

Scientists Against Science: The campaign to open “the economy” in the time of COVID-19

“It is important to emphasise that, in terms of economic activity, the pandemic – not the public health measures – will depress the economy. This is evidenced from the 1918 Spanish Influenza epidemic, which made clear that those economies which decided to move early to restart their economies without reducing their respective national infection rates had a negative economic outcome relative to other nations.” Dr Zweli Mkhize, Minister of Health, 27 April 2020 (Portfolio Committee of Health sitting with Select Committee on Health and Social Services).

On 13 May President Ramaphosa addressed the nation and signaled that the country will soon be moving to Alert Level 3, further easing the lockdown restrictions. This led to a further pick-up of a debate about the removal or maintenance of the lockdown first imposed on 26 March, with a range of groups upping their campaigns to have the lockdown removed. Since 16 May, the lockdown debate entered a special phase. The occasion for this new phase was an interview on News24 with Professor Glenda Gray, one of the high-profiled experts serving on the Ministerial Advisory Council (MAC). In that interview Prof Gray thrashed the lockdown as “unscientific”, “nonsensical”, a strategy “not based on science”, “completely unmeasured”, that “someone is sucking regulations out of their thumbs”, and that these regulations are “rubbish”. Prof Gray was supported, in the same interview, by Dr Ian Sanne and Professor Marc Mendelson. While we cannot ascribe every word by Prof Gray to Dr Sanne or Prof Mendelson, they were in broad agreement and I will therefore treat their views as similar to those of Prof Gray, in substance, if not in style of presentation.

It is difficult to know what triggered so much anger and, quite frankly, vitriol, on the part of a leading member of South Africa’s COVID-19 response team. Whatever the immediate reason for this, it was clear that “science” had entered the debate on lockdown with force. To be sure, the entry of scientists and academics in the lockdown debate preceded the Prof Gray drama. On the 13 May, a group of 6 academics and scientists (Prof Imran Valodia, Alex van den Heever, Prof Lucy Allais, Martin Veller, Prof Shabir Madhi and Willem Venter, all from Wits University – hereafter Profs Valodia & Others) had entered the fray, and argued that the lockdown should be moved to Alert Level 2. Prof Gray not only made a ‘muscular’ entry into the debate, but also argued for a direct move to Alert Level 1, and criticised the “de-escalation, month by month”, as “nonsensical and unscientific”.

In the course of the article, another member of the MAC, Prof Salim Abdool Karim, was also quoted, offering a defence of the MAC process and by implication the state’s approach to the lockdown. If Prof Gray is to be believed, it would appear that there is a brewing revolt in the MAC, with other members being even ‘more ‘vociferous’ (Prof Gray) than she was. The government has begun a witch-hunt, with disciplinary hearings against Prof Gray in the air [all dropped, of course, at the time this article was completed]. While Prof Gray tried to cool the air with some ‘nimble’ retreats, the arrow had left its bow, and “science” has nailed its colours to the mast.

In this article I examine how “science” has been used to justify the rapid opening of the economy at a time in the development of the COVID-19 pandemic when South Africa has not even reached its ‘peak’. I show that far from “following the science”, a group of scientists has chosen to abandon any science and have provided cover (whether intentionally or not is not material) for corporate interests. It is important to stress that in this article I do not intend to take a position on whether there should be a lockdown, what kind of lockdown, and in general what mitigation strategies are appropriate in the current South African context. All I seek to show is that the scientists have thrown science under bus in their obsession with ‘opening the economy’. In the context of COVID-19 it is clear that science is too important to be left to the scientists.

1. Science and the lockdown – there and here

Since the arrival of the pandemic outside China a fatal debate has been raging between “science” on the one hand, and those who are seen to be against following science, on the other. In the debate in the US, the UK, Brazil, to name the prominent countries in this debate, the governments have been accused of ignoring scientific advice and of putting lives at risk. These governments began by denying the high risks associated with COVID-19, at times beat a messy retreat and implemented measures like lockdowns in order to mitigate the impact of COVID-19, and are now again pushing hard to get the “economy” started immediately. Donald Trump and Jair Bolsonaro (Brazil) in particular, have intensified the campaign against lockdowns and against a range of scientific institutions. In the debates across the Atlantic, science has been the force arguing against a rushed and un-phased opening up of the economy, warning governments against risks of the pandemic overwhelming the country’s health systems and the economy itself.

For a while in South Africa the scientists followed a similar trend to that of their counterparts in other parts of the world. In a televised, more like dramatised, presentation on national television, Prof Karim, showed us how “science” advised a lockdown, and spelt out in detail how we were going to ‘follow the science’ when deciding when and how to ease the lockdown. The message was the same as that of other scientists in other parts of the world: caution, and prepare for the worst.

From about the middle of May, however, there began a radical change in the views of the scientists. Gone was the message of caution and advice to expect and prepare for the worst. The message was now: infections are *inevitable*, and we cannot use the rising rate of infections to slow down the opening of the economy. And so we move from Level 5 to Level 4 and now to Level 3, including opening schools, swiftly. Even this movement – down 2 levels in 1 month – was too slow for the Professors and scientists. We should be moving even faster to Level 1 or at least Level 2, they say.

And so we have the (apparent) irony that in the US, Brazil and indeed Europe, scientists have been consistently counselling caution, and have been vilified by the extreme right. In the US important scientific institutions are being pressurised to support rapid lifting of ‘restrictions on the economy’, and since the Trump years are being starved of funds. In South Africa, on the other hand, “science” and “rationality” is now being marshalled in all

the campaigns and litigations by the rightwing forces and corporate campaigners in their struggle to force a more rapid move toward opening the economy.

2. The scientists and the “eradication” of the lockdown

The “hard” science on COVID-19 is simple, and it has not changed since the start of the pandemic. We know that COVID-19 is lethal, that it spreads fast, and that there is no medicine to treat it or to prevent it (vaccine). We also know that it spreads through small droplets that we produce when we breathe or cough, and that someone within 1 meter (even 2 meters) can be infected by these droplets that carry COVID-19. We know that if many people move around and interact, they will breath these droplets and infect other people, and hundreds of thousands or millions will be infected, get sick and may even die. At the time of publication more than 35 000 people have been infected, and almost 600 have died in South Africa. In some studies of how COVID-19 may spread, epidemiologists say that in South Africa 1 million people may be infected by July, and 40 000 people may die by end of November. It’s important to note that the science does not say that this will certainly happen. What it says is that if we don’t change our behaviour and if we (masses and government) don’t do a number of other important things to mitigate the spread of COVID-19, then 1 million people may be infected and 40 000 may die by November this year. It’s up to our society – the masses and the government – to do somethings and prevent this from happening.

When it was introduced, the lockdown was part of the steps taken to change the direction of the spread of COVID-19, to slow it down and to create the conditions to reverse its spread (so-called reproduction rate below 1). We now need to look at why the scientists are now saying large numbers of infections are inevitable and that many, many people will die.

2.1 Was the lockdown necessary, and did it succeed?

According to Prof Gray, Prof Valodia et al, and Prof Karim, the lockdown was necessary and it was successful in meeting its aims. The government agrees with the scientists, but the difference is that the scientists want to do away with the lockdown quicker. This group of scientists say that now that the aims of the lockdown are met, we need to do away with the lockdown. So what were these aims, and were these aims met?

According to the scientists, the lockdown was imposed in March in order for the government to buy time to fix the health system and ensure that it is prepared for the fight against COVID-19. The lockdown was going to help us “flatten the curve”, meaning to slow down the rate of infection so as to ensure that COVID-19 cases don’t come too soon while the country is making the health system ready. There are two reasons the scientists now advance for removing the lockdown. The first one is that the lockdown has achieved its objectives of making the health system ready. The second is that we will get infected anyway, and so we may as well lift the lockdown. Let us deal with the first reason.

