

Race, Sex, Birth and Blood in South African History

“RHESUS SENSITIZATION IN THE BANTU” in South Africa, 1940 to 1970

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Background

1. South Africa presents an unusual example of a southern medical science community where scientific work has been unusually charged with race and sex debates and conceits. In many areas of scientific endeavour these obsessions did not obviate, and may have charged, research at the highest levels. For example human tissue research, organ transplantation, and related areas of science often equaled and sometimes outstripped research and practice by peers in the north. The science of human tissue transfusion, transplantation and re-engineering, is a vast subject and a history of its development and politics in Southern Africa cannot be contained in the space of a single paper. ¹Craig Kesson's dissertation is an institutional history of the national blood service in the Union of South Africa, concentrated on the era between the World Wars.² I have begun to work on histories of organ transplants, blood transfusions and human tissue research in South Africa, together with a small cross-disciplinary research group³, and we have found very little published historical work on this field for South Africa, while at the same time discerning that the scientific, laboratory, archival and other evidence for this as a field of inquiry is vast. ⁴ This paucity in scholarly historical literature is curious given the excellent histories of racial science for our region more broadly⁵, as well as the histories of blood, race and power writing in the Europe, the UK, and other parts of Africa and the USA.⁶ Most of the latter work develops

1 I would like to thank Dr D. Blaauw, Prof H. Coovadia, Dr E. Vardas, Dr J. Giddy, and Prof D. Glencross and Prof Quentin Eichbaum, for their extensive help and comment during the writing of this draft paper and their patience with a novice. Any errors that remain in this draft are, of course, my own.

2 C. Kesson “Bad Blood Will Out: Racial Identity and Exclusion in South Africa's Blood Service, 1930s-1960s”, Unpublished Thesis: Master of Philosophy in the History of Science Medicine and Technology, Oxford University, 2009.

3 This group includes nephrologist, Dr June Fabian, and a human tissue specialist counselling psychologist, Dr Tina Sideris.

4 Based at the University of the Witwatersrand the world renowned Philip Tobias, and his colleague, Trefor Jenkins, and the teams of anatomists, palaeoanthropologists as well as geneticists that they mentored, worked on ethical and non racial approaches to some of the broader scientific issues related to this. In the last 3 years research across disciplines has begun to emerge in this field: Zimitri Erasmus the sociologist, and Himla Soodyall, the human geneticist involved in finding some of the oldest human genetic lines, are both involved in cross disciplinary work combining social analysis, anthropology, social criticism as well as genetic work focused on Sub-Saharan Africa.

5 For example: S. Dubow. *Scientific Racism in Modern South Africa*, Cambridge University Press: Cambridge, 1995; and see papers in S. Dubow (ed) *Science and Society in Southern Africa*. Manchester University Press: Manchester. 2000.

6 S. E. Lederer, *Flesh and Blood: Organ Transplantation and Blood Transfusion in 20th Century America*, Oxford University Press, 2008, D. Starr. *Blood: An epic history of medicine and commerce*. Warner Books: London. 2000; M. Wintrobe, ed. *Blood, Pure and Eloquent: A Story of Discovery, of People, and of Ideas* New York: McGraw-Hill, 1980; K. Wailoo, *Dying in the City of the Blues: Sickle Cell Anemia and the Politics of*

an argument based on detailed science and technology histories of, for example, blood transfusion in the USA, while simultaneously writing about the way in which communities of donors and recipients viewed and communicated about blood products and blood technology, with all the entailed complexities of belief, hope, anxiety, fear and relief that blood donation and transfusions brought in lived experience.

The cultural, social and political literature on African continental about blood over the last two decades years, has, not surprisingly, focused on sexual practice and on HIV related issues and themes. An exception to this is Luise White's thought-provoking and experimental history of blood transfusions as part of her study of rumours and narratives fueled by the toxic combination of racial colonial power and colonial medical practice. In this study White demonstrated that during the colonial period, and into the early post colonial era, men and women in Uganda, Kenya and Zambia circulated nightmarish stories about people who worked for white colonists and settlers, stories of people being kidnapped and having their blood stolen. The intersection of dramatic accounts of men from the fire-services in Kampala working with the police to steal African urban dwellers' blood were still alive in people's memories when White conducted her interviews in the late 1990s. The book is not a study of blood transfusion or blood services in central and east African cities themselves, but is rather part of a life long engagement that this historian has had with the use of stories, gossip, and rumour in historical evidence. Another leading historian of Africa has been drawn to examine the medical history of blood services in Africa, and their complex consequences, as part of a wider study of colonial biomedicine and in her work Megan Vaughan set the tone for nearly two decades of medical history writing in the region.⁷ But neither of these historians, nor any of the South African historians of medicine, have focused on blood technology or transfusion directly and it is to this literature and field that I will now turn. My implicit argument is that the impact of their work is sometimes constrained because they do not do the science and technology historical work as well – and it seems to me that this work is not at all self evident.

