 (Price) at 11.
\item \textsuperscript{217} Ibid.
\item \textsuperscript{218} Supra note 2 (Lee) at para 96.
\item \textsuperscript{219} Ibid.
\item \textsuperscript{220} See note 11 (Price) at 11.
\item \textsuperscript{221} Ibid.
\item \textsuperscript{222} See note 11 (Price) at 11-12.
\end{itemize}
\end{footnotesize}
exceptional circumstance, and that this fact justifies an abandonment of the but-for test with reference to both of the TB sub-classes.

An example of an ‘exceptional circumstance’ in which a court may be permitted, following Lee, to abandon the but-for test, would be if a plaintiff claims that his or her harm was caused by systemic omissions on behalf of the State.\textsuperscript{223} In other words, an exceptional circumstance would arise if ‘the state has failed to perform a positive constitutional obligation to design and implement a reasonable system to protect a vulnerable class of people against a genuine risk to their life and personal security; and that risk eventuates.’\textsuperscript{224} The CC thereby also focused on the positive constitutional duty placed on the State, as per section 7(2) of the Constitution, to protect the rights of all persons, including prisoners.\textsuperscript{225}

A primary reason why the Constitutional Court decided to apply the relaxed test for factual causation to prisoners such as Lee was on the basis of the ‘positive constitutional duty’ on the State, found in section 7(2) of the Constitution, to act in a manner that promotes the protection of the rights contained within the Bill of Rights.\textsuperscript{226} The Court in part justified its relaxation of the ‘but-for’ test by focusing on the vulnerability and lack of autonomy of prisoners and the negligent omissions on the part of the State.\textsuperscript{227} For example, the Court stated that on a more onerous test for factual causation, ‘it is unlikely that any inmate will ever overcome the hurdle of causation’ and thereby also not have a remedy at their disposal.\textsuperscript{228} Importantly, it also invoked the constitutional obligations on the State to protect prisoners’ constitutional/human rights, namely the right to bodily integrity,\textsuperscript{229} dignity,\textsuperscript{230} and the right to be detained in conditions

\begin{itemize}
  \item \textsuperscript{223} Op cit note 145 (Price) at 497.
  \item \textsuperscript{224} Ibid.
  \item \textsuperscript{225} Supra note 3 (Lee) at para 64.
  \item \textsuperscript{226} Ibid.
  \item \textsuperscript{227} Ibid.
  \item \textsuperscript{228} Ibid at para 65.
  \item \textsuperscript{229} Section 12(2) of the Constitution of the Republic of South Africa, 1996.
  \item \textsuperscript{230} Section 10 of the Constitution.
\end{itemize}
that are consistent with human dignity.\footnote{Section 35(2)(e) of the Constitution; and see supra note 3 \textit{(Lee)} at para 65.}

The majority of the CC, in justifying its decision to depart from the orthodox test for factual causation in \textit{Lee}, accounted for the lack of autonomy and the vulnerability of prisoners in South Africa, in particular, their living conditions, and the power and responsibility of the State.\footnote{See paras 8 and 17 of supra note 3 \textit{(Lee)}.} Although the State’s power is derived from statutes and the Constitution, and therefore exists independently of the vulnerability of prisoners, this power is even more pronounced when it is considered in light of the prisoners’ vulnerability, because the differences in the societal positioning and relative power of the two groups is particularly distinct.

This section posits as its premise an undeniable similarity between the vulnerable positions that both mineworkers and prisoners experience in society, the power yielded by the State and South African gold mining companies, and the constitutional obligations that the State and such companies owe to their employees – especially to underground mineworkers. This congruity supports the claim that the factual circumstances of the Applicant mineworkers, while in the mining companies’ employ, is an exceptional circumstance that exempts them from having to rely on the but-for test to prove a causative link in their matter, and that a lower standard, the ‘material increase of risk’ test, should apply instead.

\subsection*{4.9.1 Understanding the Vulnerability of Mineworkers in South Africa with Reference to their Work and Living Conditions}

TB is an ‘airborne communicable disease’ and is easily transmitted in badly ventilated, crowded and confined areas, such as in Pollsmoor prison\footnote{Ibid at para 8.} and in mineworkers’ barracks and hostels.\footnote{Supra note 1 \textit{(Nkala)} at para 61.14.} Lee and his fellow inmates were living in close proximity to each other in their prison cells for up to 23 hours per day,
which created ‘ideal conditions for transmission’.\textsuperscript{235} Although the Applicant mineworkers naturally had greater freedom of movement compared to the restricted physical freedom of prisoners such as Lee, these mineworkers did live in various forms of accommodation; either miners’ barracks, hostels, compounds or dormitories, which were often unhygienic and overcrowded.\textsuperscript{236}

These living conditions also played a role in aggravating the TB infections plaguing gold mineworkers in South Africa – to those who have developed silicosis and to those who have not, for exposure to silica dust, in the absence of full-blown silicosis, increases risk of tuberculosis infection.\textsuperscript{237} It is arguable that the gold-mining companies had the resources and the power to create better living conditions for these mineworkers, in order to prevent a spread of TB and silico-tuberculosis, but this did not happen. Instead, the mineworkers were left susceptible and vulnerable to TB infection and the development of silico-tuberculosis.\textsuperscript{238}

In a similar vein, the Respondents wielded ‘complete control over all aspects of the working environment on the mines.’\textsuperscript{239} These mining companies should have ensured that they were complying with their common law and legislative duties to protect mineworkers from occupational diseases, but it is alleged that these duties were not adhered to.\textsuperscript{240}

The vulnerable positions of the Applicant mineworkers were especially pronounced in the latter half of the 20\textsuperscript{th} century, when many of these mineworkers lived in great poverty and relied on meagre wages and income from agricultural output, which did not provide them with a decent standard of living.\textsuperscript{241}

\textsuperscript{235} Supra note 3 (Lee) at para 8.  
\textsuperscript{236} Supra note 1 (Nkala) at para 61.14.  
\textsuperscript{237} Ibid para 61.12.  
\textsuperscript{238} See note 70 (McCulloch) generally.  
\textsuperscript{239} Op cit note 17 (Applicants’ Submissions) at 101.  
\textsuperscript{240} Ibid at 50.  
\textsuperscript{241} Op cit note 70 (McCulloch) at 136.
This poverty spurred on a vicious cycle of malnutrition, making these mineworkers even more susceptible to TB.\textsuperscript{242} The current TB and silicosis epidemic amongst mineworkers in South Africa is in large part due to the abuse of power by the Respondent mining companies and the vulnerability of miners.\textsuperscript{243}