The lockdown was supposed to give us time to fix a number of important weaknesses of the health system. These weaknesses are themselves a product of a long line of policy decisions, but they now need to be fixed if we are to respond effectively to COVID-19. The specific weaknesses are:

- i. South Africa does not have enough hospital beds, and especially ICU beds in hospitals. There are also no spaces for quarantine for those who may not be able to self-quarantine at home.
- ii. South Africa did not have enough ventilators; machines that will help very ill patients to breathe.
- iii. South Africa needed time to conduct widespread testing so that we can know the state of the disease, its geo-spatial distribution, its distribution among different sections of the populations, and so on. We all know that without this knowledge the epidemiological models would be close to a “thumb-suck”.
- iv. South Africa lacked enough laboratories to process the expected sharp rise in tests.
- v. South Africa did not have enough Personal Protective Equipment (PPEs) (masks, sanitisers, aprons, visors, and so on) for frontline health staff, let alone for patients.
- vi. South Africa did not have enough mortuaries to accommodate the expected number of deaths from COVID-19.
- vii. Long years of not filling vacancies in the health sector meant that South Africa did not have enough staff.

According to the science before mid-May, the readiness of the health system to deal with the pandemic is an important factor in deciding whether to move from one lockdown level to another one. In the government’s Risk-Adjusted Strategy for Economic Activity, drafted with input from the scientists, Alert Level 1 and Alert Level 2 need “high health system readiness”, whereas in other levels the health system is not so ready. Now, if we are to judge whether the aims of the lockdown were met, we need to assess whether the seven aims of the lockdown outlined above were achieved. Further, if we want to go to Alert Level 1 (as Prof Grays demands) or to Alert Level 2 (as Prof Valodia et al say), then they need to show us we have reached a “high health systems readiness”. In her interview Prof Gray did not offer such an evaluation, and we have searched all over to find it to no avail. Also, in their article published in *The Conversation* on 13 May, Prof Valodia et al simply assert that the lockdown “allowed time to prepare the health system...”

The entire response of the state makes it very difficult for ordinary citizens to assess many of these elements of our response to COVID-19. A highly securitised response, a chaotic communication process, a stingy release of information on a range of issues, and addresses to the nation that are directed more at corporate donors than at informing the population of critical elements of progress with work on COVID-19 – all these factors make an assessment difficult. This is made worse by a parliament that has gone AWOL during COVID-19, with members more interested in keeping themselves safe from COVID-19 than in serving the nation. The scientists and professors are of course insiders in all this, but they are also not forthcoming with what progress has been made, and why they changed their views, and how these changes are “following the science”. All these problems notwithstanding, we will proceed to make an assessment of whether these measures have been achieved to an extent consistent with “high health systems readiness”.

2.1.1 Hospital beds, Quarantine facilities and Ventilators

In a presentation made by scientists working with the government, reported in News24 on 19 May, it was reported that the country will need between 25 000 and 40 000 ICU beds at the peak of the virus around September. At the time of reporting (19 May), the country only

had 4 000 ICU beds (covering both private and public sectors). The report notes that to meet this expected demand will need a 10-fold increase in ICU beds & ventilators. What is important to note is that on 10 April, a report to the Parliamentary Portfolio Committee on Health put the Existing Bed Capacity (capable of utilisation in intensive care space) at 4 909, and the number of currently available ventilators at 3 216. The total number of private and public beds was at just under 120 000. The key beds in the context of COVID-19 will be the ICU beds, and as a result one of the scientists, Dr Sheetal Silal, said that “when ICU bed threshold is exceeded, those requiring but not getting an ICU bed will be occupying a general bed hospital bed”, and “the general bed threshold will be exceeded early in the epidemic”. So not only are we way below the number of ICU beds and ventilators required, but there are also not enough general hospital beds as of mid-May, 7 weeks into the lockdown.

The massive shortfall in ICU beds, however, hides an important fact – the distribution of ICU between the private and public sectors. Of the 3 216 ventilators indicated in the report to the Portfolio Committee on Health on 10 April, almost two-thirds of these ventilators are in the private sector. As we stand, it’s not clear if the Minister can commandeer these beds and ventilators in the private sector, or if the private sector will serve “its clients first”. To date no regulation issued by the Minister of Health actually places the resources of the private sector in public hands. Against this background, even Dr Silal’s grim prediction must be revised and may look even more grim if the division of resources between the private and public sector is taken into account. In a context in which only 20% or so of South Africans have access to private health, the threshold projections have to reflect the fact that 80% of the population that will be hardest hit (the working class), only has access to one-third of the beds.

At the briefing of the Parliamentary Portfolio on Health on 4 May the Department of Public Works and Infrastructure reported that it had secured 318 sites for quarantine, including state and private sector sites. These sites could accommodate 24 101 beds. This must be put in the context of the fact that on 10 April the Department had tabled a plan for 1 644 sites for quarantine. At the briefing on 4 May MPs raised the fact that the Department was moving slowly to prepare sites, and the use of private sector facilities was depleting its budget. The state was not able to repair its own facilities and bring them to a state of readiness, and it was not clear what targets and what timelines it was working towards as the pandemic begins to gather speed.

2.1.2 Testing

In the fight against COVID-19, besides washing hands and physical distancing, testing is probably the most important intervention. This is generally accepted all over the world (excluding Trump and Bolsanaro). The usefulness of epidemiological models and their continuing relevance in a rapidly unfolding situation depends on testing, and the availability of testing results within a short space of time. In an editorial published in the South African Medical Journal (SAMJ), Professors Marc Mendelson and Shabir Madhi reviewed South Africa’s testing strategy and argued that it was “broken” [South Africa’s coronavirus testing strategy is broken and not fit for purpose: It’s time for a change, 12 May 2020]. They isolated a number of factors that account for this “broken” strategy:

- The plan (based on presumed capacity) by the National Health Laboratory Service (NHLS) to conduct 36 000 tests daily has not materialised.
- In the context of a rapidly rising infection rate the strategy of community screening and testing (CST) was ineffective.
- The turn-around-times (TAT) from testing to results was too long, and was making testing not useful.
- The specimens were piling up at laboratories that had no capacity to process the specimens, thus extending TAT.

Giving the example of the Western Cape, presently the epicenter of COVID-19, they note that as by 7 May “10 000 samples from the community were waiting to be tested, and the capacity of the laboratory in Greenpoint tests 1 000 per day working 24/7”. Further, “in many parts of the country, ... TAT has increased from less than 24 hours to 5 – 14 days” for various reasons. Profs Mendelson and Madhi makes a number of suggestions as to a strategy for testing. What is clear is that in the context of a systemic failure of the testing regime, and more importantly of its basic infrastructure (laboratories, testing equipment etc), the strategy proposed by the Professors is likely to fail. This has huge implications for a host of responses to COVID-19, as the country cannot run reliable epidemiological models without reliable and timely data from testing.

2.1.3 Personal Protective Equipment

PPEs make up one of the most important elements of defense in the fight against COVID-19. Against the global shortage of PPEs, and the fact that South Africa began taking measures against COVID-19 when the pandemic was in full swing meant that it is difficult to source PPEs globally. In the briefing to the Parliamentary Portfolio Committee on 10 April, estimates of PPEs needed for the period between April and September were presented, and they show huge shortfalls. While PPEs have been procured, and some are ordered, the shortfalls are still significant. If we add to this the considerations from the briefing by Dr Sheetal Silal, there is now a real possibilities that the period of peaking will extend to November. This will need a revision of the estimates, and will raise the shortages. The certainty of significant shortages of PPEs is leading to a search for alternative strategies for use of PPEs, including re-use, extended use and decontamination of critical PPEs like N95 respiratory masks [See C le Roux & A Dramowski in SAMJ on “PPE in a pandemic: Approaches to PPE preservation for South African healthcare facilities”, SAMJ, 27 April 2020].