A few words then are needed about the histories of blood transfusion, and its conjoined twin, organ transplantation. These two new fields exploded into view in the early and mid 20th century and with them the borders between self and non-self, the living and the dead, and humans and other living forms, was irrevocably refashioned. Since the early 1900s millions of people in the world have become blood donors and recipients and since the 1950s, including in South Africa, thousands of

Race and Health, Chapel Hill: University of North Carolina Press, 2001 and S. Love, *One Blood: The Death and Resurrection of Charles Drew*, Chapel Hill: University of North Carolina Press, 1997.

7 L. White *Speaking with Vampires Rumor and History in Colonial Africa*. Berkeley: University of California Press, 2000; and M. Vaughan *Curing Their Ills: Colonial Power and African Illness*. California: Stanford University Press, 1991. Also see L. White. "They could make their victims dull: genders and genders, fantasies and cures in colonial southern Uganda" *American Historical Review*, Vol. 100, No. 5 (Dec., 1995), pp. 1379-1402; and A. L. Stoler, "'In Cold Blood': Hierarchies of Credibility and the Politics of Colonial Narratives," *Representations*, 37 (1992): 182. S. Feierman, "Struggles for Control: The Social Roots of Health and Healing in Modern Africa," *African Studies Review* 28, 2-3 (1982); 73-148; M. Lyons, "The Power to Heal: African Medical Auxiliaries in Colonial Belgian Congo and Uganda," in Dagmar Engels and Shula Marks, eds., *Contesting Colonial Hegemony: State and Society in India and Africa* (London: I. B. Taurus, 1994), 202-23.

people have lived with donated hearts, kidneys, lungs, corneas, and other organs and tissues transplanted into their bodies. From the outset the technology, the clinical science, inside of the political economic and cultural contexts, has been presented with a material fixity: the body products from human beings willing and able to give their organs and tissues. Entailed in this process has been the continuing ethic of gift exchange, uneasily existing alongside a complex and stratified commodification of the body. Embedded in the development of modern surgery is the same duality – dependent as it has been, and remains, on the field of blood transfusion.

Blood Services in South Africa

One arena of contestation around blood services and blood technology in South Africa concerns the debate concerning “*Rhesus sensitisation in the Bantu*”. Here politics and policy bounded the possibilities and limits of resources, institutions and knowledge, and a focus on this provides a entry point into enduring struggles in South African human tissue science. In Southern Africa, as elsewhere, there is of course a longer history of blood and organ use in healing, predating biomedicine. This pre history informed the context of biomedical clinical experience and jurisprudence in communities made up of settlers from Europe and Indian as much as it pertains in communities of African descent. Blood transfusion practice, in the modern sense of the technology, is new to all human societies, with the first successful transfusion experiments in 1906, and the first “blood banks” emerging in the post world economic depression era of the 1930s. Outside of the politics and knowledge claims of medical science, knowledge producers in the educational, religious and popular sphere shaped human tissue science practice, as well as – and this is a key argument of the paper – the technologies and research agendas of scientists. This remains true into the 21st century.

In debating the evidence for “*Rhesus sensitisation in the Bantu*” these contending and sometimes colluding areas of knowledge came into play as the nascent South African national blood service decided how best to gain access to what they deemed “needed blood products”. During World War II, in South Africa and globally, blood services had been professionalized and enlarged to meet the needs of battle field surgery and war-related injuries. In South Africa the mining industry, with its medical institutions underpinning the employment of a large workforce of men subjected to many industrial related injuries, began to develop a blood banking technology and process. They inaugurated this in conversation with, but separate from, the national blood donor programme. In the mining sector blood was drawn from large numbers of African men and placed at the disposal of both people from their own communities, and, as it transpired in the course of Kesson's research, into a pool when needed for people deemed “white” or “European” by the state. New knowledge in the 1940s and 1950s of blood groups, immune reactions, and sensitization in the arena of post natal transfusion, challenged the extent and depth of these services. And it to this entanglement of tissue research and immunology, in the racialised contexts of South African medical services for infant and reproductive health, that I now turn.

