Leilani Muir versus the Philosopher King: Eugenics on trial in Alberta

By: Douglas Wahlsten

Wahlsten, D. (1997) Leilani Muir versus the Philosopher King: Eugenics on trial in Alberta. Genetica, 99, 185-198.

Made available courtesy of Springer Verlag: The original publication is available at http://www.springerlink.com

Reprinted with permission. No further reproduction is authorized without written permission from Springer Verlag. This version of the document is not the version of record. Figures and/or pictures may be missing from this format of the document.

Abstract:

The Province of Alberta in Canada was the only jurisdiction in the British Empire where a eugenic sterilization law was passed (in 1928) and vigorously implemented. The pace of sterilization orders accelerated during the Nazi era and remained high after World War II, terminating only in 1972 when the Sexual Sterilization Act was repealed. The Alberta Eugenics Board operated away from public and legislative scrutiny, and many things done in the name of eugenics were clearly illegal. Eugenics was put on trial in Alberta in 1995 and a judge of the Court of Queen's Bench ruled in 1996 that the government had wrongly sterilized Leilani Muir. After hearing evidence about the history of the eugenics movement, the origins of Alberta's Sexual Sterilization Act, the operation of the Eugenics Board, and details of Muir's life, Madam Justice Joanne B. Veit found that 'the damage inflicted by the operation was catastrophic', the 'wrongful stigmatization of Ms. Muir as a moron ... has humiliated Ms. Muir every day of her life', and 'the circumstances of Ms. Muir's sterilization were so highhanded and so contemptuous of the statutory authority to effect sterilization, and were undertaken in an atmosphere that so little respected Ms. Muir's human dignity that the community's, and the court's, sense of decency is offended'. Veit awarded Muir damages of \$740,780 CAD and legal costs of \$230,000 CAD. The order for Muir's sterilization was signed by John M. MacEachran, founder of the Department of Philosophy and Psychology at the University of Alberta and chairman of the Eugenics Board from 1929 to 1965. An exponent of Platonic idealism, MacEachran believed sterilization of children with a low IQ test score was a means of 'raising and safeguarding the purity of the race'. However, the Alberta Sterilization Act was passed and implemented with cavalier disregard for the principles of genetics as well as the rights of children. Key words: civil rights, fascism, intelligence, racial purity, sexual sterilization

Article:

Introduction

After the Province of Alberta in Canada passed a Sexual Sterilization Act in 1928, there were 2,832 children and adults sterilized by order of the Alberta Eugenics Board until the Act was repealed in 1972 (Faulds, Anderson & Morris, 1996; Muir v. The Queen, 1996). This experience in Alberta was similar in many ways to events in the U.S.A., where the eugenics movement had great influence (Allen, 1995; Brakel, 1985; Hodgson, 1991; Kevles, 1985; Mehler, 1988). Now a recent civil suit in Alberta by a woman sterilized in 1959 has brought to light many facts about the history and operation of the Alberta Eugenics Board that provide a unique glimpse of the inner workings of a eugenics institution. This case has special importance because a judge of the Court of Queen's Bench found in favor of the plaintiff, Leilani Muir, and strongly criticized the conduct of the Eugenics Board (Muir v. The Queen, 1996). Accordingly, this article reviews some salient features of the legal case and the practice of eugenics in Alberta.

Several aspects of the Alberta experience with eugenics are noteworthy, although not entirely unique. (1) Whereas eugenics as a political doctrine was formulated in England by Galton in the 19th century and a eugenics movement was active in the United Kingdom for many years (Allen, 1995; Thom & Jennings, 1996),

Alberta was the only jurisdiction in the British Empire where eugenic sterilization was vigorously implemented (Dickens, 1975; Pocock, 1932/33). (2) Although the principles of Mendelian inheritance were well understood by geneticists in 1928, Alberta politicians and their supporters invoked a crude and archaic notion of heredity (like begets like) when drafting the law. (3) While the horrors of World War II and the Nazi atrocities in the name of genetics further discredited the eugenics movement among scientists, the pace of orders for sterilizations in Alberta did not abate during the period from 1933 to 1945, and there was a high rate for many years after the War. On the contrary, the government actually expanded the scope of the Sexual Sterilization Act in 1937. (4) The Alberta Eugenics Board gradually adopted procedures and practices that were beyond public scrutiny and outside the law. (5) The long-serving chairman of the Eugenics Board justified its actions by invoking Platonic idealism and the concept of the philosopher king. All of these realities converged on Leilani Muir in 1959 with devastating effects.

Why Alberta?

It is somewhat ironic that Great Britain, as homeland of the eugenics movement, never implemented compulsory sterilization and that almost the entire British Empire spurned this approach. Part of the reason for this can be found in the words of Langdon-Down (1926/27), a foremost British medical expert on mental deficiency. He noted that when a law is to be drafted, 'it is no longer sufficient to deal in generalities' because the law must be applied to individual cases, not mental deficiency in the abstract. Therefore, Parliament must be convinced 'the person to be sterilized is the subject of a germinal abnormality, and that children procreated by that person would have similar defective inheritable tendencies'. Furthermore, it should be shown that the problem of mental defectives is growing unchecked, and that 'the beneficial result to be anticipated would be sufficiently great to justify the enforcement of sterilization...' (p. 205). Langdon-Down (1926/27) then pointed out that many cases of mental defect are not hereditary or have no known cause, and that most cases of mental defect arise *de novo* from evidently normal parents; hence no scientific and legal case could be made to sterilize specific individuals. Instead, he and the British Parliament believed that 'the best mode of life (rather than the best method of treatment) is the appropriate colony...' (p. 208) that would best serve the interests of the person with a mental defect by segregating them from society.

It was also widely accepted among British intellectuals and political figures in the early decades of the 20th century that poverty and an unhealthy environment were important factors in childhood mental deficiency (Thom & Jennings, 1996). Furthermore, the massive loss of life in the First World War and a declining birth rate engendered public support for pronatalist policies rather than prevention of births. Consequently, the Eugenics Society itself, with its many illustrious members including avowed leftists and socialists (Kevles, 1985), did not campaign tirelessly for compulsory sterilization in Great Britain.

