

## Racism: A Scientific Perspective

### Introduction

**Item:** A recent article in the magazine *Scientific American* predicted that, within 30-50 years, the word race (referring to class distinction) will no longer exist in our dictionaries. The reason for this, they claim, is that we simply know too much.

**Item:** Due to the accelerated advancements in the fields of human biology, ethnology, anthropology and genetics, the world-wide scientific community has reached the following consensus – there is no such thing as race.

The following is a unique approach to the difficult and divisive subject of racism. It is the brainchild of Dennis Lakusta, a Métis artist, musician, writer, photographer, humorist and educator based in Victoria, British Columbia. Over the past five years Dennis has been touring Canadian schools from BC to Quebec, offering his insights on a wide variety of subjects, including art and creative thinking, native history and the Indian residential schools, songwriting and humour, the Canadian Charter of Rights and Freedoms and, of course, racism. He, as well as many members of his immediate family, have been on the receiving end of racism and it is only fitting that one day he would write a document that examines this issue from a scientific perspective.

Canadian students across the country all have one thing in common: they respond to things that make sense. Dennis has been presenting elements of this document to students, from 4th and 5th grade levels up to first-year university, and the feedback and letters he has received from both students and teachers alike indicate how quickly the students are able to grasp basic scientific facts as applied to, for example, how genes work, how skin colour is created, and the historical chain of events that have caused the multicultural mosaic that we are today.

Drawing from his life experiences, plus many books read on the subject of science, history and the residential schools, Dennis provides a passionate and authentic delivery of these ideas. The presentation is interactive and solution oriented – students are encouraged to engage themselves in the scientific dismantling of common misconceptions and stereotypes concerning our multi-ethnic, multicultural world.

### Flexibility

The materials presented in this document, when combined with other subjects covered, would amount to a presentation spanning many hours, over a number of sessions. Therefore, the material has been designed to be as flexible as possible, allowing schools to customize the presentation to suit their schedules and time constraints. Most sections can exist separately from the others, even though they are all consistent with the main theme, racism.

### **Length of Sessions**

Because of the strength and abundance of material, the minimum length of a session for grades 7-12 is 90 minutes. This allows enough time for questions and interaction, as well as a couple of humorous songs and a brief slide show of some of Dennis's amazing photography. As an example of customizing a session, the first 45 minutes could be dedicated to the development of our multicultural world and the remaining 45 minutes could focus on racism in Canada and the Indian residential schools. Or, another combination could begin with the section on "melanin and the biology of colour" and end with "racism as a concept and how it is taught to children". (For grades 4-6 the sessions can be reduced to 60 minutes.)

### **Size and Location of Sessions**

The maximum size of sessions for grades 7-12 is 60 students. Because of the mature subject matter presented, it is essential to maintain a focused and dedicated environment (ideally in a quiet library, conference room or large classroom.) The maximum number also allows Dennis to deal effectively with disruptive students who show up in his sessions from time to time. Grades 4-6 are generally more manageable, therefore the size of these sessions can be increased to 100-125 (presented in a gym if need be).

(Note: Dennis holds the strong conviction that the subject of racism should be introduced at the grades 4-6 level because that is the average age that youngsters first become exposed to, and begin processing, racial concepts and stereotypes. The presentation for grades 4-6 is more of a basic introduction to science as it relates to racism, using much simpler models, ideas and language. Sessions for these younger folks also include more songs, stories and humour. Some of the most encouraging feedback has come from teachers and students in this age bracket.)

### **Art, Music and Humour in the Classroom**

Dennis has seen, first hand, the power of art, music and especially humour in breaking down the personality barriers that can sometimes exist between a new presenter and students. This 'coolness' is natural and can often be melted away by a well-placed joke or a humorous song ("The Value Village Shuffle" gets them every time). Art, music and humour can also provide 'lighter moments' to an otherwise 'information heavy' presentation.

(Note: This is not a course on anthropology, ethnology, linguistics, biology or genetics. Elements of these sciences are used only as a backdrop for the explanation of racism and ethnicity. The document is written in informal language, as will be used during an actual presentation. Humankind's journey through the ages and how we arrived at this point in history make for a wonderful and captivating adventure – truly, one of the most interesting stories ever told. It is in this spirit that "Racism: A Scientific Perspective" is presented.)