2.1.4 Mortuaries

South Africa’s mortuary capacity stood at just over 36 000 at the time of the 27 April briefing given by the Minister of Health. This includes 28 000 private and 8 000 state run units of storage for remains. This amount must be set up against the background of the fact that in 2017, there were normal deaths of almost 450 000 people. If we consider the fact that COVID-19 deaths can be concentrated over a short period, there is a real possibility that the mortuaries will be overwhelmed by the deaths due to COVID-19.

As with many of the areas of preparation that the government needed to undertake as part of the lockdown, the government is running behind schedule in preparation of mortuaries. On 8 April the Minister of Health issued a Direction (Government Notice no 43217, 8 April

2020) according to which i. Metros and Districts were to identify mortuaries with certificates of competence for COVID-19 remains, and ii. All Provincial Departments of Health were to identify suitable government mortuaries. According to the Direction, “all the ...information should be submitted to the National Department of Health within 48 hours of the Directions” (which were issued on 8 April).

On 27 April, however, in response to answers from Members of Parliament concerning the state of readiness of mortuaries, the Minister was still to “engage more players in the sector so that we can create temporary capacity.” Considering that reports from Metros, Districts, and all Provincial Departments of Health were supposed to be in by 13 April latest, a more detailed and pointed answer was appropriate, and not the typical “we will engage” kind of answer. Given the opaqueness of information from the government, South Africa’s people face the real indignity of their loved ones not being able to be put into proper mortuaries.

2.1.5 Staffing

For over 10 years staffing has been one of the weakest parts of a health system that was already under stress. Answering a parliamentary question, Dr Mkhize, the Minister of Health, said that “the primary reasons why the Republic of South Africa has a shortage of doctors and nurses is the fact that the public health sector budget has not been increasing in real terms for the past 10 years, impacting on the number of staff that can be appointed.” This was in October 2019. In February 2020 the Minister of Finance administered further cuts to the budget of the Department of Health, along with that of other social services. Recently (May 2020), the Solidarity Occupational Guilds estimates that there is shortage of more than 44 700 nurses. Furthermore, experiences from many countries who have experienced peaks in the pandemic suggest that overstretched and over-exhausted health workers become sources of infections, as “shortages of workers mean that infectious healthcare workers might need to remain at work when they should be home recuperating or in self-isolation” (Bhekisisa.org). The levels of exhaustion of South African healthcare workers is a long-run problem and is well documented, with many of them ‘moonlighting’ in the private sector, or using their leave to find other healthcare work, and so are not getting enough rest.

In addition, the South African staff shortages in the health sector are also skewed against the public sector, and the real impact of staff shortages on the working class is therefore likely to much be greater than the impact on sections of the population on medical aids. While the private sector serves about 20% of the population, almost 80% of doctors are in the private sector. At the moment (since South Africa declared a state of disaster), there is no clear directive from the Department of Health that healthcare personnel in the private sector will be treated as public sector workers and so can be allocated to different hospitals to correct this imbalance. Indeed, all the Department has issued is a mild set of regulations for attempting to address the staffing shortages [Direction issued on 8 April 2020, Government Notice no 43217], and in general in these briefing no details about shortages, and how the Department is going to address them are given by the Minister or government officials.

2.2. A balance sheet of preparing the health system

The experts and the scientists have cited the successful preparation of the health system as one of – if not the main – reason(s) for calling for the opening up of the economy. If the scientists – in particular the professors Abdool Karim, Glenda Gray and Shabir Madhi, all members of the MAC, and the experts, Prof Valodia et al – have used the Alert Level system to make their assessment; if, in other words, they have followed their own ‘science’, then they would only suggest Alert Level 1 (Prof Gray) or Alert Level 2 (Prof Madhi), when they are satisfied that the health sector was in a “high state of readiness”, as stated in the ‘Risk-adjusted strategy for economic activity’.

It boggles the mind to think how the scientists and the experts could have arrived at the conclusion that preparing the health system was “largely achieved” (Prof Gray) to the extent that “the lockdown should be eradicated completely” (Prof Gray). One cannot see how did Prof Valodia et al arrive at the conclusion that the lockdown “allowed time to prepare the health care system, to ramp up wide-spread testing...[and that]...extending the lockdown is no longer required”, thus implying that the preparation has been achieved.

We can now see that not one of the seven COVID-19 readiness features of the health system are anywhere near ready to the deal with the coming peak of COVID-19 in South Africa. Furthermore, there are no plans (at least shared with the public, including Parliament) to say how this readiness will be achieved.

The cavalier and throw away statements about how the “lockdown has achieved its objectives” that Prof Karim is so fond of dishing out, is the first step in lifting the veil on how the scientists and the experts have abandoned science. But the scientists do not end here.

3. Children, the youth and COVID-19

The health system having been “prepared” as if by magic, the scientists now turned to “science” to show how ridiculous and “unscientific” it was to keep the lockdown in place. Again, Prof Gray led the charge:

“In the face of a young population, we refuse to let people out. We make them exercise for three hours a day and then complain that there’s congestion in this time. We punish children and kick them out of school and we deny them education. For what? Where is the scientific evidence for that?”

and

“With increasing knowledge of the virus, we now know that those most vulnerable are the elderly and those with co-morbidities. However, people under 30, and school-going children are not” (Prof Gray).

Epidemiology, as all the professors know, is a study of the incidence, ‘distribution, patterns and determinants of health and disease within populations’. This science stands at the interface of medical science, the mathematical sciences and social sciences. It is underscored by the understanding that the incidence and the patterns of distribution of disease is profoundly influenced by social factors – leading to the widely used and accepted

concept of the “social determinants of health”. Studies on the burden of disease would make no sense without an understanding of these social determinants and how they interface with health outcomes, and in particular the evolution and impact of epidemics.

About 10 years ago, a study of health sector reforms in South Africa led by Dr Crispian Olver et al, wrote that “South Africa faces a quadruple burden of disease, consisting of HIV and AIDS and TB; high maternal, infectious diseases and undernutrition resulting in neonatal and child mortality; a growing burden of chronic non-communicable diseases (NCDs); with violence and injuries constituting a further cause of premature deaths and disability. The status of these “colliding and concurrent epidemics” is documented in a recent series of six papers on health in South Africa...” One of the authors of these six papers on these “colliding and concurrent” epidemics is our very own Prof Abdool Karim.

Around the same time, indeed as part of the same studies published in *The Lancet*, Prof Coovadia et al wrote that “the roots of a dysfunctional health system and the collision of epidemics of communicable and non-communicable diseases in South Africa can be found in policies from periods of the country’s history, from colonial subjugation, apartheid dispossession, to the post-apartheid period. Racial and gender discrimination, the migrant labour system, the destruction of family life, vast income inequality, and extreme violence have formed part of South Africa’s troubled past, and all have affected health and health services. In 1994, when apartheid ended... [m]acroeconomic policies, fostering growth rather than redistribution, contributed to the persistence of economic disparities between races despite a large expansion of social grants.” Since 2009 not much has changed, except that non-communicable diseases have come to dominate the causes of premature deaths among South Africa.

Throughout the 25 year of (progressive) public health scholarship the social determinants of health have been a key consideration in understanding the “colliding and concurrent epidemics” in South Africa. COVID-19 is a deadly addition to this mix, and therefore it cannot be understood on its own but also in how it will intersect with these epidemics. It is therefore extremely unhelpful – and it can be argued that this constitutes a dereliction of scholarly and scientific duty – for scientist and experts to speak to the public about COVID-19 and not underscore that without a major intervention by the state in mitigating the social conditions that produce and exacerbate these “colliding and concurrent” epidemics (now including COVID-19), the battle against COVID-19 will be lost. This is not a question of “health experts should not interfere in economic decisions” (as government’s bureaucrats would have us believe) but a necessary ‘interference’ in a time of national crisis. The mitigation of these social conditions – food, livelihoods, water, electricity, heating in the coming winters, housing and so on – all these are fundamental to the trajectory of COVID-19 and to South Africa’s ability to respond to it effectively.