Eugenics in America was a rather more virulent strain, much admired and emulated later by the Ger-man Nazis (Allen, 1995; Chase, 1977; Devlin et al., 1995), and it was clearly this strain that infected leading members of Alberta society. Although Canada was an integral part of the British empire at the time, the Western provinces were geographically closer to the U.S.A. and were strongly influenced by American trends. Alberta in particular was a young, agrarian and inexperienced province, joining the Canadian confederation in 1905 with a population of only 185,412 in 1906 (Blue, 1924a) and no scientific infrastructure. The Canadian prairies were being populated rapidly by immigrants of diverse origins, and the eugenics movement in Alberta found fertile soil in an existing political opposition to immigration of any but the protestant Anglo-Saxon (Chapman, 1977). In the 1920s the Ku Klux Klan also came to Alberta and found support for its anti-Catholic, anti-open immigration activities (Henson, 1977). It is apparent that during the period when the Alberta government was moving towards the implementation of eugenic sterilization, the influence of radical right-wing ideas emanating from the U.S.A. was strong in the higher echelons of Alberta society. Nevertheless, American-style racism was not deeply and universally entrenched among the people of the province, and many of the offspring of black Americans who migrated to rural Alberta around 1910 later recounted a childhood where they were never slighted, maligned or made to feel inferior because of the color of their skin (Finlayson, 1996). The adjacent provinces of Saskatchewan and British Columbia also shared a British heritage overlain by American influence, and the K.K.K. was very active there in the 1920s as well (Henson, 1977). Nevertheless, Saskatchewan never

passed a eugenics law and British Columbia passed one but did not enforce it with the same enthusiasm as in Alberta (McLaren, 1990). Although further historical research into this question is needed, it seems likely that the earnest efforts of relatively few people were able to triumph in Alberta while they failed elsewhere in Canada because of a slightly different alignment of forces or an array of local factors unique to Alberta.

Mendelism as propaganda

Prior to Mendel and the rediscovery of Mendel's laws in the early 1900s, the common conception of heredity was a crude 'like begets like' that confounded the influences of what we now think of as heredity and environment. Mendel demonstrated that for certain characteristics, heredity was particulate, the contributions of male and female parents were equal, and distinct patterns of transmission occurred across generations, leading to precise ratios of different characteristics among the offspring. In the early decades of the 20th century, it was the occurrence of these distinct patterns and precise ratios that provided the decisive evidence that a disease or disorder was of genetic origin. For recessive disorders, like did *not* beget like, and for dominant inheritance there was only a statistical risk (50%) of transmission to a child. Thus, Mendelian inheritance was a radical departure from 'like begets like', and any person educated in the new biology would know this.

Examples of Mendelian inheritance in fruit flies and laboratory mice began to accumulate rapidly, but few good cases could be made for humans in the 1920s. Inspired by the theory of evolution that proclaimed the common biological heritage of all animals, including humans, some scientists presumed that similar principles must be at work in the human brain to cause a wide variety of mental disorders and social deviations. Feeble-mindedness and even pellagra were attributed to Mendelian genes on the basis of flimsy evidence (Chase, 1977), and zealous proponents of eugenics used Mendelism as a propaganda tool to sway public opinion.

This was obvious in Alberta where one of the foremost advocates of eugenic sterilization was Emily Murphy, the first female magistrate in the British empire. As police magistrate she came into contact daily with the lowest echelons of society who appeared to her to lack the essential intelligence and moral sense to function adequately. In a petition to the Alberta Legislative Assembly, Murphy (1914) and other pillars of society stated that mentally defective children are 'a menace to society, and an enormous cost to the state', and they argued that 'science is proving that mental defectiveness is a transmittable hereditary condition'. She lectured widely on the dangers of bad genes. In June of 1926 the Lethbridge Herald reported: 'Magistrate Murphy pointed out that 75 percent of the cause of insanity and feeble-mindedness is due to heredity' (cited in Christian, 1973). Shortly before the government passed the Sexual Sterilization Act, Magistrate Murphy (1927) wrote to Mr. George Hoadley, the Minister of Agriculture and Health, about two female mental patients who already had several children. She told Hoadley: 'In my opinion, it is a neglect amounting to a crime to permit these two women, Mrs. – and Mrs. – [sic] to go on bearing children. They are both young women – and likely to have numerous offspring unless they are sterilized before leaving the hospital'. She later credited the research of "...the eminent authority on insanity, Dr. Goddard..." for demonstrating the link between heredity, feeblemindedness and crime (Murphy, 1932, cited in Christian, 1973), even though Goddard's work had been decisively refuted (see Chase, 1977; Gould, 1996).

After the Sexual Sterilization Act was passed in 1928, Hoadley as minister responsible was interviewed by Hilda Pocock, the Secretary of the Canadian Eugenics Society, who reported: 'He is himself a farmer, and was struck, in the course of his business, with the importance of the laws of inheritance as applied to stock raising. Taking that application further to the human being, he came to the conclusion that in a new country, with a population of moderate size in healthy surroundings, some definite step should be taken to prevent the weakening of the race by the production of sub-normal individuals' (Pocock, 1932/33). Hoadley left school at the age of 16 and became a merchant in England, then became a rancher in Alberta, was chosen leader of the provincial Conservative party, and finally defected to the United Farmers of Alberta (Blue, 1924b; Monto, 1989). He was not trained in biological or agricultural science, yet he was the man in charge of eugenic tampering with human reproduction.

The 1928 Sexual Sterilization Act itself named four individuals to a board and gave them authority to examine all inmates in provincial mental hospitals. Section 5 stipulated: 'If upon such examination, the board is unanimously of opinion that the patient might safely be discharged if the danger of procreation with its attendant risk of multiplication of the evil by transmission of the disability to progeny were eliminated, the board may direct in writing such surgical operation for sexual sterilization of the inmate ... and shall appoint some competent surgeon to perform the operation'.

Thus, the prestige of new discoveries about Mendelian heredity served to sway political opinion in favor of eugenic sterilization, but the view of heredity espoused by leaders of the Alberta eugenics movement and written into the Sexual Sterilization Act was an archaic 'like begets like' that claimed the disability itself was transmitted by heredity. Whereas Langdon-Down (1926/27) fretted about the difficulties of proving in a court of law that a specific individual did in fact have a defect of heredity, the Alberta government conveniently set up a special group of political appointees outside the courts and lacking expertise in genetics.

Expansion of eugenics during the Nazi era

Almost a year after the Act was proclaimed law, Hoadley called the first meeting of the group that thenceforth called itself the Eugenics Board, an appellation not enshrined in Alberta law until 1960 by an Order in Council. The Board elected John M. MacEachran chairman, a position he held from 1929 until 1965, and began to develop its own policies and procedures. That first year only four inmates were ordered to submit their reproductive organs to the surgeon's scalpel, but the efficiency of the Eugenics Board quickly increased and over 100 sterilizations were approved in 1934 (Chapman, 1977).

Section 6 of the original Act required that the operation could not be done unless the inmate or a close relative or guardian consented. Consent was usually obtained, but this provision was viewed as an impediment by the Minister of Health in the new Social Credit government, Dr. W.W. Cross, who lamented that thou-sands rather than hundreds should have been sterilized. The Act was amended in 1937 to remove the requirement of consent for 'mental defectives' deemed to have low intelligence, and the scope of the Act was also expanded to cover cases 'arising from inherent causes or induced by disease or injury' (Sexual Sterilization Act, 1942).

<i>Table 1</i> . Sterilizations approved	and performed	in 5-year periods
by the Alberta Eugenics Board*		

Years	Cases passed	Operations performed
1929–1933	288	206
1934-1938	995	438
1939-1943	638	273
1944-1948	548	211
1949-1953	426	246
1954–1958	577	367
1959-1963	559	454
1964-1968	495	446
1969	60	63
1970	62	63
1971	\sim 80	>50

^{*}Source: Eugenics Board (1970), p. 153, except for 1971 taken from Alberta Health (1972).