Blood Group Research

That clinical and scientific protagonists were explicitly comparing white and black men and women's blood in South Africa in the period under review is clear. The reasons for this are less so, and the explicit differentials in blood service provisions less so still. Discerning the evidence for clinical practice and research is complex and in this case entails scientists in haematology and a wider community of experts in genetic, evolutionary and ethical practice wrangles. From the inception of the (always political) processes of crafting a national blood service (and into the present day, where HIV and hepatitis infection, and their relation to blood products continue, as well as heated current constitutional and ethical debates about organ, especially kidney, transplants and blood banking science), the liniments of these early debates continues to lubricate biomedicine and public health practice and research.⁸

Today complexity in blood tissue research continues at a pace – especially in the arena of genetic polymorphism of the Rh gene/blood group (and differential rates of Rh- in different populations). A search of the authoritative medical data base “Pubmed” reveals that this is still a prolific area of research, particularly for work on alleles within the Rh system and in the vast arena of ethnic group and blood diversity genetic research.⁹ In the 1930s to 1960s research based on “race” groups and blood was ubiquitous, and across the world scientists were comparing black and white people's blood. Today the language that dominates in published research is around the genetic polymorphism of blood groups. Within this field there has been great interest for nearly a century into rhesus haemolytic disease, and it is to this sub set of blood research that I now turn.

A summary of easily accessible knowledge of 'rhesus haemolytic disease' agrees that this is a condition that usually only occurs for infants born to a woman who herself has a 'negative' blood group – a woman who has previously completed a pregnancy where the baby's blood group was 'positive', or if the woman has received blood products in the past, such as a blood transfusion during surgery. In the 1930s the latter was very uncommon but by the turn of the century this became a substantial cause of disease. During the birth process a small amount of the baby's blood often crosses over into the mother's circulation, entering her blood stream, usually as the placenta separates after 9 months of connection and growth. This 'crossover' of blood is also possible in a few other circumstances such as miscarriage, (including early miscarriages or “spontaneous abortions” that a woman may not of even been aware of), as well as induced termination of a

8 D. McQuoid-Mason et al “Human tissue and organ transplant provisions: Chapter 8 of the National Health Act and its Regulations” *South African Medical Journal (SAMJ hereafter)*, Vol 102, No 9 (2012); F. Venter et al “Uniquely South African: Time to consider offering HIV-positive donor kidneys to HIV-infected renal failure patients?” *SAMJ* Vol. 98, No. 3 (2008); A Heyns “Policy and decision making by blood transfusion services in South Africa” *SAMJ*, Vol. 96, No. 5 (2006).

9 G. Daniels “The molecular genetics of blood group polymorphism” *Human Genetics*, 126:729–742, (2009); G. Perry et al “Evolutionary genetics of the human Rh blood group system” *Human Genetics*, 131(7): 1205–1216 (2012); R Makroo et al “Rh phenotype, allele and haplotype frequencies among 51,857 blood donors in North India”, *Blood Transfusion*, 12: 36-9 (2014); T. Granier, et al “A comprehensive survey of both RHD and RHCE allele frequencies in sub-Saharan Africa” *TRANSFUSION*, 53:3009-3017 (2013).

pregnancy. Rare cases of heavy bleeding late in pregnancy have been traced as causal, as have cases been recorded of the reaction set up during amniocentesis and similar procedures. In the cases, where the newborn's blood group is 'positive' and the blood of this child crosses to their mother who has a 'negative' blood group, this small amount of blood can, in a small number of instances, set up a reaction in the mother's own blood chemistry.¹⁰ Today we know that the 'rhesus reaction' (also known as 'alloimmunisation' or 'isoimmunisation') is the formation of blood 'antibodies' or 'agglutinins'. This reaction is a normal response in the human body, used to 'fight' substances that our bodies interpret as being 'foreign invaders' to our system. The antibodies form in the mother's blood in an effort to deal with 'getting rid' of the 'foreign' baby's blood. A woman who has formed antibodies is often referred to as being 'sensitised'. The 'reaction' is similar to the one we intentionally produce when we immunise our bodies against disease.