The consequence of these social conditions in the context of COVID-19 is that they have produced an incidence and patterns of diseases that portend a deadly combination with COVID-19. In the period 2015 to 2017, the ten leading ‘natural’ causes of death in South Africa were tuberculosis, diabetes mellitus, cerebrovascular diseases, other forms of heart diseases, HIV/AIDS, hypertensive diseases, influenza and pneumonia, chronic lower respiratory diseases, Ischaemic heart diseases, and other viral diseases. If we add to this the

significant prevalence of obesity (some suggest over a quarter of the population is overweight), and for certain age groups significant presence of kidney diseases and renal failure, we see that all these diseases are co-morbidities that raise the risk of severe illness from COVID-19. As we will see, all these diseases are present as significant natural causes of death *in all of the age groups* in South Africa. [Data from Stats SA: Mortalities and Causes of Death in South Africa – Findings from death notification, 2017; published March 2020, Statistical Release P0309.3]

Instead of taking a stand for science, we have been treated to light-minded comments from our most eminent scientists. Let us look at the claims they make in turn.

3.1 COVID-19 and Children

In the short life of COVID-19, very few children (under 18years) have been severely affected by COVID-19 to the extent of hospitalisation, ICU treatment and death. In the global north the numbers of cases have been small, with US (1,7% of positive tests), Netherlands (1%) and UK (2%). An article by RM Viner and E Whittaker in *The Lancet* (23 May 2020), from which these numbers are drawn, points out that severe illness and death from COVID-19 among children is rare. This notwithstanding, the authors note that “attention has shifted to the vulnerability of children”. They cite two reasons:

- The degree to which children transmit COVID-19 is important as lockdowns are now being eased.
- New concerns are emerging about the incidence of Kawasaki-like diseases among children, which scientists think may be associated with COVID-19 in some way.

Indeed, these developments were taken seriously enough to trigger a national state of alert in the National Health Service in the UK in mid-April. With COVID-19 being in its early stages (only 5 months), the scientists did what scientists should do: to state the current body of evidence, and with the studies and surveillance being at an early age, counsel caution and proceed to put in place enhanced surveillance systems. Caution is the right scientific attitude for, as Viner & Whittaker state, “whether these proportions reflect lower susceptibility among children versus among adults, or similar infection rates, but much higher asymptomatic disease, is unclear”. What did happen is that the scientists have given this Kawasaki-like disease the provisional name of ‘paediatric inflammatory multisystem syndrome temporarily associated with SARS-CoV-2 (PIMS-TS).

It is also interesting that in the incidence of hyper-inflammatory shock that formed the basis of the national alert in the UK, none of the children who fell ill with the disease had co-morbidities associated with severe illness or death from COVID-19 [S Riphagen & Others, *The Lancet*, Vol 395 May 23 2020]. Only one child died (14 years) and it was found that he was COVID-19 positive at the time of death, but he did not have any co-morbidities either. This is largely the trend in about 230 incidents of PIMS-TS in the EU (including UK). The European Centre for Disease Prevention and Control (ECDC) has now included PIMS “as a possible complication to be reported to the EU-level COVID-19 surveillance” [Paediatric inflammatory multisystem syndrome and SARS-CoV-2 infection in children, 15 May 2020, ECDC].

Now, in the latest available statistics (2017) on causes of premature deaths for children between 1 – 14 years in South Africa show that of the about 11 500 deaths in South Africa, we find that the 5 leading causes of premature death in this age group was influenza and pneumonia, intestinal infectious diseases, tuberculosis, and malnutrition. Indeed, of the ten leading causes of death in this age group, six of them are co-morbidities that may trigger severe illness from COVID-19. [In contrast, in the incidents of COVID-19 among children studied by the ECDC, children had hardly any of the co-morbidities associated with severe illness from COVID-19.

The reality of the South African situation is that the scientific community does not know how COVID-19 will intersect with influenza and pneumonia, TB, HIV and other respiratory diseases. Dr A Parker et al [“HIV and SARS-CoV-2 co-infection: The diagnostic challenges of dual pandemics, South African Medical Journal, 30 April 2020] write that “at present we do not know what the outcomes of critically ill HIV/SARS-CoV-2 co-infected patients will be... In sub-Saharan Africa our resources are already constrained by the high burden of HIV associated respiratory tract infections and TB. More than 250 000 children are living with HIV. While South Africa may have made big steps towards giving these young people the possibility of a longer lease of life, the intersection of HIV with COVID-19 present new and dangerous challenges. “Adding the COVID-19 pandemic to the soup is potentially disastrous for our healthcare system and the community at large” [Parker et al].

In another contribution to the SAMJ [“COVID-19 and tuberculosis in South Africa: A dangerous combination” Vol 110 no 5, May 2020], Dr J Boffa et al note that “to date, COVID-19 has not been studied in low- and middle income countries with endemic HIV.” They also note that in 2019 301 000 people developed TB in South Africa, “and nearly 60% of whom were also HIV-infected.” As the title of their contribution notes, COVID-19 and TB are a dangerous combination in South Africa as people with TB “may be at increased risk for severe responses if they become infected with COVID-19”.

Against the background of the burden of disease among children in South Africa, the scientists should be less cavalier about children and COVID-19, and rather adopt the cautious approach that sets up surveillance systems, puts together teams that are dedicated to tracking this mix of TB and other co-morbidities among children and COVID-19, and ensure these are resourced accordingly.

Actually, therefore, Prof Gray ***does not know*** how children in the specific South African context will react to COVID-19 given their underlying co-morbidities. There is no “increasing knowledge of the virus” in contexts similar to South Africa, or anywhere for that matter, that justifies the throwaway comments made by Prof Gray. Indeed, this kind of cavalier treatment of the issue of COVID-19 among children may have very negative consequences in that parents and clinicians may not recognise important COVID-19 cases among children given the lack of symptoms and low prevalence of severe illness among children. Even in European and UK contexts the PIMS study by the ECDC notes that the low prevalence of COVID-19 among children may well reflect the effect of testing policies since testing tends to be linked to the prevalence of the ‘normal’ COVID-19 symptoms.

Nonetheless, it does not help to quote studies of children in places where children have grown up healthy. Besides, even in those countries the scientists have chosen to be cautious and to set up further surveillance and research, rather than play to the highly prejudiced and anti-poor big-media gallery.

3.2 Youth under 30

As with children, Prof Gray offers the view that people under 30 years are not vulnerable. As with the age group of 1 to 14 years, the 15 to 24-years group has similar underlying co-morbidities to the 1 to 14 age group, except that in the 15 to 24-years group HIV is a much more significant cause of death. As indicated in our discussion of children, just because we don't know how the burden of disease among young people in South Africa is going to interface with COVID-19, there is no reason to pretend that it will have no significant effect on the vulnerability of this age group to COVID-19. Both Dr Parker et al, and Dr J Boffa et al take a much more scientific attitude to the risks posed by the disease and the possible serious challenges they will pose when they intersect with COVID-19.

While it is true that in Europe, China and South Korea, fatalities among the age group of 15 to 30 years are low, the infection rate among this age group is by no means insignificant. The co-morbidity and disease profile of this age group in China, South Korea and Europe is however very different. Further and maybe more importantly, while there is still debate and ongoing research about whether children can infect adults with COVID-19, this is not the case with the age group between 20 and 30 years. Sending this age group out without any consideration of being infected, and of them being sources of infection for older age groups is nothing short of reckless.