These amendments made virtually every inmate of Alberta mental institutions vulnerable to sterilization, and deliberations of the Board on each case declined from about one hour in the early years to five minutes or less after 1937. From 1929 to 1972, the Board approved 4,725 of 4,800 cases brought before it (Thomas, 1995c). In 1959 when Leilani Muir appeared before the Eugenics Board, 94 of 95 cases were passed (Eugenics Board, 1959). As shown in Table 1, the annual number of sterilizations ordered was highest just before and during World War II. However, the Board remained very active until the Act was repealed in 1972 after the Social Credit government was finally defeated at the polls. Some of those ordered to be sterilized never had the

operation, and this was primarily because of a shortage of resources, especially during the Great Depression and the War years.

Although atrocities committed by the German Nazis in the name of genetics discredited the eugenics movement in Great Britain (Thom & Jennings, 1996) and utilization of sterilization statutes in several states of the U.S.A. gradually declined after the Second World War (Ferster, 1966), lessons from this dark period of human history appeared to have little or no impact on the operation of the Alberta Eugenics Board. Neither was the Board swayed in the least by the strong repudiation of eugenic ideas by leading scientists (e.g., Myerson et al., 1936). By 1936, the Board had firmly established its operational procedures and principles, and it continued its work with the full support of the Social Credit government, later led by Ernest Manning, Premier from 1943 to 1968 (father of Preston Manning, current leader of the Reform Party of Canada). In a post-retirement interview in 1980, the elder Manning expressed his unqualified support for the work of the Eugenics Board (Thomas, 1996).

Out of the spotlight

The actions of an official government body cannot always be blamed on the voters who keep a party in power, especially when the constituents are not well informed. So it happened that, following the strident public debate around the time of the passage of the Act in 1928, most of the activities of the Eugenics Board were conducted away from public and even legislative scrutiny. The Board typically met several times each year in closed sessions and then the chairman submitted reports to the Minister responsible. What eventually appeared in the published record, the Annual Reports of the Department of Public Health, provided little more than body counts of cases heard, passed and sterilized.

Many leading figures in Alberta society certainly knew of the existence of the Eugenics Board and approved of its professed aims, although they were not privy to details of its actions. The Act stipulated that, when vacancies on the Board occurred, new members should be appointed so there would always be two medical practitioners, and these physicians were to be nominated by the Senate of the University of Alberta, itself a body appointed mainly by the government. The members of the Senate were not required to and frequently did not have any academic qualifications. Every few years the Senate was asked to nominate a new member to the Eugenics Board. Thus, many Senators must have known that a eugenic sterilization program was in operation.

The President of the University of Alberta in 1934, R.C. Wallace, was an outspoken advocate of eugenic sterilization who, in his official capacity, addressed the Canadian Medical Association annual banquet in Calgary on 'The quality of the human stock'. Echoing the words of farmer Hoadley, he lamented: 'Science has done very much to raise the quality of the stock in the domesticated animals which man has reared for his service; it has done virtually nothing to raise the quality of the human stock'. (Wallace, 1934). He instructed the assembled physicians that the time had come 'to make eugenics not only a scientific philosophy but in very truth a religion'. In a final note of optimism, he told delegates: 'Even now, the mentally incapable and the habitual criminal are in some centres emasculated, and it is not without some measure of propriety that I deal with race quality at a medical convention in Alberta, for the province has been in the van in these measures in Canada'. (p. 429)

There was an even more intimate and durable connection with the University of Alberta. The chairman of the Eugenics Board for most of its existence, Dr. MacEachran, founded the Department of Philosophy and Psychology and was a leading figure on the campus until his retirement in 1945. A MacEachran Prize for the best student essay on philosophy was established in his honor, and after MacEachran died in 1971 at the age of 94 the Department of Psychology initiated the MacEachran Memorial Lecture Series which continues to this day.

Whereas the advocates of eugenics spoke openly and with some pride during the upsurge of fascism in the 1930s, their voices were muted by World War II and it became less acceptable to honor such deeds in polite society. None of the publicity surrounding MacEachran's retirement or death mentioned his role as the man responsible more than any other for implementing eugenics in Alberta. Upon his retirement, the University

alumni magazine remarked about his 'spirit of open-mindedness, liberalism, and tolerance' and how his home was 'a centre of gracious hospitality and unfailing kindness'. (For merit ..., 1945). Upon his death, the same semi-official University publication once again listed those fine qualities (J.M. MacEachran, 1972). The competition for the MacEachran Prize in philosophy began each year with proclamation of a formal list of approved topics, none of which included eugenics over a period of many years. When the MacEachran Lecture Series was announced in 1975, the official news release only hinted that he 'was instrumental in the mental health movement in Alberta' (Thomas, 1975). Although some people at the University of Alberta in the 1970s must have been aware of MacEachran's role on the Eugenics Board but were embarrassed to mention this in public, many more did not know that he had personally signed the orders for sterilization of over 2,000 children and adults in provincial institutions.

In 1969 there were expressions of genuine shock when several cases came to public attention in the press of women previously sterilized by the Eugenics Board who made 'surprisingly articulate' requests for medical help to restore their fertility (McWhirter and Weijer, 1969). This prompted two University of Alberta professors to review the Act and the operations of the Eugenics Board. They examined the science behind the act and concluded '...the present appearance of the act is scientifically illiterate' and they found many of its provisions to be anachronistic. In the opinion of McWhirter and Weijer (1969): 'From the legal, social, and scientific standpoints the act is a disgrace to the whole of Canada. Its legal defects, coupled with its scientific 'nonsense-clauses', should ensure that it, like some other Alberta acts, will be consigned to the rubbish heap'. The Social Credit government stood by its policy of eugenic sterilization (Thomas, 1996) until it was trounced in the 1971 provincial election, and the Act was promptly repealed by an outraged legislature.

Outside the law

The secrecy of the Eugenics Board and its close cooperation with the Social Credit government led to a situation where the Board was able to do things that were not sanctioned in the Sexual Sterilization Act. As discussed by Christian (1973) and Robertson (1995), the hearing of cases became a perfunctory rubber stamping of recommendations by the Superintendent of the Provincial Training School (PTS) in Red Deer, Alberta, where children said to be mentally defective were confined. The Board and the Superintendent formed a close working relationship and jointly regarded the inmates of the PTS as unworthy of basic rights, to the extent that the children were routinely used in a variety of experiments.