In South Africa an explosion of new research began around rhesus factor in the 1940s. Archival evidence for rhesus sensitisation research from the 1940s shows that there were two strands at work in discerning “difference” between white and black women in the region: the first was a general observation of the era, that rhesus disease of the newborn was much less common in “the Bantu”. Research across 70 years has borne this out and it seems to be due to the much higher incidence of the rhesus allele (and much lower incidence of Rh negative) in people of African and Asian descent. It makes sense from any stand point that differences in the gene frequencies in different populations have significance not only for rhesus disease but for planning blood transfusion services.

This point is significant for understanding South African blood science history. The medical scientists and their laboratory partners who led the research in the region were fuelled by an interest in describing blood and tissue differences in the indigenous communities of the region to serve a number of agendas. (Note: We can speak about the complexities of this and published work on anatomy and anthropology in the session if we have time). The political objectives and ends of these approaches sometimes confounded one another.

Of interest here is a misapprehension of difference: in the 1940s to 1970s the representation of African and Asian populations were investigated in this period as *the other* – and as blood technologists and clinical experts in natal medical services studied the lower rates of Rh- in Africans and Asians, they failed to discern that it is this very evolutionary persistence of the balanced polymorphism in people of European-descent populations that is *other*, requiring complex explanation. This is the line of inquiry that animates much contemporary research in genetic fields today.

Kesson has shown – and my work bears this out – that the systematic underdevelopment and neglect of blood and other health services for black people in South Africa resulted in significant inequalities in health expenditure and institutional provision at great cost to health benefit as well as

¹⁰ If the mother has a 'positive' blood group and the baby has a 'negative' blood group, no reaction will occur because negative blood can be accepted by (or mixed with) all blood groups - often referred to as the 'universal donor' type of blood.

trust in medical science and clinical provision. What is still surprising, I think, is the extent to which the national health transfusion laboratories and authorities hid the fact that they obtained a large proportion of their blood product after the end of World War II not from white donor pool (which was always very small), but the large community of mine workers. These men included many from the Pondoland region of the Eastern Cape before the 1960s. Blood from these Mpondo mine workers, and men from other African communities, numbered in their tens of thousands of 'pints' collected – figures we have looked at include over 300, 000 regular blood banking clients in the mid 1950s. We cannot easily call this group “donors” as the South African Medical Research Council did, the National Blood Transfusion Service, or the Chamber of Mines, since there were forms of inducement, specific pressures, more general processes of naturalisation and ritualisation, and also of payment entailed in these mine-based bleeding campaigns and routines set up between 1940 and the late 1960s at least. I do not have time to summarise this work here.

What is germane to this paper is that women of African descent were never targets of these campaigns or the basis for blood banking services in the same period. The withholding of transfusion services for many went hand in hand with the collection of a large amount of blood from African men. This is especially noteworthy given the widely reported and medically established obstetric needs of African women as they gave birth in the 1940 to 1960 period. Why was this so?

Obstetric and Natal Blood Services

In the post World War II era relatively few South African children were born in clinical facilities – with the highest percentage of births in hospitals recorded for urban English speaking women and the lowest for women of Indian descent. After 1938, and especially evident by 1950, African women in and around urban centres were seeking out hospital births in larger and larger numbers. For the first time the decades of assertions by “medical men”, so prevalent that they became a standard gender and race loaded cliché – about African women's ease with childbirth and their aversion to clinical care around reproductive health —were being challenged as women began to seek and later demand services. Missionary organisations and non governmental institutions sprang up to respond to this need, and gradually municipalities and the provinces began to expand hospital services for pregnancy women though never to the level of care needed by any measure of public health efficacy. The assertion that South African women of African descent did not face difficult births, obstructions of the pelvis, hypertension, or even rhesus disease, were made on the basis of little or no data. That picture began to change after 1940.¹¹

Research showed that rates of need for blood services for black women giving birth were the same as for white women. In that era, as now, black pregnant women would have required blood transfusion for much more obvious causes, such as the huge blood loss and concomitant need for transfusion (for the woman) in the case of primary postpartum haemorrhage, and cases of