Of course, mineworkers are at their most vulnerable when they have been diagnosed with silicosis and/or TB.\textsuperscript{244} Many mineworkers have become, or will become, disabled from these diseases, which essentially prevents them from taking up gainful employment.\textsuperscript{245} This forces these people into lives of poverty, often in rural areas where access to legal resources and medical assistance is scarce.\textsuperscript{246}

The Applicants’ submissions stated that they ‘may ask the trial court to develop the law on the onus of proof for negligence and causation’.\textsuperscript{247} If the trial court allows for this development, and applies the material increase of risk test to the TB classes, then this would accord with both the minority and majority in \textit{Lee}, which shows the ‘willingness’ of the Constitutional Court to ‘adapt and develop the principles of the law of delict so as to ensure that vulnerable classes are given fair treatment.’\textsuperscript{248}

This treatment would be fair because even though all persons should be treated equally before the law, South African law, including our courts, responds differently to vulnerable groups of people. For example, in matters relating to children, who are viewed as a vulnerable group in South African law, the ‘best interests of the child’ are paramount;\textsuperscript{249} and refugees are also afforded special

\begin{itemize}
\item \textsuperscript{242} Ibid.
\item \textsuperscript{243} See note 70 (McCulloch), generally, for insight into the treatment of mineworkers in 20\textsuperscript{th} century South Africa.
\item \textsuperscript{244} Op cit note 17 (Applicants’ Submissions) at 101.
\item \textsuperscript{245} Ibid.
\item \textsuperscript{246} Ibid.
\item \textsuperscript{247} Ibid at 100.
\item \textsuperscript{248} Ibid at 101.
\item \textsuperscript{249} Section 28(2) of the Constitution.
\end{itemize}
legal protection due to their vulnerability.\textsuperscript{250} Similarly, our courts should regard mineworkers who suffer from occupational diseases and/or HIV/AIDS as a vulnerable group of persons and should respond appropriately. An appropriate response would be to apply the material increase of risk test to the TB class.

4.9.2 The Constitutional Obligations of the State and Mining Companies – A Comparison Between Public and Private Entities

As noted in \textit{Nkala}, a large part of the class action suit will focus on the infringement of certain fundamental constitutional rights by the mining companies since 1994, and the constitutional obligations that the mining companies owe to their employees to respect their constitutional rights.\textsuperscript{251} As noted above, an interpretation of \textit{Lee} may be that the but-for test should be relaxed in instances where the State is liable for a systemic omission and has therefore failed to fulfil its constitutional obligations to provide a safe and reasonable healthcare system in prisons.\textsuperscript{252} Similarly, the relaxed test for causation should also be applied to both of the TB classes, for it is arguable that the Respondent companies should be liable for systemic omissions and the failure to fulfil their constitutional obligations to their employees.\textsuperscript{253}

The constitutional duties placed on the mining companies to respect the constitutional rights of their employed miners is the third set of duties, in addition to the common law and statutory duties, which the mining companies owe to their employees and also those former employees employed since 1994.\textsuperscript{254} The

\begin{itemize}
\item \textsuperscript{250} \textit{Union of Refugee Women and Others v Director, Private Security Industry Regulatory Authority and Others} (CCT 39/06) [2006] ZACC 23; 2007 (4) BCLR 339 (CC); (2007) 28 ILJ 537 (CC) (12 December 2006) at para 29.
\item \textsuperscript{251} Op cit note 1 (\textit{Nkala}) at para 58.3.
\item \textsuperscript{252} Op cit note 145 (\textit{Price}) 497.
\item \textsuperscript{253} Op cit note 1 (\textit{Nkala}) at para 58.3.
\item \textsuperscript{254} See note 1 (\textit{Nkala}) at para 58 for a discussion of these duties.
\end{itemize}
constitutional rights alleged to have been breached by these companies are.\textsuperscript{255}

1. The right to human dignity, as expressed in section 10 of the Constitution. Human dignity is arguably the highest-ranking right in the Bill of Rights, as it is also a founding value contained in section 1 of the Constitution, which states that the Republic of South Africa is founded on the values of ‘human dignity, the achievement of equality and the advancement of human rights and freedoms.’\textsuperscript{256} The right to human dignity is not only a free-standing constitutional right, but it is trite that it also forms the ‘source’ of other constitutional rights, such as the right to freedom and security of the person.\textsuperscript{257} The right to human dignity also requires that all persons respect the ‘intrinsic worth of all people’.\textsuperscript{258}

2. The right to an environment not harmful to [the mineworkers’] health and well-being, as expressed in section 24 of the Constitution. The right to dignity and the right to a non-harmful environment are interlinked in this matter.\textsuperscript{259} For as stated by the High Court in \textit{Nkala}, after perusing the evidence attested to in the affidavits of the mineworkers, it is consistently revealed ‘that the mining companies stripped them of their dignity, and concomitantly compromised their health and safety, with such intensity and ferocity that they were effectively dehumanised’.\textsuperscript{260}

3. ‘The fundamental right against unfair discrimination by private persons’, as expressed in section 9(4): ‘No person may unfairly discriminate directly or indirectly against anyone’ on certain grounds listed in terms of section 9(3). In

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{256} Section 1 of the Constitution and see op cit note 10 (Currie & De Waal) at 250.
\item \textsuperscript{257} Ibid at 251.
\item \textsuperscript{258} Ibid.
\item \textsuperscript{259} Op cit note 1 (\textit{Nkala}) at para 66.
\item \textsuperscript{260} Ibid at para 66.
\end{itemize}
\end{footnotesize}
President of the Republic of South Africa and Another v Hugo,²⁶¹ the CC explained that:

“At the heart of the prohibition of unfair discrimination lies a recognition that the purpose of our new constitutional and democratic order is the establishment of a society in which all human beings will be accorded equal dignity and respect regardless of their membership of particular groups.”²⁶²

4. The right to life, as expressed in section 11 of the Constitution. The right to life, similar to the right to dignity as explained above, is one of the founding values in section 1 of the Constitution. The right to life is given to all persons and is ‘textually unqualified’ in that section 11 states that ‘everyone has a right to life’.²⁶³

5. The right to bodily integrity, as expressed in sections 12(1)(c) and 12(2) of the Constitution.²⁶⁴ This right falls under the right to freedom and security of the person.²⁶⁵ As explained in Mankayi, this right is ‘engaged’ when a person ‘is subjected to some form of injury deriving from either a public or a private source.’²⁶⁶ According to the Court in Mankayi, this right is claimable by any person, and both private and public bodies should protect persons from infringement of this right.²⁶⁷

It is alleged by the mineworkers that the mining companies infringed their rights to life and bodily integrity ‘by unduly exposing them to disease and death’.²⁶⁸ The Applicants further alleged that the existing common law not only infringes their right to dignity, but also their rights to equality, life, ‘freedom and security of the person’ and the right to a non-harmful environment, among