The Medical Superintendent of the PTS appointed in 1949 was Dr. L.J. le Vann, a physician born in New Jersey, U.S.A., and educated in Edinburgh, who believed that "...the picture of comparison between the normal child and the idiot might almost be a comparison between two separate species' (le Vann, 1950). Although never accredited as a psychiatrist, Superintendent le Vann used the inmates of the PTS in a series of experiments involving powerful anti-psychotic drugs such as trifluoperazine (up to 15 mg per day; le Vann, 1959b), thioridazine (up to 200 mg/day; le Vann, 1961), trifluperidol (up to 3 mg/day; le Vann, 1968), haloperidol (up to 12 mg/day; le Vann, 1969), and chlorpromazine (average dose 140 mg/day, le Vann, 1971). In a telling comment in his paper on thioridazine given to 97 children at the PTS, le Vann (1961) recalled that 'All of these children had failed to respond to one or more phenothiazine compounds. In all cases, even with dosages which produced severe side-effects, there had been no improvement'. [my italics – DW] As a girl, Leilani Muir was given phenobarbital, chlorpromazine and haloperidol at the PTS despite the absence of indications of psychosis. Clearly, the defenceless children in the PTS were sequestered as guinea pigs for le Vann's experiments on behavioral control. Of course, what we today see as unethical and inhumane treatment was then acceptable to not only the Alberta Eugenics Board but also the editors of several American and Canadian medical journals where le Vann's research was published. [This was the same Dr. le Vann (1963) who in a survey of malformations in Alberta children gave a clean bill of health to thalidomide and blamed radioactive dust from Soviet nuclear tests.]

The Eugenics Board was directly implicated in some of le Vann's other experiments. He was working on a project entitled 'A study of Spermatogenesis in Mongols' and needed testicular tissue from trisomy-21 males. The Eugenics Board assisted le Vann by ordering testicular biopsies of at least 15 Down syndrome males, and

the actual surgery sometimes entailed unilateral orchidectomy (castration), despite the widely accepted fact that these males were sterile and their Down syndrome was not hereditary (Robertson, 1995; Thomas, 1995d; Muir v. The Queen, 1996). Another member of the Eugenics Board from 1960 to 1962, a medical geneticist named Margaret Thompson, gave le Vann detailed instructions on methods for taking tissue samples from testicles and expressed interest in examining Down syndrome testicles for her cytogenetic research. At trial over 30 years later she defended the approval given by herself and the Board for sterilizing Down syndrome boys by claiming that, although it would be in all likelihood unnecessary, nothing would be lost by sterilizing such an individual to 'make assurance doubly sure'. (Muir v. The Queen, 1996; Thomas, 1995d)

Platonic idealism becomes an applied science

The historical origins of the Sexual Sterilization Act and the development of policies for implementing it are clear enough, but what was the theory behind the practice of eugenics in Alberta? Political philosophy of the ruling parties provides little help in understanding this. The United Farmers of Alberta that originally passed the Act in 1928 was a diverse, populist movement with no official ideology, and the UFA embraced reactionary schemes against immigration as well as progressive ideas of publicly funded health care (Mon-to, 1989). The Social Credit movement that brought the Aberhardt government to power in 193 5 was officially based on the philosophy of C.H. Douglas (1933), a British writer known for his bizarre monetary policies and his ravings against Jews. However, Social Credit in power in Alberta soon gave up trying to implement Douglas' proposals and instead set its own idiosyncratic, elitist and pragmatic course (Finkel, 1989).

Perhaps the best source on this question is the long-serving chairman of the Eugenics Board, Dr. John A. MacEachran. Although he published very little on this or any other topic, some of his writings and speeches in defence of eugenics after he became Board Chairman explain his rationale. Because he was intimately involved with the Board for over three decades and gave the matter some real attention, unlike his political overlords, MacEachran can be regarded as the foremost authority on this topic.

MacEachran came to a vigorously growing Alberta in 1909 with a blue ribbon education (Green, 1946). He obtained his M.A. degree in philosophy at Queen's University in Ontario and studied under Wilhelm Wundt, a pioneering figure in experimental psychology, in Leipzig, where he completed a Ph.D. dissertation on pragmatism. He then embarked on post-doctoral studies at the Sorbonne in Paris, taking courses from Durkheim in sociology, Binet in psychology, and Bergson in philosophy (For merit..., 1945). As Head of the newly established Department of Philosophy and Psychology and then Provost of the fledgling University of Alberta, this young man immediately became the most senior and respected academic in Alberta in his chosen fields.

After three years as Chairman of the Eugenics Board, MacEachran (1932a) published an essay entitled 'A philosopher looks at mental hygiene', where he set forth his philosophical grounds for eugenics, although he did not mention contemporary eugenics in the article. He placed great emphasis on the writings of Plato and the importance of *prevention* of disease. He quoted with great admiration several passages in the *Republic*:

[Asclepius] did not want to lengthen out good-for-nothing lives, or to have weak fathers begetting weaker sons; if a man was not able to live in the ordinary way, he had no business to cure him; for such a cure would have been of no use either to himself, or to the state.

This is the sort of medicine, and this is the sort of law, which you will sanction in your state. They will minister to the better natures, giving health both of soul and of body; but those who are diseased in their bodies they will leave to die, and the corrupt and incurable souls they will put an end to themselves.

MacEachran also cited with approval Plato's measures to regulate marriage and reproduction in the interests of 'the purity of the race'. Again quoting Plato's *Republic*:

The proper officers will take the offspring of the good parents to the pen or fold and there they will deposit them with certain nurses who dwell in a separate quarter; but the offspring of the inferior, or of

the better when they chance to be deformed, will be put away in some mysterious, known place, as they should be.

He found merit in Plato's proposal that the state be ruled by a class of 'philosopher kings', the most intelligent among all citizens, who were to be intensively trained in music, art, science and philosophy for the first 35 years of their lives. [It is somewhat ironic that MacEachran himself became Provost at the University of Alberta at the age of 35 after studying music, art, science and philosophy.] MacEachran called for 'a purification of our politics based upon knowledge and understanding of the great problems that confront us, and freed from private interests and corrupt party politics'. Likewise, he claimed 'the Church needs a *katharsis*' and he saw a need for 'efforts, free from religious prejudices and theological dogma, which may, perhaps, hope for reasonable success where the Church has failed...'

It is clear from this essay that the author was not merely reciting Platonic philosophy in a detached manner. Instead, he found much enduring truth in Plato, whom he adulated as 'the greatest philosopher of antiquity, and perhaps the greatest philosopher of all time', and he urged his readers 'to make up for much time sadly lost in straying from the path indicated by Plato...' The goal of these changes in society was for MacEachran 'the achievement of human perfection and the realization of human happiness'. This goal was to be achieved by the elimination of the imperfect as well as extensive education for the best, and all of this was to be implemented by an all-powerful state that did not recognize any fundamental rights common to all.

It is apparent that one important philosophical inspiration for MacEachran's eugenics was a Platonic idealism that recognized a pure and perfect type of human, a concept fundamentally opposed to the Mendelian view of hereditary individual differences and the Darwinian view of progress through evolution, and that advocated supremacy of an elitist state, a concept fundamentally opposed to democracy. By expressing his contempt for the political and religious leaders of his era and blaming them en masse for almost every shortcoming in the world, it appears that he thought of himself as the modern embodiment of Plato's philosopher king.