## Part One

### The Racism/Ethnicity Equation

#### The Objective

It is widely accepted within the science of human biology that the sensory perceptions of the human species are fairly limited. This is especially true with vision; we cannot see beyond the surfaces of the objects we are looking at. If we look at a sphere, for example, we only observe the outer surface and one may assert that if you cut the sphere in half you will see or know what's inside. But, upon doing so, we realize that we are now seeing the outer surfaces of a different kind of object, this time a hemisphere. We don't actually see or know anything beyond surfaces. This limitation only becomes problematic when we attempt to form a judgment concerning the nature of the object, based only upon the observation of its outward appearance. The well worn clichés “you can't judge a book by its cover,” “looks are deceiving,” and “beauty is only skin deep” come to mind.

Unfortunately, in regards to the subject of racism, this is the method used to prejudge another human being's worth or value. No credence whatsoever is given to the forces and designs of nature, the history, ethnology, biology or genetics that have caused that person to look or be the way he or she is. This form of racial prejudgment is often wholly based upon a deadly cocktail of human concepts and emotions, including fear, hate, superstition, homophobia, not to mention pure ignorance of the facts.

The objective of the following exercise is to provide a better understanding of racism and its causes by drawing basic facts from a number of scientific fields (anthropology, archaeology, linguistics, ethnology, genetics and human biology). To begin, we must first take a close look at the other half of the racism equation, which is ethnicity. Racism feeds upon ethnicity, which usually encompasses the variations in language, social customs, politics, religion, spirituality, dress, art, architecture, skin colour and appearance, etc. – those elements that identify a group of people as a distinct culture. The two halves of this equation are diametrically opposed to each other in nature: racism is a concept and has no basis in reality, while ethnicity is a physical fact. A person can create or learn a concept and totally adopt it into his or her own belief system, regardless of whether or not the concept is based upon fact. Children can be easily taught that other ethnic groups are inferior to theirs without knowing a single fact about the group, its history or its religious beliefs, relying solely on the idea that was planted in their fresh, young minds.

#### Ethnicity: The Wherefore and the Why

Examining the roots and causes of ethnicity will, in turn, provide a better understanding of the roots and causes of racism. There is a logical sequence of events that have led to the

world being the way it is today. Using a large map of the world, we will trace the footsteps of today's global cultures, far back into history. Some of the observations made along this journey will be:

- Gradual Population Decrease: The global population is currently 6.2 billion. We hit 5 billion in the mid 1970s and 4 billion around 1940. Going back even further we reached the 1 billion mark around 1805 and half a billion about 1066 AD.

To understand the history of culture and ethnicity one has to accept this fact: global population decreases or 'thins out' the further back we go. If we regress back to the time of the Pharaohs and Babylonia, the total population of the world was down to a mere few million.

- The Devolution of Culture: It is clear to anyone who has studied history that the characteristics by which we define culture (language, art, music, architecture, clothing, customs, religious and political systems, etc.) become simpler and more basic the further back in time one travels. This also applies to tools and inventions. The computers, cell phones and other modern conveniences we enjoy today are nothing more than the most recent links in a chain of events going back to, and beyond, the invention of the wheel by the ancient Sumerians. Sophisticated global languages, artistic expression, modern architecture, advancements in science and medicine, futuristic modes of transportation (including the space shuttle), complex religious, political and educational institutions, etc., are all inextricably linked to thousands and thousands of years of innovation and development. This chain stretches far back, even beyond the rise and fall of the great empires of Rome, Greece, Persia, China, Egypt and Meso-America to a time when all the inhabitants of the earth were simple hunter-gatherers who lived in caves or mud huts and whose only 'modern conveniences' were primitive tools made of bone, rock shards and molten copper. The reason we have so many 'things' today is because mankind has, throughout time, been equipped with intelligence, plus the innate ability to experiment, invent and constantly improve the tools and systems necessary for survival.

This journey back in time is helpful in setting the stage for the explanation of how our world became a diverse cultural mosaic. But how far back do we have to go? How does 70-80,000 years sound?

Why 70-80,000 years?

There are approximately 1,150 universities and institutions of higher learning spread throughout the world today. The general consensus amongst all of the scientific fields mentioned above and within all of the 1,150 universities and institutions is: the roots of all global cultures can be traced back to Eastern Africa. The ancient ancestors of all the people living on the planet today, whether Chinese, Norwegian, Persian, Australian, Navaho, East Indian, etc., came from this region of the planet. This conclusion, reached by the global scientific community, is backed by a substantial body of scientific evidence gathered over the

past 100 years or so. Anthropologists and archaeologists are able to dig down into the earth's strata and uncover the story of mankind's journey through the ages and that journey always leads back to the same place – Eastern Africa. The next conclusion is equally significant: all the peoples of the world today, no matter what their colour, shape, language, religion, blood type, etc., are members of the same close-knit family, same species and same kind, all originating from the African continent. Every single one of us.