²⁶¹ President of the Republic of South Africa and Another v Hugo 1997 (4) SA 1 (CC); 1997 (6) BCLR 708 (CC).
²⁶² Ibid at para 41.
²⁶³ Op cit note 10 (Currie & De Waal) at 259.
²⁶⁴ Op cit note 255 (Applicants’ Notice of Motion and Founding Affidavit) at para 141.
²⁶⁵ Section 12 of the Constitution.
²⁶⁶ Op cit note 2 (Mankayi) at para 15.
²⁶⁷ Ibid.
²⁶⁸ Op cit note 17 (Applicants’ submissions) at para 23.
4.9.2.1 Negative and Positive Constitutional Obligations

In *Minister of Safety and Security v Van Duivenboden*, which concerned alleged police negligence, the SCA remarked on the difference between the constitutional obligations that the Constitution imposes on the State, as a public entity, and the obligations imposed upon private citizens. The Court stated that although private citizens may be ‘entitled to remain passive when the constitutional rights of others are under threat’, the State, as a public entity, is under an express obligation per section 7(2) of the Constitution to ensure that the rights contained within the Bill of Rights are free of unlawful infringement.

The SCA added that the legal apprehension towards imposing liability for omissions is often influenced by a noninterventionist idea of liberty, recognising that individuals are permitted to “mind their own business” and not intervene in situations even if they may be reasonably expected to prevent the occurrence of harm. The State, on the other hand, is not let off as easily, for it is often the ‘very business’ of a public enterprise to protect the best interests of the public.

Another reason that the State’s duties are more explicit within the Constitution is because of the power that the State yields, and the resources that it has at its disposal to curb abuses of power between citizens. For example, the reason the State was held to account in *Van Duivenboden* was that it acted negligently in failing to prevent the use of firearms in the matter – a power it has...

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269 Supra note 1 (Nkala) at para 200; It was alleged that the common law also infringes upon the mineworkers rights (including the right of access to courts, as protected by section 34 of the Bill of Rights) by preventing their claims for compensation at common law to be transmitted to their estates when they die. The High Court concluded in favour of the mineworkers, stating that the common law should be developed in order to allow for such transmissibility; See note 1 (Nkala) at paras 200 and 215.


271 Ibid at para 19.

272 Ibid at para 20.

273 Ibid at para 19.

274 Ibid.
in terms of the Arms and Ammunition Act 75 of 1969.\textsuperscript{275} Not only does the State have the power to act to prevent harm – but it also has immense power to wield harm.

Yet section 8(2) of the Constitution also places legal obligations on private parties, such as mining companies, to respect certain rights contained in the Bill of Rights.\textsuperscript{276} Section 8(2) of the Constitution states that 'a provision of the Bill of Rights binds a natural or a juristic person if, and to the extent that, it is applicable, taking into account the nature of the right and the nature of the duty imposed by the right.' This means that the Bill of Rights not only applies vertically between the State and private parties, as per section 7(2) of the Constitution, but also applies horizontally between two or more private parties.\textsuperscript{277} The Constitution therefore also places duties on private persons to respect each other's constitutional rights in their interactions with one another.\textsuperscript{278}

The primary difference between the State's constitutional obligations, per section 7(2) of the Constitution, and private parties' obligation, as per section 8(2), is that the former encompasses both a positive and a negative obligation, and the latter a negative obligation only.\textsuperscript{279} This means that the State has an obligation to work towards the fulfilment of the constitutional rights of private persons, as well as to prevent the infringement of such rights, but that private parties only have an obligation not to infringe upon the constitutional rights of private persons.\textsuperscript{280}

Although the constitutional obligations, which the State owed to Lee, were more onerous than the duties of the mining companies, both parties were nevertheless under an obligation not to infringe upon the rights of the respective

\textsuperscript{275} Arms and Ammunition Act 75 of 1969; and see note 267 (\textit{Van Duivenboden}) at para 3.

\textsuperscript{276} Constitution section 8(2) and see op cit note 10 (Currie & De Waal) at 33.

\textsuperscript{277} See section 8(2) of the Constitution.

\textsuperscript{278} See note 1 (\textit{Nkala}) at para 58.3.

\textsuperscript{279} Supra note 18 (\textit{Law Society}) at para 59.

\textsuperscript{280} Ibid.
private persons. The positions of the State and mining companies in this sense are thus analogous. For example, in *Governing Body of the Juma Musj tid Primary School & Others v Essay N.O. and Others*, 281 the Constitutional Court noted that section 8(2) of the Constitution places a negative obligation on private parties ‘not to interfere with or diminish the enjoyment of a right.’ In this manner, the mining companies have a duty not to interfere with the rights of dignity, equality, life, bodily integrity and environment of the mineworkers. 283

It is important to note that the South African Companies Act284 (“the Act”) includes a provision to ensure that section 8(2) of the Constitution, and the horizontal application of constitutional rights, is expressed throughout the Act. 285 Section 7 highlights the Act’s purposes, which include promoting, among companies, a ‘compliance with the Bill of Rights.’ This provision is a reaction to the demand for human rights issues to be at the forefront of corporate policy-making and to become an integral part of ‘the holistic functioning of the company.’ 286 This is a welcome development, for it challenges the traditional view of human rights issues as barriers to company profits and growth. 287

Constitutional rights should bind both the state and private parties, because the possibility of infringing these rights arises from acts and omissions by the State and private parties. 289 In *Khumalo v Holomisa*, 290 the Constitutional Court – deciding whether or not a right could find ‘direct horizontal application’ in the matter and whether section 8(2) applies to private parties – took into account

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281 *Governing Body of the Juma Musj tid Primary School & Others v Essay N.O. and Others* 2011 (8) BCLR 761 (CC).
282 Ibid at para 58.
283 See supra note 1 (*Nkala*) at para 58.3 for further insight into these constitutional obligations.
284 Companies Act 71 of 2008.
286 Ibid at 687.
287 Ibid.
288 Ibid.
290 Khumalo v Holomisa 2002 (5) SA 401 (CC).
the ‘intensity of the right’, together with the ‘potential invasion of that right’, and that such invasion could occur by the acts or omissions of private parties.\(^{291}\)

In fact, certain commentators argue that private parties are, in certain instances, capable of causing even greater harm to others than governments.\(^{292}\) An example of this is the manner in which South African gold mines, including the Respondent mining companies, operated prior to 1994, which can be described as one of the ‘most socially destructive practices’ of the 1900s.\(^{293}\) This is arguably why there are so many mineworkers who are currently suffering from mining-related diseases. It is therefore clear that the ‘potential invasion’ of the rights alleged to have been breached by the mining companies is extreme, which justifies the imposition of constitutional obligations on the mining companies.