It seems likely he was also influenced by the doctrine of Kant and the racial purity theories of Ernst Haeckel that he may have studied while in Germany at the turn of the century. The ideas of Haeckel, Herbert Spencer and other philosophical fathers of the Monistic Alliance more directly inspired eugenic policies of the Nazis than did Plato (Chorover, 1979; Lerner, 1992; Meyer, 1988). However, in the context of Alberta in the 1930s MacEachran thought it dignified and acceptable to cite the familiar writings of an ancient sage in support of ideas that were simultaneously being applied in Germany vigorously and with less finesse.

MacEachran had almost no influence on science or intellectual life outside Alberta. He never published even one original contribution to philosophy or psychology during his entire career as a university professor. Instead, he became an administrator and strove mightily to influence public opinion in an adolescent Alberta. He spoke to groups outside the university, telling the United Farm Women's Association of Alberta in 1932 that they should 'consider the problem of the administration of justice ... in the light of the new scientific attitude to social problems...' Continuing in this vein, he told them: 'We should endeavour to get away from a very costly form of sentiment and give more attention to raising and safeguarding the purity of the race. We allow men and women of defective intelligence or of criminal tendencies to have children ... There is one remedy for such eventualities and we fortunately have begun to make use of it in Alberta – although not yet nearly extensively enough. This is the Alberta Sterilization Act. Since the state must assume most of the load of responsibility in connection with defective children, it surely is justified in adopting reasonable measures to protect itself against their multiplication' (MacEachran, 1932b; p. 3). This address was then published widely in Alberta by the Department of Extension of the University of Alberta.

Extension was an important part of MacEachran's plan to propagate his ideas. In another address he spoke about the role of the University in Alberta: 'This institution set to work from the beginning not only to train men and women for the professions and for intellectual leadership generally, but to carry its influence more directly throughout the Province to its remotest corners through the agency of an Extension Department, which has

steadily continued to expand its scope and increase its appeal to the general public ... the latest project to be added to its activities is the distribution of knowledge in connection with the Mental Health movement, through lectures in various centres, radio talks, bulletins and weekly newspaper articles which will reach practically the whole population of the Province' (MacEachran, 1933, p. 6). One of the earliest press bulletins issued jointly by the Department of Extension and the Alberta division of the National Committee for Mental Hygiene was a report of a twin study by Lange in German prisons that purported to show how criminality is entirely hereditary and one-egg twins are 'duplicate personalities' (Smith, 1931). MacEachran (1933) observed that all Arts and Sciences students as well as those in the professional faculties and the School of Education received 'solid grounding in philosophy' (undoubtedly Plato) and 'special courses in Psychology embodying the general outlook and main principles of Mental Hygiene'. Furthermore, 'All teachers in training are required to attend a certain number of Clinics in Mental Hygiene. For the success of our programme on the educational side, it is obvious that we must look mainly to the teaching profession...'

In his diverse activities within and beyond the University of Alberta, MacEachran worked diligently to make philosophical idealism into an applied science. While eschewing party politics, he worked closely with the party in power and utilized university resources to propagate his own vision of a pure and perfect humanity. He was not only a man of words. As Chairman of the Eugenics Board he did his utmost to prevent the procreation of those unfortunate children who ended up in public institutions.

The case of Leilani Muir

Of course, we cannot gain a complete understanding of a man or an institution he lead only by the words he wrote about himself and his Eugenics Board. It is imperative that we examine the practice of eugenics in Alberta in order to comprehend the full meaning of the written word. A random sample of 20 percent of the formal case records maintained by the Eugenics Board was scored on several variables and analysed by Christian (1973), but these records did not reveal the finer details of individual cases. A recent court case, however, has been most illuminating, even though it involved a sample size of one.

Leilani Muir sued the Alberta government for wrongly confining her in the Provincial Training School (PTS), stigmatizing her as a moron, and sterilizing her. Rather than apologize and offer an acceptable settlement out of court, the Province insisted on a full trial, and that trial in 1995 brought to light more facts than government lawyers anticipated. The published record of the trial currently consists of the judge's formal decision and reasons for judgment plus a summary of facts (Muir v. The Queen, 1996), a synopsis of the case and a chronology by Muir's lawyers (Faulds, Anderson & Morris, 1996), numerous newspaper articles written by journalists in attendance at the trial, and a documentary film (The Sterilization ..., 1996). I also attended several sessions of the court, spoke with lawyers, and interviewed Muir and other former PTS inmates. Several other people are now suing the Alberta government in the wake of Muir's successful lawsuit, and they claim that Muir's experiences were not at all unique.

Childhood: Leilani Marietta Muir, then known as Lellani Marie Scorah, was born July 15,1944, in Calgary, Alberta, into a family that was poor and moved frequently. The identity of her father was uncertain. Her mother was married to Earl Bertram Draycott who was in military service overseas when Leilani was born. Little information is available about her early history, but it is apparent that she was an unwanted, unloved, and abused child. She was not allowed to eat at the table with her family, and her mother attempted to starve her, although her brothers gave her food on the sly and she stole what she could. At school she was punished for stealing food from other children, but there was no suggestion she was failing in her school work. In a memorandum to le Vann in 1952 from the chief psychologist at the provincial guidance clinic in Calgary, reference was made to Leilani stealing food, but it was stated flatly: 'She is not reported as a school problem' (Muir v. The Queen, 1996, p. 703; emphasis added by Veit).

Admission to the PTS: Muir recalls vividly that her mother wanted her out of the house and made several attempts to get rid of her. In 1952 at the age of eight she was placed in the Midnapore Convent for a month. Then in 1953 her mother made application to have her admitted to the Provincial Training School for Mental

Defectives in Red Deer (Scorah, 1953). The process was not completed at that time because there was no vacant bed, but two years later on July 12, 1955, she was indeed admitted shortly before her 1 1th birthday. All of the information on the official application form was provided by her mother and possibly by her mother's boyfriend, Harley Scorah. The signature on the admission form purported to be that of Harley Scorah but handwriting evidence suggested it was signed by Leilani's mother. Mr. Scorah did not marry her mother until 1964 and therefore had no legal authority to sign anything regarding Leilani's future. The family was never at any time prior to her admission visited by a social worker to investigate its circumstances, and Muir was never seen by a psychologist or given an IQ test prior to admission. Neither was she given a medical health examination by a physician prior to admission. It appears that admission was based entirely on words written and spoken by her mother, who wanted to unload her onto the state, plus a brief interview with Dr. le Vann.