An important additional consideration with respect to this age group is the role it plays in the workforce. As the "economy" is forced to "open" by all manner of interests, the size of this group in the workforce become even more important. The age-group between 15 and 34 years makes up 36% of the workers currently employed – at least up to December 2019. [Stats SA, "Quarterly Labour Force Survey, Quarter 4 2019", Statistical Release P0211, February 2020] Even if we take off the proportion between 31 and 34, we are still talking about this group making up probably 30% of the labour force actually employed. This means that this group will be interacting with the older groups in the workplace, and their weight in the workforce, and the rapidity with which COVID-19 spreads should be a serious cause for concern. We should therefore be less concerned about whether this group "is made to exercise for three hours a day", and be more concerned about their weight in the workforce, and their potential role as vectors of infections.

Further, the incidence of HIV related deaths in the 15 to 24-years age group for 2017 was 5,5%. This went up sharply for the 15 to 44-year age group, to 10,6 %, and settles back at 5,4% for the next cohort of 45-64-year age group [Stats SA: Mortalities and Causes of Death in South Africa – Findings from death notification, 2017; published March 2020, Statistical Release P0309.3]. What remains unknown is whether there will be variation between HIV-infected people on anti-retroviral treatment, and those not on anti-retroviral treatment, and what the differences will be. What is clear is that in a context of workers returning to work, under-30 workers will be, like other workers, vectors of infections for other workers.

We may well hope that South Africa can be saved from the projected devastating impact of COVID-19 by the youthfulness of its population. Hoping, however, is no scientific basis for action, and less so for the kind of throw-away statements dished out by Prof Gray.

4. The scientists and the “inevitability” of a COVID-19 catastrophe

In an article published on 12 May Steven Friedman asked a rather surprising question: “Why doesn’t this country want to beat COVID-19?” As he said, the question seemed ridiculous at a glance. After all, both the President, the mainstream media and corporates were busy congratulating themselves for how they have taken “decisive action” to tackle COVID-19. The occasion for this question was the change of tune by Prof Karim, who, against all his own (previous) scientific advice of how we should approach the fight against the pandemic, and including how to approach the easing of the lockdown, decided from mid-May to make a 180 degree turn. Prof Karim was not alone in making this turn. When this turn was made, there was no dramatic presentation. Indeed, when asked on national television as to why we are shifting to Level 4 although infections are rising, all Prof Karim to offer was that rising infections are inevitable. In one stroke, Prof Karim abandoned all the projections, and criterion for moving to different levels that he had counselled in 13 April. Moreover, he did not even see it necessary to square his new course to the one he had so dramatically presented on 13 April. It was just enough to say that increases in infections and that there will be a “severe epidemic”.

Indeed, scientists wrote, spoke on talk-shows, and announced from all manner of platforms that there was no longer a need for a lockdown, and that the economy should open forthwith. In a muscular style that characterised her interview with Media24, Prof Gray said that the “lockdown should be eradicated completely”. For Prof Gray, “you don’t put the whole country into lockdown [just] because you don’t know how to deal with [the] elderly and the people with vulnerabilities”. Except for the small fact that the people “with vulnerabilities” included 7.7 million people living with HIV, a population that carries one of the highest burdens of disease in the world, and a population whose social conditions made it almost impossible for it to ‘wash hands regularly’, practice ‘social distancing’ and all the other measure that were now upheld as the only way to fighting COVID-19.

The idea that the lockdown should be phased down gradually was for her not “scientific” at all, and was nonsensical. The movement from “decisive action” to a catastrophe being inevitable proceeded from a falsification of what had been done and achieved during the lockdown. It proceeded through a “virology” that tried to claim that “we know” children and youth under 30 years are not at risk, to a claim that the catastrophe was always going to happen no matter what, and finally that all that is left is for us to wash our hands, social distance and wear cloth masks. Since however the catastrophe seems inevitable, we only have ourselves to blame if “we” (meaning the working class) have large numbers of fatalities.

I have examined what was done to prepare the health system, and have shown that very little or no preparation was done – that in fact no ‘decisive action’ was taken by the elite government of President Ramaphosa. I have also examined the “virology” presented by Prof

Gray about children and people under 30 years, and have shown that there was no basis in science for the conclusions she presented as “science”. I now turn to how we are now presented with the argument of “inevitability”.

The thesis of “inevitability” has been presented most “scientifically” and most “systematically” by Prof Imraan Valodia and 5 others in The Conversation, [“South Africa’s COVID-19 strategy needs updating: here is why and how”, 13 May 2020]. In a few interviews Prof Karim has also thrown soundbites to the effect that a ‘severe epidemic’ is inevitable. Let us look at how this thesis is argued.

The six professors present us with a series of arguments:

- i. The lockdown should be ended because it is no longer reducing transmissions.
- ii. It is impossible to eliminate the virus and the spread will continue. “The virus cannot be eliminated”.
- iii. Only a few countries have been able to minimise the rate of spread of the virus.
- iv. A vaccine is unlikely in the near future, and without a vaccine infection can only be controlled when about 60% of the population develops immunity.
- v. COVID-19 is highly infectious, and has a reproduction rate every four days of roughly 2,5 (at the onset of the outbreak).
- vi. South Africa is not achieving the testing levels it needs, and so it will not stay ahead of the epidemic.
- vii. South Africa will not be spared from COVID-19.

Having shown us the gates of hell, the Profs then reassure us:

viii. “People living with HIV who are on anti-retroviral treatment do not appear to be at increased risk.”

With this reassurance, we are then counseled to move rapidly to Alert Level 2. Won’t this make the transmission worse and worsen the pandemic? No, say the Profs:

ix. The transmission of the virus will be mitigated by physical distancing, ventilation (open windows in taxis and busses, etc), “evidence-based measures” like hand washing, and so on.

The Profs then issue the appropriate threats if the “citizens” (read the working class) do not “co-operate willingly with measures aimed at slowing the rate of transmission”. And so in conclusion, the lockdown must end, and it must end now.

It is difficult to get one’s head around how 6 full professors can present arguments like this to guide the country in its most profound moment of crisis. One can understand why Steven Friedman asked that bizarre question of why South Africa does not want to beat the virus. We are however compelled to examine their arguments in turn. [The Profs also mention “Economic Strategy”, but since no economic strategy is presented, I will not deal with this aspect.]

4.1 COVID-19 Transmission, testing and the reproduction rate of the virus

According to Prof Valodia et al, the lockdown should be ended because it is no longer reducing transmissions. Like Prof Gray, Prof Valodia et al began by asserting that the aims of the lockdown had been met. As they asserted; “In the context of the initial uncertainty, South Africa’s early lockdown was prudent. It allowed time to prepare the healthcare system, to ramp up widespread testing and to introduce other measures to reduce transmission rates.” So, at some point the lockdown reduced transmission rates, and at some point it stopped doing so.

The reality of the situation, and one that the Profs do not want to admit (or think is not in the public interest to admit) *is that they don’t know whether transmission was slowed down*. Therefore they do not know whether relative to that slow down period it is now rising. More important for the country’s struggle against COVID-19, would have been for the Profs to explain (or attempt to explain) why initially the lockdown slowed down transmission, and why in the other phase of the same lockdown transmissions started rising. As scientists and epidemiologists this would be of utmost interest, because it may give us some clues as to how the country can slow down transmissions, and what factors cause transmissions to rise.