Further examples of corporate violations of delictual and constitutional duties towards their employees include basic human rights violations, such as ‘abusive labour practices ... or violations of the fundamental rights to equality, dignity and freedom’.\(^{294}\) These constitute a plain infringement of the ‘duty not to cause harm’.\(^{295}\) In fact, there has, in recent years, been a global move towards holding private entities, such as companies, liable for human rights abuses,\(^{296}\) and the class action suit is a prime example of this.

Therefore, although the constitutional obligations of the State and private parties do not overlap entirely, the negative duties placed on both parties are similar enough to argue that the State and mining companies do both owe constitutional obligations to private persons.\(^{297}\) The aforementioned similarities

\(^{291}\) Ibid at para 33.
\(^{292}\) Op cit note 289 (Barak-Erez) at 15.
\(^{293}\) Busisipho Siyobi ‘Corporate Social Responsibility in South Africa’s Mining Industry: An Assessment’ (September 2015) SAILA Policy Briefing 142 1 at 2.
\(^{294}\) MM Botha ‘Responsibilities of Companies Towards Employees’ (2015) 18:2 PER/PELJ 1 at 17.
\(^{295}\) Ibid.
\(^{297}\) See note 1 (Nkala) at para 58 for a discussion on these constitutional duties.
between the powerful positions of the State and mining companies, and their analogous constitutional obligations, as well as the vulnerability of prisoners and mineworkers, are the primary reasons why the Applicant mineworkers constitute a vulnerable class of persons. This is also the reason why the systemic omissions on the part of the Respondent mining companies should be deemed an ‘exceptional circumstance’ with regard to factual causation. The consequence of this is that the Applicants should not be required to prove factual causation on the basis of the but-for test, and the relevant court should use the material contribution of risk test to assess the factual causation in the scenario instead.

The application of the test for factual causation in Lee would also be in the interests of justice, as it allows for the mineworkers to vindicate constitutional rights with a claim in delict. In Fose v Minister of Safety and Security, which was heard during the period when the Interim Constitution still applied, the Constitutional Court stated that an award of damages is a suitable remedy for the protection and enforcement of constitutional rights. Similarly, in Law Society of South Africa v Minister of Transport 2011 (1) SA 400 (CC), the Court, after drawing on the Fose judgment, stated that granting a private law remedy in delict by way of an order of compensation protects and enforces constitutional rights.

Chapter 5

5.1 The Common Law and Statutory Duties of Care

The following section will provide an analysis of the statutory and common law duties of care, which are owed by the mining companies to the underground mineworkers who were and still are in their employment. Proving a duty of

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298 Fose v Minister of Safety and Security [1997] ZACC 6; 1997 (3) SA 786 (CC); 1997 (7) BCLR 851(CC).
299 Ibid at para 60.
300 Op cit note 18 (Law Society) at para 79.
301 Op cit note 17 (Applicants Submissions) at 50.
care is a requirement of the material contribution of risk test, which should apply to the TB class, and is also required to prove material contribution on the part of an employer.\textsuperscript{302} For as stated in \textit{Bonnington Castings v Wardlaw} 1956 AC 513, ‘the employee ... must make it appear that, at least on a balance of probabilities, the breach of duty caused or materially contributed to his injury.’\textsuperscript{303}

5.1.2 A Brief Explanation of the Duty of Care

The Applicant mineworkers allege that the mining companies, by way of their negligence, upheld an ‘on-going, relentless, intense and profound’ practice of neglect, evidence of which is still to be put forth by the Applicants in order to prove that these mining companies breached the legal duties owed to them while they were in the employment of the companies.\textsuperscript{304}

In order to contextualise the duty of care that the mining companies owe to their underground mineworkers, it must be asked how exactly the mining companies have breached their duties – from what harm should these mining companies have sought to protect their employees?\textsuperscript{305} The duty of care that the mining companies owe to their employees in this instance is a duty to protect mineworkers from silicosis, silico-tuberculosis and pulmonary tuberculosis.\textsuperscript{306}

Furthermore, this duty of care is twofold; it consists of common law and statutory duties placed on mining companies to protect their employees from occupational diseases.\textsuperscript{307} If a mining company’s employees develop one of more of these diseases, it follows that the mining company should be held responsible, because it has failed to fulfil its duties of care owed to its employees.\textsuperscript{308}

\textsuperscript{302} Supra note 16 (\textit{Bonnington Castings}) at para 3 and supra note 14 (\textit{Fairchild}) at 76.
\textsuperscript{303} Supra note 16 (\textit{Bonnington Castings}) at para 3.
\textsuperscript{304} Op cit note 17 (Applicants’ Submissions) at para 60.
\textsuperscript{305} Supra note 14 (\textit{Fairchild}) at 35-36.
\textsuperscript{306} Supra note 1 (\textit{Nkala}) at para 59.
\textsuperscript{307} Ibid at paras 58.1 – 58.3.
\textsuperscript{308} See supra note 14 (\textit{Fairchild}) at page 36.
5.2 The Common Law Duty of Care

The Constitutional Court’s development of the but-for test is not novel, and exceptions to the general rule have long been recognised, especially in English law. This was seen in *Fairchild* and *McGhee* above. Although exceptions to the but-for test have been criticised for causing uncertainty within the law of delict, Steel argues that certain exceptions should be defended. Steel justifies his defence by explaining that the law of delict places legal duties on people to act in ways that prevent harm to those around them. If a person breaches one of these legal duties, which Steel refers to as ‘primary duties’, then this triggers the rise of ‘secondary’ relations/duties between the two persons. A secondary duty or obligation refers to the remedy that a relevant court imposes in order for the wrongdoing to be corrected, such as the payment of compensation. In effect, a breach of the mining companies’ legal duties triggers a secondary obligation of payment of compensation owed to the mineworkers.

The Constitutional Court in *Lee* explained that the responsible authorities at Pollsmoor prison had a common law duty of care to ‘take reasonable measures to reduce the risk of contagion’ of tuberculosis among inmates. Similarly, mining companies owe a common law duty of care to members of the silicosis and tuberculosis classes. The common law duties owed towards miners are the same regardless of the class the mineworker is in. Yet, the statutory duties will differ.