The testimony in the PTS Application Form referred to a child who talks 'intelligently' but has attended school 'off and on' and reads 'very little'. The major complaint about young Leilani was clearly her bad behavior, especially around food, where she was condemned for 'taking great amounts of food' and 'stealing any thing in a line of food, pills, money or other articles'. Concerning eating habits, she 'will swallow without regard to taste'. She was also described as 'indolent', 'bossy and impulsive', and 'bad tempered', the choice of words being made from a prompting list printed on the admission form. Leilani's mother described herself and Scorah as 'always men-tally sound'. In response to the question 'Were any of her family (grandparents, parents, uncles, aunts, brothers, sisters, cousins) mentally defective, nervous, insane, epileptic, alcoholic or in any way afflicted in body or mind?' the answer was a terse 'Nil'. Thus, they set forth a case that the parents and their ancestors were just fine but Leilani was a troublesome child who needed special care. However, her mother had openly admitted to the staff of a provincial guidance clinic in 1951 that she had been a heavy drinker for many years, including the period when her daughter was in gestation.

On the day of admission to the PTS, a formal document was signed by her mother using the name of Harley Scorah stating: 'I am agreeable that sterilization be performed on my child Lellani Marie Scorah if this is deemed advisable by the Provincial Eugenics Board'. (Scorah, 1955). This was a precondition to admission.

Four days after her admission, Leilani was finally seen by Superintendent le Vann (1955), who him-self completed the Physician's Certificate required for admission. On the portion of the form asking for 'FACTS INDICATING MENTAL DEFICIENCY OBSERVED BY MYSELF' only two observations were recorded: 'Pleasant looking child. Talks easily and volubly'. The designated locations for results of an IQ test were blank. One month after admission, le Vann contacted the Provincial Guidance Clinic in Calgary where Leilani had been seen previously, and he was told in a memorandum that a psychiatrist, Dr. Hanley, 'thought that there was an emotional involvement rather than a primary mental defciency' (Muir v. The Queen, 1996, p. 705; emphasis by Veit).

Altogether, these official documents provide not one shred of evidence pointing to mental deficiency in Leilani Muir as a young girl. The only negative indication is a history of stealing food and other items, a history that was obviously related to a poor family environment. Perhaps Muir would have been a suit-able candidate for foster care or adoption, which were available on a limited scale in the Province of Alberta at that time, but unfortunately she was taken to the PTS run by Dr. le Vann, who had a vacancy in 1955 and favored admission of 'high grade morons' that subsequently served as subjects in his drug studies.

Leilani Muir meets the Eugenics Board: Two years and four months after admission to the PTS, when she was 13 years of age, Leilani Muir was recommended by Dr. le Vann (1959a) for sterilization. She became Eugenics Board case number 3280, and after a brief personal appearance at the PTS in Red Deer before the four Board members on November 22, 1957, was ordered to be sterilized. The case summary from the PTS presented to the Eugenics Board (E.B. #3280, 1957) gave her a formal diagnosis of 'Mental defective Moron'. However, certain details of the case summary suggested otherwise. Her school performance after two years at the PTS was not that of a moron: 'Since admission to the School, she is doing very well in school, is good in spelling and arithmetic and is a good reader. Lellani is excellent in dramatization and neat in all her work'. The only

negative indication of mental ability was an IQ test. One week prior to her appearance before the Eugenics Board, she was taken to the Calgary Guidance Clinic and given an unspecified IQ test with the reported result: 'Verbal I.Q. 70, Performance I.Q. 64, Full Scale I.Q. 64'.

Her education at the PTS, designed for mentally deficient children, had certainly been inadequate, and the circumstances of the IQ testing were most unfavorable. There was a long journey by automobile to a strange city and then the unfamiliar procedures of formal psychological testing in an unfamiliar environment by unsympathetic personnel who knew she was from the PTS and was scheduled for a hearing before the Eugenics Board. It was common practice to send a child to Calgary for an IQ test shortly before the Board met to hear the case, and it was common knowledge among the children themselves that this strange experience would soon be followed by a session with four stern adults. The IQ test score was then used as a major grounds for sterilization of child 'mental defectives' but not adult psychotics (Christian, 1973). At the trial the court found that she had been of normal intelligence despite the reported IQ score of 64 in 1959 (Muir v. The Queen, 1996).

The PTS case summary also set forth other complaints against Leilani Muir. The documents displayed in a prominent position the fact that her parents were 'Irish-Polish' and her religion was Catholic. As Christian (1973) found, people of Eastern European ancestry and Catholics were more likely to be sterilized in Alberta than Anglo-Saxon protestants. Another concern was her behavior: 'She is quick tempered and finds it hard to take correction ... She is hard to manage and is nearly always off privileges because of her bad temper, impudent and quarrelsome ways'. In addition, at the age of 13, 'Lellani has shown a definite interest in the opposite sex'. The document made it clear that they were not about to discharge their ward and in fact planned to keep her in an institution with 'strict super-vision' for many more years. [When she did leave the PTS eight years later in 1965 at the age of 20 after receiving only a grade 5 education, it was against the wishes of the Superintendent.] Thus, the sterilization was ordered to serve the convenience of the PTS staff that did not want to worry about a possible pregnancy in one of their inmates. This was a purpose recognized by the Eugenics Board but not authorized under the Sexual Sterilization Act.

The operation: Nevertheless, Eugenics Board Chair-man John M. MacEachran and three others signed the Directions (1957) for sterilization 'to eliminate the danger of procreation, with its attendant risk of trans-mission of the disability to progeny'. Over one year later, on January 18, 1959, she was admitted by Dr. le Vann (1959a) to the Clinical Building at the PTS and the next day she underwent bilateral salpingectomy (destruction of the fallopian tubes) and 'routine' appendectomy by Dr. R.V. Parsons, assisted by Dr. le Vann himself. Their terrified and unwilling patient was told only that she was having her appendix removed. The appendectomy for a healthy girl was not authorized by Alberta law, nor was consent for the procedure obtained from a parent.

Aftermath: Ms. Muir left the PTS in 1965 of her own volition and 'against medical advice' to begin an independent life working as a waitress. She married but was unable to conceive, so she began a difficult 15-year effort to discover the cause of her infertility and possibly have the damage reversed. The first marriage failed, as did a second, and her infertility and stigmatization as a moron haunted every day of her adult life.

She became depressed and sought professional help while living in Victoria, British Columbia, in 1989. As part of the process of deciding whether she would be a good prospect for group therapy, she was given an I.Q. test and scored 89 on the Wechsler Adult Intelligence Scale, much to the surprise of Dr. George Kurbatoff who administered the test and was told of her background (Muir v. The Queen, 1996; Thomas, 1995a). Muir then asked the Edmonton law firm Field & Field Perraton to sue the Alberta government on her behalf. They sent her to the educational psychology clinic at the University of Alberta for another assessment by Dr. Peter Calder, who at trial remarked: 'Here is a bright, responsive lady. There was a sharpness to her. She picked up on issues quickly...' (Thomas, 1995b). Living in a better environment, no mental defect was apparent.

Eugenics on trial

The case finally went to trial on June 12, 1995, in the Court of Queen's Bench in Edmonton, the Honor-able Madame Justice Joanne B. Veit presiding. Over a period of four weeks, evidence on Muir's life history as well

as the history of the eugenics movement, the origins of the Sexual Sterilization Act, and the operations of the Eugenics Board, was presented, and extensive cross-examination was conducted. After receiving final arguments and rebuttals in writing, Veit issued her decision (Muir v. The Queen, 1996). Highlights of this strongly worded and precedent-setting decision are cited here.