One of the main problems with South Africa’s struggle against COVID-19 has been testing. Earlier on I examined developments in testing, and following Prof Mendelson and Madhi (who also happens to be one of the writers with Prof Valodia), I showed that South Africa’s testing strategy was, according to them “broken and not fit for purpose” on a range of levels. In the televised and dramatised presentation to the nation on 13 April (18 days into lockdown), Prof Karim indicated that “overall testing is still below the target of 10-15 000 per day”. When Prof Karim made his presentation, the highest number tested in one day was about 1 300 – way below the target range. Between 27 March and 8 April (dates and figures in Prof Karim’s presentation) the highest daily rate of testing was about 1 300 per day. The daily rate in this period fluctuated wildly, sometimes by up to 30%.” Now, as of 30 May South Africa had conducted 701 883 tests. If we take 16 March as the starting point (the day after the declaration of the National State of Disaster), this gives us 76 days to 30 May. This gives on average 9 235 tests per day. In fact, the daily testing rate only breached the lower end of the target of 10 000 on 29 (or 28) April, on the eve of the easing of the lockdown on 1 May. The reality, therefore, is that there was no “ramping up of widespread testing”, and certainly there was no way for the Profs to tell if indeed the transmission was reduced during the lockdown. There is therefore also no real basis on which the Profs could base their arguments on the reproduction rates of the virus, although we know that the virus is indeed “highly infectious”, and so on.

We may remark that viewed against the patterns and scale of testing by 13 April, it's a mystery why Prof Karim would make all the big and dramatic conclusions he made in his presentation of 13 April, because in fact he did not have enough data to make meaningful conclusions, or at least whatever conclusions he made had to come from some other form of reasoning.

The problem here points to a socio-structural problem of the running down of the health system’s capacities, and in particular South Africa’s capacity to test in sufficient numbers to respond to the pandemic. The Profs do not help the country by pretending there was a

slowing down of transmission at any point during the lockdown. *We must underscore the fact that if the Profs want the lockdown to be eased to levels 1 or 2, they cannot marshal testing evidence to support their calls (or more fittingly, campaign).* All that happened during the lockdown is that the rate of transmission was hidden by insufficient testing, and also by a rapid decline in turn-around times between sampling and testing [see discussion above in Section 2.1.2].

The Profs, however, also play fast and loose with their attitude to testing, and how it supports their campaign to end the lockdown. Having been told by them that during lockdown measures were introduced to reduce transmission, the Profs now turn around and say “South Africa is not achieving the testing levels or reporting speeds required to contain the spread through diagnosis and contact tracing. This gets harder as infection rates rise”.

So at some point South Africa tested fast enough to reduce transmission, but going forward it will not test fast enough. And what do we conclude from this? According to the Profs, South Africa’s strategic thinking should be informed by “... clear communication of the actual threat of the virus, preventative strategies, and slowing the spread of the virus to levels that spare the healthcare system...”. The Profs therefore argue for a strategy that depends on speedy testing and reporting (which is what they mean by “clear communication of the actual threat”) in a context when they also argue that South Africa is not “achieving the testing and reporting that is required...” So desperate are the Profs to end the lockdown that logic has to be thrown out of the window.

4.2 Impossibility of “eliminating” the virus

To drive their anti-lockdown campaign, Prof Valodia et al now treat us to a series of ‘impossibilities’. According to them:

- “South Africa’s reproduction rate has remained above 1, even under highly restrictive lockdown conditions. Indications are it will remain above 1 at least for the foreseeable future”;
- “The virus cannot be eliminated”;
- “South Africa will not be spared from COVID-19”; and
- There is no vaccine. So, “control of the infection would require about 60% of the population to develop immunity”.

The series of ‘impossibilities’ presented here constitute a truly ingenious (or should it be disingenuous?) procedure in this debate. To begin with, who argued that the ‘virus can be eliminated’?; who argued that South Africa will ‘be spared from COVID-19’?

Of course no one argued this. By presenting the argument like this, we are led to the ‘inevitable’ conclusion that... the lockdown must fall. The problem of course is that there is no such an argument, and therefore the position on the lockdown does not follow from these constructed ‘impossibilities’. All strategies – for or against lockdown – proceed from the understanding that the aim is not to “eliminate” the virus, but to slow down transmission and to better contain and/or mitigate its effect. Further, it’s difficult to know how the Profs can work out the rate of reproduction when they also say that testing is low, and reporting is too slow to be useful. Indeed, so unreliable is the testing situation that

there are indications that large amount of samples may no longer be usable due to the fact that they are now (getting) too old.

This mode of argument is continued with the implied relationship between absence of a vaccine and 'herd immunity'. Is 'herd immunity' the only strategy open to us in the absence of a vaccine? This is obviously not the case. As we know, the jury is out on the strategy adopted by Sweden (which some associate with 'herd immunity'), although even the Swedish authorities deny that they are pursuing a strategy of 'herd immunity'. If it is obvious that there is no relationship between the absence of a vaccine and a particular strategy of mitigation, it becomes clear that the only reason that 'herd immunity' is invoked here is to frighten us into 'eradicating' the lockdown. At best, the argument may well be that eradicating the lockdown will lead us to the only strategy available to us, herd immunity, seeing that it will take too long for the vaccine to be found. In such an event the Profs must have the courage of their convictions and declare that they think South Africa should pursue a herd immunity strategy.

In themselves these series of 'impossibilities' do not constitute a serious argument in the COVID-19 debate. Their role is a political one, but is presented to us as "science". Let us now turn to the political positions being adopted by "science" in the unfolding pandemic in South Africa.

5. The social, health and economic consequences of the lockdown

Both Prof Gray and Profs Valodia et al have raised the social and health consequences of the lockdown. According to Prof Gray, "We punish children and kick them out school and deny them education", and according to Dr Sanne, the lockdown "was having a negative impact on the healthcare system, [and]... normal, non-COVID-related diseases were not receiving attention". Other negative impacts include a drop in childhood vaccinations (with a danger of an outbreak of child diseases), semi-urgent surgeries were being delayed, and elective procedures have dropped dramatically and so on.

Firstly, the decline in health services relating to other diseases (including vaccinations) is indeed a serious problem. The question is whether this is due to the lockdown, or even to COVID-19. We know that it is working class areas that depend the most on delivery of medicine for HIV, monitoring of children under 5 years, and other conditions through the system of Community Healthcare Workers (CHWs). At Khanya College we have more than ten years' experience of working with CHWs who undertake this work in Gauteng, and who are organised in the Gauteng Community Health Care Forum (the Forum).

During the lockdown the Forum has been involved in a dispute with the Gauteng Department of Health over the supply of PPEs for screening work undertaken by CHWs, *and for PPEs when the CHWs perform their 'normal' work of delivering medicine and other primary health care functions*. This dispute, which includes potential litigation around supply of PPEs for both functions, has led Khanya College and the Forum to conduct a daily survey of the work that is done by CHWs (and the supply of PPEs). We surveyed about 80 clinics daily (with an average response rate of about 50 clinics) for most of the lockdown period. In all clinics the CHWs still deliver TB medicine, they still check on children, they check on pregnant women and so on. This is not to say that this work is done satisfactorily at all. This

is also not to say that there are no problems with availability of medicine. The failures of the system are well known and are also the subject of struggles by the Forum. The important issue here is that if there are problems with the primary healthcare functions this is not just a problem of COVID-19 or of the lockdown.

To his credit, Dr Sanne did say that people may not be coming to hospitals (for healthcare not related to COVID-19) because of “fear of COVID-19” and related safety issues. After all, if private clinics like St Augustine and Kingsway Hospital could be infected as they were, it would make sense why people would be weary of visiting hospitals (private or public). On the other hand, these are known patients that come to get their HIV (and TB) medication, and their medicine could be delivered in the same way that CHWs deliver medicines.

It is remarkable how the Profs avoid any discussions of the real issues related to the health system during COVID-19. Anyone who lives in South Africa knows how we have seen 25 years of austerity and dysfunctional social services. Everybody knows that South Africa and its state has the wealth and resources to supply these health care services even in times of COVID-19. What stands in the way of this delivery are the politics and economics of austerity and neoliberalism. This, however, is for the Profs a no-go area.