If this is true, then how come we all seem to look and act so differently?

Remember the 70-80,000 year figure? According to scientific conclusions from a world-wide network of universities and research centres, that's the approximate time frame for the migration of our distant ancestors 'out of Africa'. Migration is the most important factor and the starting point from which we begin to understand multiculturalism.

Let's stop for a moment and try to imagine what the world looked like back then. Try to picture a world in which there are no human beings at all – except in Eastern Africa. That means across the entire planet, including all of Europe, Asia, North and South America, Australia, Indonesia –not a single human being, except for a primitive culture of nomadic hunter-gatherer tribes (early modern humans) surviving in a region known as the Great Central Rift (near the eastern edge of the African continent.) This is difficult to imagine in the year 2006, especially in a world that appears to be almost entirely over-run with humanity. Our human ancestors existed for hundreds of thousands of years in this region and it was a combination of drought and over-population that caused the first migrations eastward into Saudi Arabia and, eventually, throughout the entire world. (Note: The migration routes will be indicated with arrows on the world map.)

At this point in history (pre-migration), our early human ancestor all appeared to be members of the same species group. Their bodies were thinner and smaller with more hair and darker skin; they didn't wear clothes and they used the most primitive kinds of tools; but, appearance-wise, they all exhibited the physical characteristics of one distinct group. It is what happened after migration (in fact, over the next 70-80,000 years) that has caused the slight variations evident amongst global cultures today. (Note: I stress the word slight, and later on in this presentation we will examine just how slight these variations really are.)

### **Diversity Through Genetic Adaptation – The First Law of Organic Nature**

For those who study or enjoy the natural world, one thing is abundantly clear and that is, the diversity and variation evident within all species of organic life. Take cats, for example – this single species group has produced over 100 genetic variations spread throughout the world. Watch National Geographic and you will see all sorts of cats from the wild kingdom –tigers, lions, jaguars, pumas, lynx, panthers, mountain lions, cheetahs, etc. These are all members of the cat family. Walk through the residential area of any city in the world and you will encounter many varieties of domestic cats – tabbies, Persian, calicos, Siamese, black cats, white cats, grey and brown cats, pure-bred and mixed-bred – cats, cats, cats. Most libraries will have a special section devoted to nothing but cats, where one can spend hours and hours poring over books depicting the incredible variety within the feline species.

And, that's just one species. How about dogs, horses, monkeys, birds, cows, butterflies, snakes, etc.? Diversity within a single species is the first law of the natural world. There is not a single organic plant or animal species on the planet that does not have at least a handful of varieties. For example, the rose is world renowned, but did you know that there are approximately 185 variations of this one plant species spread out over the globe.

Why is this?

Written right into the genetic code of every cell of every living organism is the ability to adapt to existing environmental conditions, in order to survive. Genetic diversity is synonymous with survival. This is natural law and the way our biosphere was designed.

Billions of years ago elementary forms of organic life began to evolve in specific geographical locations and over hundreds of millions of years these life forms migrated out into other parts of the globe. The seeds of early plant forms were scattered farther and farther afield by wind, water and animal droppings. As these organic life forms migrated into new territories, with unique geographic and environmental conditions, they did exactly what they were designed to do: they A-D-A-P-T-E-D. The genes, the inner building code of all life forms, would effect slight changes that would allow the life form to survive under the new conditions: i.e., new types of animal and vegetable proteins, diseases, viruses, predators, climate, terrain, latitude, proximity to oceans, etc. If, for example, the migration was to a colder climate, animals would develop thick, furry skin with more fat and body-mass to protect their vital organs from the cold. If the life forms migrated to the hotter, equatorial regions their genetic code would engineer less fur, thinner skin and lighter body-mass, so as to provide built-in air conditioning. To repeat – all of this was specifically designed for species survival.

The same applies to the human species.

How did the world become the multi-ethnic patchwork quilt that it is today? The answer, as seen through the medium of science, is quite simple: through tens of thousands of years of genetic adaptation to unique environmental and geographical conditions. And it took migration to set the whole process in motion.