11 See details on these shifts in: C. Burns *Reproductive Labors: the politics of women's health in South Africa, 1900-1960*, Unpublished PhD Northwestern University, Evanston: Illinois and “Controlling Birth: Johannesburg, 1920–1960” *South African Historical Journal* 2005: 50 (1), 170-198.

antepartum haemorrhage during pregnancy, usually from the 24th week of gestation. While it will not be particularly surprising to any observer of South African history that blood services (just like other health facilities including clinics, hospitals, intensive care and high care facilities, medicines, therapies and so on), were less available to black persons, I am concerned here with the work of some clinicians and scientists who were complicit in this specific blood service injustice by citing dated “evidence” that such inequalities were justified on biological grounds.

Pioneering research, conducted at state hospitals and the Bridgman Memorial Hospital for Non European Women (a state assisted missionary hospital linked to the University of the Witwatersrand medical school, and the largest obstetric and gynaecological facility for black women in southern Africa), by Dr A Zoutendyk in the 1940s, showed that in fact black women did evince “... surprisingly high rates of Rh disease”, (the nomenclature of the day regarding all these complex positive and negative blood responses around pregnancy).¹² As Zoutendyk's research, and that of the small coterie of scientists who followed in this wake, was published, it met with resistance from the older medical community. Instead of translating this into a push for a new “service need”, established medical professionals opined about how they deemed it infeasible or too costly to provide. For reasons that are not apparent the newer guard of medical scientists – some of whom held positions in the national health services and in academic institutions – were unable or unwilling to translate their knowledge into a service to address this. Treatment by immune globulin was only discovered in the late 1960s so black pregnant women with this sensitisation would have required extra medical care, and their infants, blood transfusions. Neither routine blood transfusions for much more obvious causes of haemorrhage, nor for this newly established need, were planned in the wake of these published discoveries.

In 1988 and 1989 J. M. Malan, a key researcher at The South African Institute for Medical Research (SAIMR), wrote a series of articles and a monograph on the history of the SAIMR. In these he presented an image of the Institute as apolitical and certainly non racial – in the sense that no mention is made of distinctions being drawn between different South Africans based on race or ethnicity. Established in 1912 as a joint project between the South African Union government and the South African Chamber of Mines, a group represented in all dealings with the SAIMR by the Witwatersrand Native Labour Association, it directed a great deal of its resources and research to screening and diagnostic as well as service planning work. Research funds were leaner in some years. At the heart of its blood work were two main groups: black miners and their related blood transfusion services and needs – a direct link to its close mining association; and the pregnancy related needs of white women. These factors are disguised in the asinine statement:

The Institute ... conducted highly successful research into ... plague, relapsing fever, histoplasmosis, sporotrichosis, bilharzia and numerous other diseases. From the earliest times it was also active in the field of blood transfusion and it was largely as a result of its work that the sting was taken out of haemolytic disease of the newborn, the hereditary blood disorder that in the past had claimed the lives of many babies soon after birth. In the 1950s

12 A. Zoutendyk “Rhesus factor blood types in South African Bantu” *South African Journal of Medical Science*, 1947.

and 1960s the Institute was to extend the scope of its research ...¹³

Long before the post 1968 arrival of immune globulin treatment, the infants of white women, who were Rh sensitised, were offered routine transfusions and steps were put in place to ensure that such white women received special medical care. General obstetric care began to include routine testing for sensitisation and treatment for white women. For these women and their infants “the sting” was indeed taken out of haemolytic disease of the newborn.

The picture for black women was different.

In the early 1950s in South Africa the crisis that white women felt in their experiences of Rh incompatibility was given expression in petitions to the state and contact with medical scientists.¹⁴ Kesson shows that their needs were listened to and that the SAIMR and the transfusions services realised that the extant blood services would not satisfy these transfusions needs. Kesson shows how successive governments used the SAIMR, and its supply of black miners' blood, to meet these needs, despite the Ministry of Health's own regulations and guidelines specifically guarding against this particular “racial cross-mixture” of blood. This system was seen as a direct competition to the SABTS. I do not have the space here to summarise Kesson's findings about the contradictions between racial purity theory, fears of miscegenation, and the South African authorities layered responses to blood product services, suffice to say that the evidence is very compelling of contradictory *de jure* and *de facto* operational forms of knowledge and logics.