- '[1] In 1959, the province wrongfully surgically sterilized Ms Muir and now acknowledges its obligation to pay damages to her. However, the Province leaves to the court the determination of how much the province should pay. The sterilization was irreversible; the testimony of Ms Muir is supported by independent evidence and establishes that the physical and emotional damage inflicted by the operation was catastrophic for Ms Muir. The injury has haunted Ms Muir from the time she first learned what had been done, through to the time when she fully realized the implications of the surgery. Her suffering continues even today and will continue far into the future. ...'
- '[2] The damage inflicted by the sterilization was aggravated by the associated and wrongful stigmatization of Ms Muir as a moron, a high grade mental defective. This stigma has humiliated Ms Muir every day of her life, in her relations with her family and friends and with her employers and has marked her since she was admitted to the Provincial Training School...'
- '[3] The circumstances of Ms Muir's sterilization were so high-handed and so contemptuous of the statutory authority to effect sterilization, and were undertaken in an atmosphere that so little respected Ms Muir's human dignity that the community's, and the court's sense of decency is offended...'
- '[4] Ms Muir was admitted to the defendant's Provincial Training School for Mental Defectives on July 12, 195 5, at the age of 10. She left the school, without having been discharged, and against the advice of the school's administration, when she was nearly 21 years old, in March, 1965. The court finds that Ms Muir was improperly detained during this decade. The particular type of confinement of which Ms. Muir was a victim resulted in many travesties to her young per-son: loss of liberty, loss of reputation, humiliation and disgrace; pain and suffering, loss of enjoyment of life, loss of normal developmental experiences, loss of civil rights, loss of contact with family and friends, subjection to institutional discipline...'

Veit also ruled that no damages for loss of education and employment opportunities would be awarded because insufficient proof was presented of what her employment might otherwise have been.

The total damages awarded were \$740,780 CAD. Veit later awarded Muir \$230,000 CAD to pay for her legal costs. The Alberta government decided not to appeal this decision.

Future cases

The damages awarded to Muir were high in part because the Eugenics Board acted outside the law and caused grievous bodily and psychological harm to someone who was in fact capable of normal intelligence. Perhaps in the ranks of children at the PTS there were some truly incapable of normal performance on psychological tests of mental ability and in school. Alberta courts have not yet decided what compensation these individuals are entitled to receive for being sterilized.

The Eugenics Board's demonstrated lack of concern for the originating cause of a child's troubles will pose severe difficulties for the government's defence. The written record of most cases is woefully inadequate for establishing a firm diagnosis after the fact. An imperfect child was, in the eyes of a genetic determinist like MacEachran, prima facie evidence of a biological defect, and simply being an inmate in the PTS was seen as proof enough of imperfection. The Eugenics Board believed firmly in the validity of the PTS stigma. The government set up the Eugenics Board in isolation from the courts and the Board came to believe it could do as it pleased.

Another difficulty is the well-established probabilistic nature of heredity. Except for bona fide dominant Mendelian disorders, the risk of reproducing a parent's mental defect in a child is very low. Hence, the theoretical foundation of the Sexual Sterilization Act was fallacious from the outset, as recognized long ago by Langdon-Down (1926/27) and confirmed more recently by McWhirter and Weijer (1969).

Conclusions

Those who held and administered political power in Alberta over a relatively long period of time from the mid-1920s to 1971 adhered to several beliefs that led to indiscriminate sterilization of inmates in provincial mental institutions. Among these were their beliefs that (a) bad biology or heredity causes individual behavior problems that are the source of many social ills; (b) inmates of mental institutions should have no rights because they are biologically defective; (c) the State is supreme over the individual citizen; and (d) officials that carry out the wishes of the government are above the law. In these respects the practice of eugenics in Alberta showed pronounced fascist tendencies, tendencies that persisted long after the Nuremburg trials declared forced sterilization a crime against humanity. It also revealed a cavalier disregard for the genuine science of genetics.

Biology was an important propaganda device wielded by bombastic politicians and their minions to dehumanize troubled children. However, neither faulty biology nor low intelligence was the focal point for the practice of eugenics in Alberta. No attempt was made to ascertain all cases of poor school performance or low IQ test scores in the province, and IQ testing was not even used to decide who could be admitted to a school for the mentally deficient. The real offence of children destined for sterilization was that they lost the support of their families, either through family disintegration, grinding poverty or outright rejection, and thereby arrived at the door of the Provincial Training School in Red Deer.

Defenceless children were the targets of an especially vicious and heartless variety of philosophical idealism in league with the short-sighted self-interest of the struggling farmers of Alberta. Those farmers wanted to establish a state that would protect their collective economic interests and provide modern medical care in the rural areas. They had great sympathy for hard working men and women who were in trouble because of the unregulated and unpredictable fluctuations of the capitalist economy, but they did not want to pay taxes to assist those whom they believed were to blame for their own predicaments. In this historical context, the widespread dissemination of the theory of hereditary mental defect by a rather small group of intellectuals to all regions of the province did much to perpetuate backwardness and the inhumane treatment of troubled children.

References

Alberta Health and Social Development, 1972. Annual Report 1971–72. Queen's Printer, Edmonton. Allen, G.E., 1995. Eugenics comes to America. The Bell Curve Debate. History, Documents, Opinions, edited by R. Jacoby and N. Glauberman, Times Books, New York.

Blue, J., 1924a. Alberta Past and Present, Volume I, p. 217, Pioneer Historical Publishing, Chicago.

Blue, J., 1924b. Alberta Past and Present, Volume III, pp. 506–507, Pioneer Historical Publishing, Chicago. Brakel, S.J., 1985. Family laws. The Mentally Disabled and the Law, 3rd edition, edited by S.J. Brakel, J. Parry and B.A. Weiner, American Bar Foundation, Chicago.

Case No. E.B.3280, Scorah, Lellani Marie. Eugenics Board file card, Department of Health, Alberta.

Chapman, T.L., 1977. Early eugenics movement in Western Canada. Alberta History 25: 9-17.

Chase, A., 1977. The Legacy of Malthus. The Social Costs of the New Scientific Racism. Knopf, New York.

Chorover, S.L., 1979. From Genesis to Genocide. MIT Press, Cambridge, Massachusetts.

Christian, T., 1973. The Mentally III and Human Rights in Alberta: a Study of the Alberta Sexual Sterilization Act. The Faculty of Law, University of Alberta, Edmonton.

Devlin, B., S.E. Fienberg, D.P. Resnick & K. Roeder, 1995. Galton redux: eugenics, intelligence, race, and society: a review of The Bell Curve: Intelligence and Class Structure in American Life. Journal of the American Statistical Association, December, 1483–1488.