309 Op cit note 208 (Steel) at 730.
310 Ibid at 731; op cit note 145 (Price) at 491.
311 Op cit note 208 (Steel) at 731.
312 Ibid at 732.
313 Ibid.
314 Ibid.
315 Supra note 3 (*Lee*) at para 59.
316 Supra note 1 (*Nkala*) at para 58.
5.2.1 Breach of the Common Law Duty of Care

The common law duty of care owed to both the TB and silicosis classes is to ‘take reasonable measures to provide a safe and healthy working environment that was not injurious to their [employees’] health and/or to take reasonable care for the safety of persons entering the mines.’\textsuperscript{317} The Respondent mining companies breached this duty by exposing their employees to dust and gas levels that were higher than the statutorily mandated ‘safe levels’.\textsuperscript{318} The Respondent companies also failed to implement an effective ‘risk assessment programme’, which would have helped identify the risks posed by the inhalation of certain dusts and gases in the underground mines.\textsuperscript{319} The list identifies a myriad of common law duties that the Respondents failed to respect, and which the Applicants allege, were the causes of their silicosis.\textsuperscript{320}

5.3 The Statutory Duty of Care Owed to Both the Silicosis and the TB Class

It was submitted in the Applicants’ affidavits that the Respondents had ‘negligently, wrongfully and unlawfully breached the statutory duty of care’ that they owe to members of the silicosis and tuberculosis classes.\textsuperscript{321} The content of these duties can be found in the Mines and Works Act 27 of 1956 ("MWA") and the Mine Health and Safety Act 29 of 1996. These statutory duties include the duty of mining companies to provide and to ensure:

1. ‘Safe and healthy environmental conditions for workmen...’\textsuperscript{322}

2. That no mineworker is permitted to enter a mine where dust is

\textsuperscript{317} Ibid at para 58.1.
\textsuperscript{318} Op cit note 255 (Applicants’ Notice of Motion and Founding Affidavit) at para 138.1.
\textsuperscript{319} Ibid at para 138.2.
\textsuperscript{320} Op cit note 17 (Applicants’ Submissions) at 49-56.
\textsuperscript{321} Op cit note 255 (Applicants’ Notice of Motion and Founding Affidavit) at para 134.
\textsuperscript{322} Ibid at para 136.1.1 and see the 1965 Mines and Works Act Regulation (GG No. 29458 of 15 December 2016) 6.6.(2) of the Mines and Works Act 27 of 1956 (applied from 12 March 1965 to 26 June 1970).
'perceptible by sight', unless the mineworker is 'wearing effective apparatus to prevent inhalation of such ... dust'; and

3. To ensure that the dust concentrations do not exceed the standard as set out by the Government Mining Engineer.

The Applicants further submitted that the Respondent mining companies 'knew, or should have known that silicosis and other dust related occupational lung diseases' could be prevented if the companies implemented proper engineering controls and other 'good work practices'. Scientific literature adduced by the Applicants in *Nkala* also proves that the mining companies were as recently as 2008 still not in compliance with their legislative duties and requirements to control dust levels within the mines.

The CC in *Lee* stated the prison authorities were so 'pertinently aware of the risk' of tuberculosis contagion amongst inmates. Similarly, the Respondent mining companies have been aware, for decades, of the risks of developing TB and silicosis in the mines, and of the number of mineworkers diagnosed with occupational diseases. It therefore seems that an awareness of risk should elevate the importance of legal duties of care.

5.4 The Relationship between the Statutory and the Common Law Duties of Care

The statutory duty of care and the common law duty of care owed by the mining companies both encompass the obligation to minimise the risk to which
the mineworkers are exposed." Richard Spoor stated that contemporary occupational health and safety systems emphasise the importance of workplace risk management. A risk-management approach includes the following steps:

1. Identify hazards in the workplace;
2. Assess the risks associated with those hazards;
3. Determine measures to eliminate or mitigate the risk (the risk assessment process);
4. Implement the measures; [and]
5. Repeat."

These principles can also be found in section 11 of the Mine Health and Safety Act 29 of 1996, which states that:

‘Every employer must – (a) identify the hazards to health or safety to which employees may be exposed while they are at work; [and] (b) assess the risks to health or safety to which employees may be exposed while they are at work...”

As stated by Spoor, the culpability of employers in this matter therefore ‘pertains to the employer’s negligent breach of its duty of care, which is to take reasonable steps to mitigate the risk associated with hazards in the workplace.’ In the case of the silicosis class, ‘the hazard is silica dust and the risk is the risk of contracting silicosis’. It is true that no mining company can completely eliminate this risk. Yet the fact that there will always be some measure of dust inhalation is what makes assessing the degree to which the Respondents attempted to mitigate such exposure of central importance for

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329 Op cit note 171 (Spoor Interview).
330 Ibid.
331 Ibid.
332 Sections 11(a) and (b) of the Mine Health and Safety Act (italics omitted).
333 Op cit note 171 (Spoor Interview).
334 Ibid.
335 Ibid.
assessing the culpability of mining companies with reference to the silicosis class.\textsuperscript{336}

Chapter 6

6.1 The Distribution of Compensation

In Law Society of South Africa \textit{v} Minister of Transport, the Applicants alleged that section 21 of the Road Accident Fund Act, 1996\textsuperscript{337} ("the RAF Act"), which bars a victim of a motor vehicle accident from claiming compensation under the common law, is irrational and unjustifiably limits certain constitutional rights, including the right to freedom and security of the person, as per section 12 of the Constitution.\textsuperscript{338} The CC held that this limitation was 'reasonable and justifiable'.\textsuperscript{339} The Court explained that the right to freedom and security of the person could be vindicated by way of a statutory compensation scheme.\textsuperscript{340}

The Court also noted the advantages of a statutory compensation scheme, explaining that the primary aim of this scheme is to grant 'reasonable, fair and affordable compensation to all innocent victims of motor accidents.'\textsuperscript{341} There is no denying that statutory compensation schemes make it easier for victims, such as road accident victims and others, to claim compensation for injury, because they allow claimants to bypass potentially lengthy and costly litigation in order to assert their claims to compensation, if they meet certain requirements, of course.\textsuperscript{342}

However, the establishment of statutory compensation schemes to protect constitutional rights should not override the fact that delictual remedies are also

\textsuperscript{336} Ibid.
\textsuperscript{337} Road Accident Fund Act 56 of 1996.
\textsuperscript{338} Supra note 18 (Law Society) at paras 3-4.
\textsuperscript{339} Ibid at para 80.
\textsuperscript{340} Ibid at paras 66 and 74.
\textsuperscript{341} Ibid at para 77.
\textsuperscript{342} Such requirements are set out in the RAF Act.
necessary, in ‘appropriate circumstances’, to protect these rights.\textsuperscript{343} The mineworkers have instituted a claim in delict for compensation.\textsuperscript{344} The Applicant mineworkers, in setting out their common law claim for damages, noted that the Constitutional Court in \textit{Mankayi} stated that ‘a delictual claim for damages at common law also constitutes an appropriate remedy for the violation of a constitutional right,’\textsuperscript{345} and it therefore seems correct that it is also an appropriate legal remedy to the class action.