It's the economy, stupid!

With this phrase Bill Clinton’s chief strategist in the presidential campaign in 1992 turned George Bush’s approval ratings around and ensured the victory of Bill Clinton in the elections. Once again, the “economy” is coming in handy in turning the approval ratings of the lockdown and turning “ scientific public opinion” against the lockdown. After all, President Ramaphosa was praised all-round (mistakenly, I have shown above) for “decisive action” in implementing the lockdown “swiftly”. The Professors, even when they ‘junk’ the lockdown for being ‘unscientific’, have to pay some kind of homage to the lockdown.

The issue of the impact of the lockdown on the “economy” is the major debate currently unfolding in the US, UK, and also in Brazil. It is not necessary to re-run this debate here, as it belongs to a different (if related) conversation. I will make only two points about this debate.

Firstly, what is important to note in this debate is that South Africa represents the first country in which “science” was harnessed to firstly, support the lockdown, and immediately thereafter, to “eradicate the lockdown completely”. It is the first country “science” was harnessed against a gradual easing of the lockdown harnessed and a rapid easing. The views taken by the Professors here in South Africa is reserved for denialists elsewhere (Trumpists and Bolsanaro followers), and those who think COVID-19 is a conspiracy or a plot by the Illuminati.

Secondly, it is striking that in considering their options on the “economy”, the scientists seems to have decided that there is only one way, and only one way, in which the economy can respond to the COVID-19 pandemic – only by being “opened” up, whatever the cost. There was a time, not so long ago, when another group of Professors, including Prof Valodia, signed an “Open Letter to President Ramaphosa and the Cabinet”. In that letter, the economists and experts proposed a different path to that proposed by the current group of

professors, who also include a re-incarnation of Prof Valodia. Then, the professors called for a need to support the lockdown and the public health interventions with a raft of other economic measures. I have written about the interventions proposed by the economists (<https://karibu.org.za/the-president-the-finance-minister-and-the-economists/>), and made the point that they underestimated the commitment of the South African state to austerity and neoliberalism. In that instance, I called for a more public campaign by the economists to join social movements and other civil society organisations to pressurise the government into adopting the measures they were proposing. After being ignored by the state the economists retreated into their academic cubicles, and now (at least) one of them re-emerges on the extreme right and is harnessing “science” to the service of the “economy”, of big capital.

Indeed, up to mid-May it was generally understood that it is not the lockdown that is bad for the economy, but the pandemic. Repeatedly, economists in the US, for example, have argued that a rapid reopening of the economy may cause long-lasting damage to the economy in that it may lead to a rapid rise in infections and deaths, and it may be difficult to rehabilitate the economy in that context. It is remarkable that at no point do the scientists (both Profs Gray and Valodia) in this debate taken the time to consider, or to disprove that it may in fact be more detrimental to the economy to have a rapid ‘eradication’ of the lockdown.

6. “NPIs” as cover absolving capital and the state from responsibility

Both Prof Gray et al, and Prof Valodia et al argue for the lockdown to end. Instead, they advance an argument that the country should adopt Non-Pharmaceutical Interventions (NPIs). Prof Gray: “How can you continue to implement these restrictive levels when the data shows that the transmission of the virus will continue unless you implement non-pharmaceutical interventions [NPIs] to slow down the transmission...”. According to Prof Valodia et al, within a Level 2 economy, transmission can be slowed down through NPIs, such as “reinforcing evidence-based public health measures like hand washing... continued use of face masks... made available... free of charge...”

Prof Valodia and others go further, and call for regulations that “specify employer responsibilities to ensure that the opening up of the economy does not result in flare-ups of infections”. Only one line is devoted to employer responsibility, and no responsibility is allocated to the state for NPIs. Indeed, the way that the professors have defined and talked about NPIs, the state and capital have by definition been excluded from responsibility.

Workplaces constitute the largest involuntary gatherings of South Africans – not on the occasional weekend – but *everyday*. Everyday more than 16 million South Africans go to work, and almost 14 million students and learners attend educational institutions. This is 30 million South Africans on the road, and congregating in large numbers everyday. With no focus at all (except in one line) in Prof Valodia and other’s article on how workplaces and educational institutions must be re-engineered – by reorganising production lines to ensure physical distance, PPEs supplied by employers, shorter working hours to prevent fatigue that can lead to incorrect use of PPEs, and so on - NPIs are by default the responsibility of these 30 million individuals.

Like the lockdown, re-engineering workplaces and schools will ‘come at significant economic costs’. Prof Valodia et al did not see the need to pause and work out what the re-engineering of workplaces will cost. Will it be much less than the 5-16% of GDP? Will it be much more? Surely, with a two-year horizon of NPIs (according to Prof Valodia et al), this cost-benefit analysis is worth the effort by scientists and economists? We cannot be treated to the answers of these questions by the economists and the scientists, because, maybe, on a “cost-benefit” basis the lives of the working class will cost less “at the margin”.

From calls on the state to intervene heavily in the economy to support the battle against COVID-19, Prof Valodia now absolves the state from any action on the economy. We are now presented with the classic neoliberal approach to the role for the state – to pass regulations and let the private sector look after itself. In particular, Prof Valodia should know that for 25 years the state’s capacity to ensure employer compliance has been weakened to the point of being non-existent. And so it comes to pass that the responsibility for the dire consequences of the failure of an anti-COVID-19 “strategy”, and when “the full might of virus is manifest”, will come down to the “irresponsible behaviour” of the masses.

We have already seen the preparation for this narrative of blaming the working class. TV cameras pan ever so often to flash images of masses of working class people gathering in entrances to shops, collecting food parcels, piling in to taxis, or just ‘chilling’ in the winter sun. Of course with Level 3 they will be there for all to see. After these coming scenes of masses of workers, pupils and students huddling together in factories, schools, universities and in the cold of winter, all we will wait for is for the “full might of the virus to manifest”.

7. Scientists against science

In an article published in the South African Medical Journal, “COVID-19: Science and global health governance under attack” [20 April 2020], JA Singh concludes that “undermining science and health governance for political expediency is dangerous, as it sows confusion and engenders distrust in public health officials.” Singh wrote this article against US President Donald Trump’s attack on scientific advice in the context of the pandemic. It is well known that the key battleground between President Trump and the scientific community in the US has been over the “economy”. Trump has insisted on “opening the economy”, and the scientists have counseled a step by step easing of lockdowns of various forms and severity.

On the other side, and in contradistinction to Trump, stood the South African government and scientists. According to Singh, “South Africa recently extended its lockdown on the basis of scientific evidence. This is an example of evidence-based decision-making and responsible leadership...” What Singh failed to explore, however, is that this attack on science and experts (by the extreme right) has been long coming.

With the rise of neoliberalism into a global political force at the end of the 1970s there has occurred an increasing subjugation of science to the interests of powerful corporate interests. This process has proceeded along two lines. Firstly, we have seen the subjugation of the universities to the power of big money, made possible by state withdrawal of funds to universities and the entry of big money into the breach. Secondly, a range of social sciences were transformed into “hard” or “exact” sciences like physics, astronomy, chemistry,

medicine and so on. The most important example of this change was the transformation of economics into a “hard” science. This sleight of hand was performed by presenting economics as a mathematical science whose theorems and predictive power has a precision of a ‘hard’ science – here mathematics. This process was used to intimidate social movements and other left intellectuals, especially those who were retreating in the face of the global march of neoliberalism. We now confront the same process with epidemiology. The science of approximating the likely evolution of the virus is now presented as an exact science. We are now told that you can decide whether to have a lockdown or not “scientifically”, with the precision of a mathematical science. So, instead of expressing her disagreement with various aspects of the lockdown in the way that most citizens of South Africa did, Prof Gray invokes “science” to back up her displeasure at the fact that she cannot buy a car with her grand-daughter.