Kesson draws on letters and petitions in the archives of the Department of Health to show that in April 1956 the president of the National Council of Women of South Africa reported to the Minister of Health that her society had adopted this resolution:

This conference requests that the vitally important matter of the Blood Grouping of Expectant mothers be brought to the attention of all members of the NCMSA, so that information on this subject may reach all South African women thereby ensuring that the fullest advantage shall be taken by the free RH service offered by the Health Department.¹⁵

While her organisations' call was not overtly racially marked the response most certainly was.

13 J.M. Malan “History of the south African institute for medical research” , *SAMJ* Vol 76. 7 Oct, 1989, p 377; and see also J. M. Malan *In Quest of Health – The South African Institute for Medical Research, 1992-1973*. Johannesburg: Lowry Publishers, 1988.

14 (NOTE: If I have time I will say something here about the international dimensions of this research via work of Dr Mourant – who discovered the antibody anti-e, thus helping to establish the three factor theory of the Rhesus system, and the Lewis factor, and he shared in the discovery of the Kell factor. With R.R. Race and R.R.A. Coombs he went on to develop the antiglobulin test. If there is time I would like to say a few words about his work and the UK National and later also the world blood transfusion science movement, the growth of haematology, research into blood serum and the link between him and WITS and SAIMR-based A. Zoutendyk, and later Trefor Jenkins and the latter's interest in genetics, all of this in turn related to Mourant's 1953 work *The Distribution of Human Blood Groups and other Biochemical Polymorphisms* and in 1958 *The ABO Blood Groups and Maps of World Distribution*. – Held at Wellcome Institute.)

15 C. Kesson “Bad Blood ...” Pp. 46-47.

It is clear that in the mid 1950s authorities in the Union health services were faced with what they regarded as a very serious problem of the high risk of Rh factor incompatibility births amongst white mothers and this was regarded it seemed by some in the state as perhaps the most urgent matter facing antenatal health care for white women. According to a method established in the late 1930s, once Rh incompatibility had been established by the requisite tests, the affected newborn infant would immediately undergo a complete blood replacement transfusion. This lasted several hours, in which the infant's affected Rh positive blood would be removed whilst, simultaneously, undergoing a complete blood replacement transfusion with Rh negative blood. This method, which did not treat severely affected fetuses in utero, remained the only method of treatment until the 1960s.¹⁶ The distribution of Rh negative blood was also mapped statistically to determine genetic frequency across races and numerous studies were done by scientists in the 1940s and early 1950s, usually as part of haemolytic analyses in general, genetic studies or, most commonly in the earlier stages, as part of serological investigations of the differential occurrences of erythroblastosis foetalis across populations. These studies conclusively showed that in populations of European ancestry, the rate of Rh sensitisation was much higher than other communities tested across the world.

Zoutendyk continued his work through to a monograph in the early 1960s. 1950s, culminating in a total compilation of his research in a book in the early 1960s: A. Zoutendyk. *Haemolytic Disease of the Newborn in South African Europeans and Bantu*, based on the thesis he submitted in for the degree of doctor of medicine at the University of the Witwatersrand in 1961. It was later published by the South African Institute for Medical Research. The thesis and the book show that all through the 1950s Zoutendyk, who had published researcher on Rh disease amongst black infants and sensitisation of black women; and who worked for the SAIMR and well knew their blood banking system drawn from black miners, continued his research on blood products drawn from people whose communities would not benefit from his research. In addition in 1956 the national blood transfusions service (the subject of Kesson's thesis) conducted its own survey into ante natal testing and reported on this to the Senior Government Pathologist and Advisor to the Central Government on Pathology Services, Dr. R. Turner.¹⁷

The question before the authorities was this: in the light of research showing definite, although limited, need for blood services to combat Rhesus disease in black people, should medical services in the Union provide first of all Rth screening for black females at state hospitals as it did for white women, and related to this, the full gamut of blood transfusion services for women and infants regardless of colour.