The purpose of awarding damages is to ‘compensate an aggrieved party’.\textsuperscript{346} Compensation is therefore the relief that the Applicant mineworkers are owed. A fair and just award of compensation by way of a delict claim would vindicate the constitutional rights of the mineworkers because it would recognise that these rights have been breached and that the mining companies should have protected them from infringement. The Women's Legal Centre has proposed that in the event that a court orders compensation in the class action, a portion of the damages award should be placed in a trust, so that it can be allocated to the women who have cared, and who continue to care, for the men who have developed silicosis.\textsuperscript{347} The Women's Legal Centre explained that:

'What is important to us is that the case doesn’t just talk to the men’s losses from the silicosis, but takes into account that these men are part of a larger family unit and that in many cases it is women who are going to spend their time - but who also give up other opportunities - to take care of the miners. This ‘price’ should not be paid by the family and women, but should be a part of the award made by the court when it looks at this.'\textsuperscript{348}

Awarding compensation in the form of damages to mineworkers and those who have cared for them would allow for the vindication of the constitutional

\textsuperscript{343} Ibid at para 79.
\textsuperscript{344} Supra note 1 (\textit{Nkaya}) at para 57.
\textsuperscript{345} Supra note 17 (Applicants' Submissions) at 17.
\textsuperscript{346} Op cit note 131 (Loubser et al) at 76.
\textsuperscript{347} Mandy de Waal ‘The invisible women in silicosis class action suit’ (20/05/2013) Accessed on: 20/02/2017 Available at: \url{https://www.dailymaverick.co.za/article/2013-05-20-the-invisible-women-in-silicosis-class-action-suit/#.WLrf11cTFFI}.
\textsuperscript{348} Ibid.
rights of mineworkers and the recognition and acknowledgment of the people who have cared for these mineworkers. Therefore, if the relevant court in the class action suit in question finds that the Applicants are owed compensation through the law of delict, it should order that the mining companies distribute the compensation amount fairly among the mineworkers (and all those who have a valid claim for compensation, including the dependants of mineworkers). Such a distribution scheme could consist of a private fund in the form of a trust, for example. A compensation scheme of this nature is not novel. In 2016, Anglo American SA, together with AngloGold Ashanti, reached a settlement of over R500-million to be paid to 4,365 claimants who sued these companies for silicosis and silico-tuberculosis from a private fund.349

Nonetheless, it is hoped that this settlement could 'pave the way for an industry wide compensation scheme for all gold-miners' who suffer from silicosis and silico-tuberculosis and who meet certain requirements.350 Until such a statutory compensation scheme is established, claimants should be allowed to vindicate their section 8(2) constitutional rights by instituting a compensation claim in delict.

Chapter 7

7.1 Conclusion

This dissertation has explored the delictual element of factual causation with reference to the compensation claims instituted by TB and silicosis sufferers against gold mining companies, as set out in the Nkala judgment. The Constitutional Court’s judgment in Lee v Correctional Services was analysed, where the Constitutional Court relaxed the inflexible test for factual causation in order to fairly assess the factual cause of the plaintiff’s infection, instead utilising

349 Op cit note 19 (Meeran & Martin).
350 Ibid.
a material increase of risk analysis.\textsuperscript{351} It was argued that the Constitutional Court's abandonment of the orthodox but-for test for factual causation in \textit{Lee}, and subsequent application of the material increase of risk test, is precedent for the tuberculosis class, and should be applied to this class.

It was argued that the facts in \textit{Lee} are analogous to those set out in \textit{Nkala}. For example, there are significant parallels between the vulnerability of prisoners and miners, there is comparability between the negligent omissions of the State and the mining companies\textsuperscript{352} and in both cases, the State and the mining companies owed similar constitutional obligations to the incarcerated persons, such as Lee, and to mineworkers, respectively.\textsuperscript{353} It is on the basis of this substantial congruence between the two matters that the abandonment of the but-for test is warranted, and that the factual causation test, as reinterpreted in \textit{Lee}, should apply to the TB class within the class action suit. It was also submitted that the material contribution test would be a fair factual causation standard by which to assess factual causation in the silicosis class, as the evidential burden on this class is more easily satisfied than that of the TB class.\textsuperscript{354}

Furthermore, the legal duties of care that mining companies owe to their employees were analysed.\textsuperscript{355} Establishing these duties is a requirement of both the material increase of risk test and the material contribution test, and will therefore be analysed by the trial court when coming to a conclusion on factual causation in this matter.\textsuperscript{356}

Finally, if the class action is given the green light, then it is up to the trial court to decide whether or not the mineworkers are entitled to compensation in

\textsuperscript{351} Supra note 3 (\textit{Lee}) at paras 45 and see op cit note 145 (Price) at 492.
\textsuperscript{352} Supra note 1 (\textit{Nkala}) at para 59.
\textsuperscript{353} See note 1 (\textit{Nkala}) at para 58.3 and note 3 (\textit{Lee}) at para 65.
\textsuperscript{354} See note 11 (Price) at 11-12.
\textsuperscript{355} Op cit note 17 (Applicants' Submissions) at para 60.
\textsuperscript{356} See note 16 (\textit{Bonnington Castings}) at para 3 and note 14 (\textit{Fairchild}) at 76.
terms of the law of delict, which would necessarily invoke an application of a test for factual causation. The trial court should apply alternative tests to the but-for test, in the form of the material increase in risk test, and the material contribution test, when determining factual causation in the class action.\textsuperscript{357} Such an assessment of factual causation would be fair and reasonable in the circumstances, and failing to do so would cause an injustice to legal precedent.

\textsuperscript{357} See note 11 (Price) at 11-12.
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9. Annexures

9.1 Annexure ‘A’: Interview with Dr Rodney Ehrlich

Emeritus Professor Rodney Ehrlich
Senior Research Scholar
School of Public Health and Family Medicine
University of Cape Town.
14.11.2016

(1) In your experience, are mining companies in South Africa employing the necessary measures to prevent and treat silicosis, silico-tuberculosis and pulmonary tuberculosis in mines? If not, which measures should they be employing/how should mining companies be improving on existing engineering and medical measures?

There are a number of separate but overlapping questions here.

i. There is no medical treatment of silicosis, which is the replacement of healthy lung tissue by fibrosis (scar tissue). Prevention of silicosis requires reduction of the amount of silica dust inhaled by miners. I have not seen evidence that dust respirators are a long term solution underground, which puts the burden on reducing the amount of dust in the air. This requires an engineering (and cost) expertise which I do not have, but the elements are ventilation, wetting and filtration. All of these are expensive in money, energy and water. Another solution is mechanisation, which involves the replacement of workers by equipment. There has already been major shrinkage of the gold mining industry with attendant social repercussions (although not because of mechanisation).