Dickens, B.M., 1975. Eugenic recognition in Canadian law. Osgoode Hall Law Journal 13: 547–577. Directions by Eugenics Board for the Province of Alberta for sterilization of Lellani Marie Scorah, November 22, 1957. Signed by J.M. MacEachran, W. R. Fraser, E. Armstrong, R. K. Thomson.

Douglas, C.H., 1933. Social Credit, Eyre and Spottiswoode, London.

E.B. # 3280, 1957. SCORAH, Lellani Marie. Case notes from Provincial Training School, Red Deer, presented to Eugenics Board, November 22.

Eugenics Board, 1970. Annual Report of the Department of Public Health, Province of Alberta. Queen's Printer, Edmonton

Faulds, J., S. Anderson & L. Morris, 1996. Information on the Leilani Muir Case. Field & Field Perraton, Edmonton, Alberta.

Ferster, E.Z., 1966. Eliminating the unfit—Is sterilization the answer? Ohio State Law Journal 27: 591–633.

Finkel, A., 1989. The Social Credit Phenomenon in Alberta. University of Toronto Press, Toronto.

Finlayson, D., 1996. Rooted in Alberta. Edmonton Journal, Feb. 19, p. B8.

For merit J.M. MacEachran, M.A., Ph.D., LL.D., 1945. New Trail 3: 94-95.

Gould, S.J., 1996. The Mismeasure of Man. Norton, New York. Green, B.M., 1946. John Malcolm MacEachran. Who's Who in Canada. International Press, Toronto.

Henson, T.M., 1977. Ku Klux Klan in Western Canada. Alberta History 25: 1–8.

Hodgson, D., 1991. The ideological origins of the Population Association of America. Population and Development Review 17: 1–34.

J.M. MacEachran 1877–1971, 1972. New Trail 27: 26.

Kevles, D.J., 1985. In the Name of Eugenics: Genetics and the Uses of Human Heredity. Knopf, New York. Langdon-Down, R., 1926/27. Sterilization as a practical policy. Eugenics Review 18: 205–210.

Lerner, R.M., 1992. Final Solutions. Biology, Prejudice, and Genocide. Pennsylvania State University Press, University Park.

le Vann, L.J., 1950. A concept of schizophrenia in the lower grade mental defective. American Journal of Mental Deficiency 54: 469–472.

le Vann, L.J., 1955. Physician's Certificate for admission of Lellani Marie Scorah to Provincial Training School at Red Deer, July 16.

le Vann, L.J., 1959a. Case Summary of Lellani Marie Scorah. Eugenics Board, Department of Public Health, Alberta, Case No. 3280, January 23.

le Vann, L.J., 1959b. Trifluoperazine dihydrochloride: an effective tranquilizing agent for behavioural abnormalities in defective children. Canadian Medical Association Journal 80: 123–124

le Vann, L.J., 1961. Thioridazine (Mellaril) a psycho-sedative virtually free of side-effects. Alberta Medical Bulletin, 26: 144–147.

le Vann, L.J., 1963. Congenital abnormalities in children born in Alberta during 1961: a survey and a hypothesis. Canadian Medical Association Journal 89: 120–126.

le Vann, L.J., 1968. A new butyrophenone: trifluperidol. A psychiatric evaluation in a pediatric setting. Canadian Psychiatric Association Journal 13: 271–273.

le Vann, L.J., 1969. Haloperidol in the treatment of behavioral disorders in children and adolescents. Canadian Psychiatric Association Journal 14: 217–220.

le Vann, L.J., 1971. Clinical comparison of haloperidol and chlorpromazine in mentally retarded children. American Journal of Mental Deficiency 75: 719–723.

MacEachran, J.M., 1932a. A philosopher looks at mental hygiene. Mental Hygiene 16: 101–119.

MacEachran, J.M., 1932b. Crime and punishment. Address to the United Farm Women's Association of Alberta. Reprinted in The Press Bulletin 17(6): 1–4 (Department of Extension, University of Alberta, Edmonton).

MacEachran, J.M., 1933. Mental health in Alberta. University of Alberta Archives, Edmonton.

McLaren, A., 1990. Our Own Master Race: Eugenics in Canada 1885–1945. McClelland and Stewart, Toronto.

McWhirter, K.G. & J. Weijer, 1969. The Alberta Sterilization Act: a genetic critique. University of Toronto Law Journal 19: 424–43 1.

Mehler, B.A., 1988. A History of the American Eugenics Society, 1921–1940. Ph.D. dissertation, Department of History, University of Illinois, Urbana-Champaign.

Meyer, J.-E., 1988. The fate of the mentally ill in Germany during the Third Reich. Psychological Medicine 18: 575–581.

Muir v. The Queen in right of Alberta, 1996. Dominion Law Reports 132 (4th series): 695–762.

Murphy, E. & 14 others, 1914. Petition to the Honourable, the Legislative Assembly of Alberta.

Murphy, E.F., 1927. Letter to Mr. Hoadley, December 14.

Myerson, A., J.B. Ayer, T.J. Putnam, C.E. Keeler & L. Alexander, 1936. Eugenical Sterilization. A Reorientation of the Problem. Macmillan, New York.

Pocock, H.F., 1932/33. Sterilization in the Empire. Eugenics Review 24:127–129.

Robertson, G., 1995. Report of expert witness, February 23. Reprinted in Muir v. The Queen (1996).

Scorah, H.G., 1953. Application Form for admission of Lellani Marie Scorah to Provincial Training School, Red Deer, Alberta, Feb. 18.

Scorah, H.G., 1955. Consent form for sterilization of Lellani Marie

Scorah, Provincial Training School, Red Deer, Alberta, July 12. Sexual Sterilization Act, 1928. Statutes of Alberta, Chapter 37. Sexual Sterilization Act, 1942. Revised Statutes of Alberta, Chapter 194.

Smith, H.E., 1931. Twins. Press Bulletin, Department of Extension, University of Alberta, December 18. The Sterilization of Leilani Muir, 1996. National Film Board of Canada, Montréal. (public broadcast on 'Witness,' Canadian Broadcasting Corporation TV, March 12, 1996).

Thom, D. & M. Jennings, 1996. Human pedigrees and the 'best stock': from eugenics to genetics? The Troubled Helix: Social and Psychological Implications of the New Human Genetics, edited by T. Marteau and M. Richards, Cambridge University Press, Cambridge.

Thomas, R., 1975. New lecture series established at University. University of Alberta News Release, March 12.

Thomas, D., 1995a. Psychologist surprised when woman's IQ score normal. Edmonton Journal, June 15, p. B1.

Thomas, D., 1995b. Muir bright, responsive, court told. Edmonton Journal, June 17, p. B3.

Thomas, D., 1995c. Eugenics had powerful backers. Edmonton Journal, June 24, p. B1.

Thomas, D., 1995d. Boys partially castrated for research project, trial told. Edmonton Journal, July 1, p. A1.

Thomas, D., 1996. 'I don't feel guilty about it.' Edmonton Journal, January 27, p. A1.

Wallace, R.C., 1934. The quality of the human stock. Canadian Medical Association Journal, 31: 427–430.