In his thesis Kesson quotes the letter in full but here I shall draw out only the main conclusion:

I see no useful purpose being served by carrying out these tests on pregnant women to

16 K. Landsteiner, A.S. Weiner. "An agglutinable factor in human blood recognized by immune sera for rhesus blood." *Proceedings of the Society for Experimental Biology and Medicine*. 43(1940); P. Levine, R.E. Stetson. "An unusual case of Intra-Group agglutination." *Journal of the American Medical Association* (113: 126. 1939); P. Levine, P. Vogel, E.M. Katzin, L. Burnham "Pathogenesis of Erythroblastosis Foetalis: Statistical Evidence." *Science*, 94. (1941) a; N.M. Abelson, L.K. Diamond. 'The Importance of RH Inhibitor Substance in Anti-RH Serums.' *Journal of Clinical Investigation*. 24:1 (1945); and P. Levine. 'Genetic and constitutional causes of fetal and neonatal morbidity.' *Annals of the New York Academy of Sciences*, 46:9 (1946) and H. Wallerstein. "Treatment of Severe Erythroblastosis by Simultaneous Removal and Replacement of the Blood of the Newborn Infant." *Science*, 103 (1946).

17 GES. Vol. 2328. 148/38E. Shapiro, M. 'Ante-natal testing: SABTS Report to the Secretary of Health.' (25 February, 1956).

indicate that the pregnancies are likely to end disastrously if no facilities are available to avert such a disaster. My recommendation, therefore, is that these blood tests should only be provided as a 'free' service to Bantu women in those areas where proper facilities are readily available, as at Baragwanath, for dealing with any cases of sensitisation as may be found and that such services should not be provided in other parts of the country. To do so would be a waste of public funds. Where the facilities exist, the financial responsibility is a Provincial Administrative and not a Union Government one.¹⁸

Reading this conclusion, without the broader context, could lead an observer to note the casual racism (especially if the reader knew that white women were offered this service routinely), but conclude that this could be a pragmatic decision if no facilities or blood products were available. The broader evidence tells a different story: in all mining hospitals and state facilities as well as the major mission hospital servicing black women in the city of Johannesburg and the Transvaal cities of Pretoria and Johannesburg, Springs and Brakpan, the stores of blood and technological means to extract, store, transfuse it were indeed available and initial research indicates this was also so in other urban centres where the tests were conducted, (the coastal cities of Port Elizabeth, East London, Cape Town and Durban). This regime remained in place until the late 1960s. But by the mid 1970s blood screening and preventative as well as curative treatments were made available to black women and their infants routinely. Shortages of blood products were alleviated through national blood donor campaigns and continued to be bled from miners and industrial workers.

I am still tracing the “out of view” shifts in state and medical professional spaces, revising these decisions, that took place between 1968 and 1978.

By 1980 screening for blood group types in Ante Natal Care (ANC) clinics and wards was an established part of routine care. In 2014 the Rh test is conducted as a “rapid test” (point of care) in ANC settings.

Donating blood and blood collection has remained deeply inflected with race and is still “racialised” in this country. Mandisa Mbali and others have begun to trace this narrative and its consequences.¹⁹ My own interest remains the impact in obstetric and post natal care. By the late 1990s many blood donor clinics in black areas were closed down because of concerns about HIV. The blood donor pool “shrank” dramatically as a result and reproductive health settings were left vulnerable once again.

A medical professional recently recalled:

At Bethesda [a rural hospital] (when we first got there in 1986) we had a blood donor “panel” of staff, whose blood group type was known, so that we could get “fresh” blood to use instead of the “packed cells” (not fresh blood) from Empangeni once a week. The fresh blood was needed for certain medical emergencies. This donor panel was disbanded in 1988, when they found out that 4 of the 60 members of the panel were HIV positive ...²⁰

18 GES. Vol. 2331. 148/38F. Turner, R. 'Letter to the Secretary of Public Health, Dr. Clark.' 22 May, 1958.

19 Mandisa Mbali *South African Aids Activism and Global Health Politics*. London: Palgrave: Macmillan, 2013.

20 J Giddy response to questions in an email, January 30 2014.

Once again, as the SAMJ noted after a national outcry against the “bad science” behind the wholesale destruction of blood from black donors was revealed in 2006, technical capabilities and research and scholarship were ignored and prejudice and injustice prevailed, with long standing physical and social consequences.²¹

21 A. Heyns “Policy and decision making by blood transfusion services in South Africa” *SAMJ*, Vol. 96, No. 5 (2006).