It seems that there was little pressure on the gold mining industry to control dust between the 1940s and the 1990s. There general view was that airborne dust
concentrations had not fallen for 50 years, as stated in the 1996 Commission of Enquiry (Leon Commission), although the actual evidence in the public domain of dust counts over this long period is scarce.

Recent pressures to reduce dust concentrations underground (and in dusty surface operations) have come from the Mine Health and Safety Act (1996) which requires a number of actions in respect of disease surveillance and prevention; studies showing a very high prevalence of silicosis (dating from late 1990s); the technical insolvency of the Compensation Fund under the Occupational Diseases and Mines and Works Act and the substantial hike in levies (insurance premiums) on mining companies; the ILO/WHO programme to eliminate silicosis (dating from 2003); lawsuits (dating from 2008) and the public sentiment in favour of justice linked to these lawsuits.

In the last few years the Department of Minerals and Energy has started to make public dust information obtained from the mining companies themselves. These seem to indicate a declining percentage of dust concentrations above the statutory silica dust occupational exposure limit (but see below). This suggests improved control, but these data need to be independently verified, which is a problem given the limited resources at the disposal of the state.

ii. Tuberculosis became treatable with short course therapy in the 1970s. (In the 1950s - 1960s treatment was drawn out over 18 months to 2 years and often not completed; before that, there was no drug treatment).

For much of its history the mining industry in South Africa was dominated by a few large mining houses, whose interests were represented by the Chamber of Mines. Through accumulated capital and political influence they were able to shape a migrant labour system operating through much of Southern Africa. Medical examinations to determine fitness to work on the mines was part of the system they built, and with the high rate of physical injury on the mines and
original remoteness of the mines from state medical services, there was significant investment in medical services as evidenced by hospitals such as the Ernest Oppenheimer in Welkom.

Thus the mines with well developed medical services are certainly able to screen for and treat tuberculosis among their employees. Some have developed HIV treatment programmes. However, significant change in ownership in the mining sector, the unbundling of big mining houses and pressure on profits from depressed commodity prices is likely to have put pressure on the sustainability of these medical services. Also, smaller mining companies and newer companies taking over mines would not have this capacity – I have not seen any information on what they do. I would predict that tuberculosis and HIV treatment of employed miners will be increasingly shifted onto overburdened state services.

However, the big problem regarding TB and HIV is treatment of ex-miners who do not have access to mining services, but are dependent on poorly resourced state health services in rural South African areas and in neighbouring countries.

Prevention of tuberculosis would require reduction of silica dust, control of HIV infection, prevention of reactivation of old tuberculous infection, and prevention of reinfection (i.e. with a new strain of tuberculosis). Treatment of tuberculosis and HIV infection and silica dust control have been mentioned. A recent mass trial on a number of mines of tuberculosis prophylaxis with a one drug regimen, isoniazid (the “Thibela TB” trial) disappointingly showed no community benefit.

Beyond these medical measures, prevention of tuberculosis would require broad based public health measures to be effectively implemented by employers, including education for behaviour change (to reduce HIV risk), improved living circumstances (particularly reduction of crowding) for TB risk, and mitigation of effects of migrancy on the risk of these diseases. Some of the larger companies
do have programmes or intentions in this regard, but how successful they have been I cannot say.

(2) Do you think that the South African mining sector can draw on examples from other countries in terms of promoting adequate prevention and treatment of these diseases? For example, are there success stories that South African should drawn on?

An important example was the Vermont (USA) granite industry which worked out the maximum dust concentration to prevent significant silicosis as far back as the 1940s. By the 1960s they had effectively eliminated silicosis from the industry. On the basis of that experience, the National Institute of Occupational Safety and Health in the US recommended an occupational exposure limit for silica of 0.05 milligrams per cubic metre (mg/m$^3$) of air in 1974. The South African government and mining industry did not follow suit and the informal (non-legislated) silica exposure limit was kept at approximately double this level until the present. (When a statutory limit was eventually promulgated in the 1990s it was left at 0.1 mg/m$^3$). The industry has recently undertaken to aim for the NIOSH 1974 limit (i.e. half the current statutory limit) by 2024, but this is not yet a statutory requirement.

Developed countries such as Canada and Australia were also successful at eliminating silicosis to a large extent. In both cases, and certainly in Australia, mechanisation has played an important role. In defending its record, the South African industry has argued that it is unique in the depth of gold mining and the labour intensiveness of its operations. Depth (now approaching 5 km) certainly has implications for the movement of air and the use of water. You will need to ask an independent mining engineer about the exact nature of the constraints and the costs involved.
(3) I understand that mineworkers who develop silicosis are more susceptible to developing tuberculosis (silica-tuberculosis). However, have studies concluded as to whether or not mineworkers who are exposed to silica dust, but who do not develop silicosis, also have an increased risk of developing tuberculosis in the mines?

*The problem with formulating the question in this way is that studies of silicosis and tuberculosis are reliant on radiological silicosis, that is fibrosis that is evident a chest x-ray, or on a CT scan (as the latter start to be done more commonly in developed countries). However, silicosis has a long period in which the fibrosis in the lung is not visible radiologically – we call this subradiological silicosis. The only country which could do studies of subradiological silicosis is South Africa since we have 40 years of digital autopsy data from statutory autopsies done at the National Institute of Occupational Health in Johannesburg. A 1998 study showed that the risk of tuberculosis is evident even with very little silicosis in the lung – a level which would be invisible on the chest x-ray. So the first answer is that it takes very little silicosis in the lung tissue to increase the risk of tuberculosis.*

*The next question is whether a lung in which there is no evidence of tissue fibrosis, i.e. where there dust but no fibrosis, is at increased risk of tuberculosis. The one study which attempted to answer this specific question (Murray and Hnizdo, 1998) was not quite able to answer the question because of the method of analysis they used.*

*However, if one turns to laboratory evidence, i.e. evidence from cell cultures, etc. (“in vitro”) and from animal (mice usually) experiments (“in vivo”), there is a lot of evidence that silica particles impair the ability of the lung’s defence system, specifically the macrophage defence cells, to deal with Mycobacterium tuberculosis. Silica does by either killing the macrophages or reducing their effectiveness. So allowing for the two different evidentiary contexts (human field
studies and laboratory studies), it is likely that in silica exposed miners, without any fibrosis in their lungs but just silica containing dust have an increased risk of tuberculosis.

(4) Please could you explain the relationship between the development of HIV, silicosis and silico-tuberculosis amongst mineworkers in South Africa?