When Prof Karim gave his presentation to the nation, he used information he had to suggest the likely distribution and patterns of how COVID-19 will spread, and what factors may influence the way it may spread in the population. By approximating the way COVID-19 may evolve, he helps us *change our behaviour* so that we can slow down or even stop the spread of COVID-19. In order for epidemiology to be effective in convincing us to change our behaviour, the scientists cannot present their approximations as a “hard” or “exact” science. On the contrary, they need to help us to understand that if we agree to change our behaviour, then the epidemiological curves will also change – that therefore we are actors that influence the ‘science’.

The pretence by scientists that they are delivering knowledge that is beyond ordinary people is deeply mistaken. Indeed, it defeats the whole purpose of the exercise, because if what is delivered is a “hard science”, then it becomes impossible for the scientists to persuade us to change behaviour when information at the disposal of the scientists changes. With the way the Professors have thrown “science” about, and the way they have argued their case, it may well be impossible to convince anyone that a lockdown can achieve anything, irrespective of whether South Africa may need a lockdown further down the line. The Profs, having thrown caution to the wind in pursuit of their campaign to ‘open the economy’ have struck a potentially deadly blow against epidemiology as a science, and have thus strengthened the extreme and anti-poor rightwing forces in the debate in South Africa. The neoliberal right’s central philosophical tenant is exactly to deny that social factors explain disease and even pandemics, and in this way the blame for any deaths that may happen within the working class will be ascribed to the individual working class people. Indeed, the ramifications of this philosophy of the neoliberal right - captured by Margaret Thatcher as ‘there is no such as thing as a society, but only individuals’ – are far reaching in the context of a pandemic, and serve to justify the kind of policies we see adopted by the Democratic Alliance in Cape Town.

The presentation of social sciences, or sciences of approximation, as ‘hard’ or exact sciences, was a necessary result of accumulation of capital, and in particular of defending accumulation, inequality and exploitation as the natural order of things. Once again economics led the way. A case in point is how unemployment was established as the natural order of things necessary for a well-functioning economy. Starting with Milton Friedman’s “natural rate of unemployment” in the late 1960s, and graduating to the non-accelerating

inflation rate of unemployment (NAIRU) in the 1970s, structural unemployment (or underemployment) of millions was declared normal and necessary. This pseudo-theory is what transforms the South African Reserve Bank into a watchdog against any rise in wages and any increases in employment beyond what is natural – a policy known as ‘inflation targeting’. Added to this is a long history of scientists working at the service of big pharma (GMOs are a case in point), and therefore having to justify through “hard” science that GMOs are good for humanity. The list goes on.

The capture of science by big capital can be seen at play in the Prof Gray saga. In her angry interview Prof Gray makes the important point that “South Africans bought in, and everyone tightened their belt and took the lockdown with grace. During that period, we failed to deliver water, we failed to deliver food parcels and we failed to make households on the brink of starvation safe”. If we leave aside the incorrect assertion that the working class “took the lockdown with grace”, these failures on the part of the state were downplayed by big media (Naspers bloc), and the issue became the need to ‘eradicate the lockdown’. Prof Gray herself did not defend these views when pressured by the state, but rather defended her right to criticise the ‘regulation’. With such ‘nimble’ footwork it was possible to reconcile with the state that failed to deliver all the structural support that is crucial for the success of NPIs. And so when “the full might of the virus is manifest”, it will not be the failure of the state to deliver the infrastructure needed for successful NPIs, but the masses themselves, that will be held responsible. Science here has served to defend the existing order of things (the regime of neoliberal austerity), and to leave the working class masses to the wrath of the virus.

The consequence of this capture by big capital has been suspicion and even hostility to ‘experts’ and scientists, as they are seen as servants of big money. Among other reasons, this is why science, scientists and ‘experts’ have lost credibility among many people, and why it has become possible for people like President Donald Trump to get his supporters into the street to demand an end to lockdowns in the US, even though almost 100 thousand people have died and infections keep rising. In South Africa when the masses remember that the scientists said they should go to work forthwith, that they were not at risk, that they could deal with COVID-19 only with masks and soap – they will associate the scientists with those that failed and betrayed them. The mass of the working class will remember that 250 professors and scientists defended Prof Gray’s right to “academic freedom of speech” to move them to Level 1, but they will not remember one statement in which the professors were enraged by the lack of water, housing, unemployment, a high burden of disease, failure to fix testing and hospitals and the many ills visited on the working class.

We have come a long way since intellectuals, young professors, experts and students stood on the side of the working class and their mass organisations and called out the apartheid capitalist state for its oppression and exploitation. Today the professors and experts are deeply integrated into the neoliberal state - its institutions, its research grants and research chairs, its participation in all manner of research on behalf of the state and its various arms, its participation in commissions set up by the state, and also their integration into similar institutions of the capitalist class. Against this background, today the working class is on its own.

8. Why doesn't this country want to beat COVID-19?

This question, equally bizarre and profound, is the question of questions for the working class and all progressives. Everyone knows what needs to be done to beat the virus, but everybody can see that the state, capital, the elite, and now the elite of the intelligentsia too, does not want to beat the virus. After their one-day battle the economists went back into hiding and joined all manner of advisory committees, or just went on to teach students online.

In a number of interventions I have given my answer to this question. The refusal or reluctance to beat COVID-19 is a result of 25 of the development of post-apartheid capitalism, and comes down to the simple fact that when it comes to making demands on the powerful and the wealthy, working class lives are cheaper than the discomfort that comes from not having that boat, that flight to the Bahamas, that Louis Vuitton bag, and the many other privileges of unconstrained accumulation and consumption. The South African ruling class and elites are used to co-existing with a mass of death. South Africa's "colliding and concurrent" epidemics delivered a mass of death in 2017. In that year 28 000 died of TB, 25 000 died of diabetes, 22 000 of cerebrovascular disease, 21 000 of HIV related illnesses, 20 000 of hypertensive diseases, and 19 000 of influenza and pneumonia. All these are diseases of poverty, and South Africa has learnt to live with them.

COVID-19, however, is a fast moving pandemic. Where TB and other NCDs kills in the night and away from prying eyes of the media, COVID-19 kills in broad-day light. Further, unlike the other epidemics of South Africa, COVID-19 has shown a much more active and dynamic interface with the country's social structures. Not even at its height did the HIV/AIDS pandemic ground the economy to a halt as COVID-19 has. There were no debates on lockdowns, no debates on whether schools should be closed or opened, and debates on whether entire urban spatial settings must be re-engineered. COVID-19 is unique among pandemics in centuries mainly because it takes place in a setting of a highly developed and integrated capitalism both internationally and within countries. It is this circumstance that will force the working class to fight for its survival. In order to resolve the severity of its crisis, capitalism will refuse to let its state support the working class; it will refuse to pay wages to a working class that is not standing next to the production line. It is no longer a case of "organise or starve". It's now a case of organise or die.

The working class has no choice but to fight and to struggle. There is no other way out. In this fight the working class will know that they are encircled by a ruling class that has 5 concurrent epidemics as its allies. Above all else, the working class will have to remember that in its long struggle for freedom, science has always been a friend and companion of the working class. It must not let the baton of science fall to the ground. The working class will have to take courage from Claude McKay:

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If we must die, O let us nobly die,
So that our precious blood may not be shed
In vain; then even the monsters we defy
Shall be constrained to honor us though dead!
O kinsmen! we must meet the common foe!

Though far outnumbered let us show us brave
And for their thousand blows deal one deathblow!
What though before us lies the open grave?
Like men we'll face the murderous, cowardly pack,
Pressed to the wall, dying, but fighting back!

Oupa Lehulere
3 June 2020