At the biological level, HIV infection impairs the ability of the immune system to deal with a whole range of common and rare infections. Pre-eminent among the common infections, certainly in Southern Africa, is tuberculosis. An HIV infected miner has a greatly increased risk of developing active tuberculosis compared to a miner who is not HIV infected. HIV and silicosis are thus two powerful risk factors for the development of active tuberculosis. The one study that studied their combined effect found that the risk of a HIV infected miner with silicosis was up to 16 times that of a miner with neither silicosis nor HIV infection. (There has not been a replication of this study, but it is the one always quoted). HIV infection also greatly increases the risk of recurrent tuberculosis (i.e. suffering a second or later episode of tuberculosis). Given the high prevalence of HIV infection among miners, and specifically gold and platinum miners of between 11 and 25% (depending province and date), it is appropriate to talk of triple epidemic.

At the social level, it is likely that migrancy, the dominant form of labour on the gold and platinum mines, increases the risk of HIV infection, presumably through the multiple sexual networks to which miners belong. There is one study from Lesotho showing that the wives of migrant miners have a greater risk of being HIV positive than the wives of migrant non-miners.

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9.2 Annexure ‘B’: Interview with Richard Spoor

(1) Do you think that the Constitutional Court’s test for factual causation, as employed in Lee v Minister of Correctional Services, is precedent for future silicosis and tuberculosis litigation in South Africa?

Yes it is.

(2) Do you envision the outcome of the silicosis class action ruling to have a significant effect on how mining companies in SA in future treat their employees, and on the measures they employ to protect their employees from silicosis and TB?

Yes I do. The issues will however be tested in individual cases that precede the class litigation.

Silicosis is stronger than the TB cases because the disease is caused by the cumulative impact of a serious of insults over an extended period of time. Silicosis is not caused by any single event. No single insult causes the disease they only contribute to it.

The disease itself covers a spectrum of degrees of injury from radiological signs or signs only visible on biopsy under microscopy (ie disease without any clinical impairment) to very severe injury causing death.

The claim against the mine owner is therefore not dependent on proving negligent conduct that caused the disease, it only requires us to prove negligent conduct that has contributed to making the disease as severe as it is.

Proving that the negligent act or omission increased dust levels and therefore contributed to the severity of the disease is easier than proving causation.
(3) Do you think that English case law, such as that expressed in *Fairchild*, *Sienkiewicz*, *Bonnington Castings* and *McGhee*, provide useful alternatives to the traditional factual causation 'but-for' test? In other words, which factual causation test do you think South African courts should be employing in silicosis and tuberculosis cases? Do you think the standard of proof should be lowered in such matters?

*Fairchild* is consistent with modern occupational health and safety systems, which emphasize risk management. This approach entails:

1. identify hazards in the workplace,
2. assess the risks associated with those hazards
3. determine measures to eliminate or mitigate the risk (the risk assessment process) 4. Implement the measures.
5. repeat

These fundamental principles are embodied in section 11 of the Mine Health and Safety Act of 1996

The underlying premise is that accidents and diseases are not caused by one off events caused by exposure to risk. It is seldom possible to eliminate exposure to hazards such as dust, so what must be done is to mitigate the risk associated with exposure to that hazard.

Culpability pertains to the employers negligent breach of its duty of care which is to take reasonable steps to mitigate the risk associated with the hazards in the workplace.

Unless the hazard can be removed entirely the best an employer can do is to mitigate the risk, he cannot eliminate it entirely and therefore accidents and diseases are statistically speaking inevitable.
The employers breach of his duty of care can therefore is never the cause of the accident. The employers breach of the fundamental duty of care owed to employees can only increase the risk and therefore the likelihood of an accident occurring. That likelihood can only be measured statistically.

So if we look at silicosis, the hazard is silica dust and the risk is the risk of contracting silicosis. The hazard cannot be eliminated, there is always dust, but the risk of contracting silicosis can be minimised by reducing employees exposure to dust.

Regardless of the efficacy of the measures taken, statistically some employees who are exposed to dust will go on to develop silicosis.

The cause is exposure to silica dust. So if the question is “But for the employers breach of his duty of care would the employees have contracted silicosis?” The answer can only be that he would have been less likely to do so. How much less likely? That is question of statistical probability, it could be anywhere in the range of 0 – 100%. It cannot be the case that the employers breach has to have increased the risk of disease by more than 50% before it can be held liable. This is why Fairchild refers only to a materially increased risk.

What is material will be within the discretion of the court and will depend on the evidence. Materiality will be closely linked to the degree of negligence on the employers part.

So for example the failure to stipulate the use of personal protective equipment and to provide same, such as gloves, overalls, safety boots, hearing protection or goggles may, only increase the risk of a specific injury or disease by a trivial degree, but it is such a basic, cheap and easy to implement measure that the
court will hold the employer liable, even though the contribution to the risk was minor.

In Fairchild the employer was held liable on the grounds that it materially contributed to the increased risk of the employee becoming ill.

Fairchild is therefore consistent with modern notions about the cause of occupational injuries and diseases and their prevention.

High exposure doesn't mean that the employee will develop silicosis and low exposure will not necessarily prevent it. There are only degrees of risk of contracting the disease. If the employer fails to take reasonable steps to mitigate the risk or its conduct materially increased the risk associated with the hazard, then it is liable on that basis.

The statutory duty of care, and I submit the common law duty of care is to minimise the risk to which people are exposed.

(4) In a similar vein, do you think a delictual claim is the most appropriate mechanism through which to provide compensation to mineworkers and their dependants? Or do you think a statutory compensation scheme should be set up to provide compensation?

Consistent with the risk management approach is the notion that risk is integral to work and cannot be eliminated entirely. Occupational injuries and diseases are an invariable consequence of the work process and the costs associated with them are therefore a cost of doing business. The employer controls the degree of risk and therefore the number and severity of the accidents and diseases. The employer should be strictly liable for the harm that arises and fault should not play a role.
There must therefore be a statutory scheme to fully compensate injured workers. There is no good argument to discount their compensation on the basis that there is a no fault system. Such a discount is a product of outdated notions of fault.

(5) In the High Court *Nkaya* judgment, the Court sets out the two classes in which the class action is separated. The first being ‘mineworkers who have contracted silicosis [...] whether or not accompanied by any other disease’. Does this include pulmonary tuberculosis? I.e. does this class include all mineworkers who have contracted TB and developed silicosis, whereas the second class is limited to mineworkers who have TB only?

Yes the *Silicosis* class cover silicosis and all its complications including silico-tuberculosis which is TB in the presence of silicosis.

The *TB* class does not include anyone with silicosis.

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