Migration + Time + Relative Isolation + Environmental Conditions + Ability to Adapt = Multiculturalism

This would be the formula for mankind's transformation from a centrally located species group (back in Africa) to the world-wide cultural mosaic we see today.

We have touched upon most of the factors in this equation except relative isolation. As early humans began their painstakingly slow migration throughout the vast regions of the earth, it was done in random fashion – there were no road maps and nobody had the faintest clue where they were going. Needless to say, there were many directions and meandering routes that the migrants followed. Some stuck to the coastlines (which accounts for why the

Aborigine ancestors, following the coastline of India and across Indonesia, were the first to arrive and begin establishing their culture on the Australian continent). Others migrated inland, along river banks or following the migration routes of wild animals. It must be stressed how slow and tedious this process was – for the most part, hunter-gatherer tribes would inch their way forward, motivated only by the basic need for new sources of food and game. But this was, in fact, how the entire world came to be populated – inch by inch and over tens of thousands of years.

After 30-40,000 years of migration most of the Eastern hemisphere was sparsely populated by nomadic bands of hunter-gatherers. If you were to imagine the world map now, it would be dotted with isolated pockets of humanity spread out across Europe, Asia, Indonesia, Australia and, of course, Africa. (Note: This happened during the last Ice Age and those migrants who ventured to Northern latitudes had to quickly adapt to the severe weather conditions – they sought shelter in caves, learned to use animal skins and built fires to protect themselves from the cold.)

Relative isolation played a vital role in the development of distinct cultural identities. Human migrants who found their way to Eastern Asia, remained in Eastern Asia. Those who migrated to the Australian continent, remained on the Australian continent. The ancient Sino-Tibetan tribes that migrated northeast across the Bering land-bridge and eventually populated the North and South American continents, remained in North and South America. They all continued to hunt and gather but they were isolated and cut off from the rest of the world. For tens of thousands of years people living in present-day Indonesia, for example, were oblivious to the fact that there were people living in other parts of the world. For that matter, they were equally oblivious to the fact that other parts of the world, or even the world itself, existed – because they were isolated. This was an essential ingredient for developing unique cultural characteristics. The word incubation comes to mind.

Hunter-gatherer tribes, being cut off from the rest of the world, were now forced to develop their own ways of doing things, their own ways of expressing themselves and their own ways of dealing with the unique environments each found themselves in. (It was under these same conditions that the slight variations in physical appearance developed, i.e., body type, skin and hair colour, facial shapes, etc., which were determined by levels of sunlight, food sources, climate, terrain, etc.) All over the world, isolated pockets of humanity continued to evolve, finding ways to make better tools, better clothing, better dwellings and better ways of communicating. But it was all done in their own way, unique to them and not quite like anyone else was doing it. Modern culture was still tens of thousands of years off for these folks, but their primitive attempts at creating language, music, art, fashion and social customs (while in a state of isolation) were the necessary links in a continuum that has led to the colourful variety of unique foods, dances, songs, traditional costumes, musical instruments, architecture, political and religious institutions we see all over the planet today.

And it only happened because of migration, over a long period of time, in relative isolation, under unique environmental conditions, and by a species capable of genetic adaptation.

(Note: The term relative isolation is used often and requires clarification. As global cultures continued to evolve, they were in a constant state of flux and fluidity, within their specific regions. Fuelled by a seemingly endless progression of wars and territorial conflicts, the cultures of the world have been forever overlapping, intermixing, intermarrying, absorbing and assimilating – again, within their specific regions.

Relative isolation applies more to the relationship of peoples outside those regions – for example, Indonesians being isolated from Europeans or Native Americans from Australians, etc. This term also applies to cultures existing within large land masses that we identify today as countries – China, for example has between 40 and 50 unique cultural identities existing within its borders, with as many corresponding dialects and cultural characteristics. Considering the immense size of China, being spread over four time zones, one can readily understand how many of its unique cultural identities developed with little or no knowledge of the others' existence. It is worthwhile to point out that most of these identities were evolving long before the word 'China' even existed.)

## Part Two

### Just How Different Are We, Anyway?

(Note: The term racism doesn't appear very often in the first two parts of this document and one might think that we have drifted away from the main theme. Actually, the opposite is true. The most powerful weapon in the ongoing battle against racism is education. A scientific understanding of the roots of culture and ethnicity will undoubtedly undermine the foundation upon which racism is built.)

#### Differences Versus Similarities

Using the above formula, it is easy to see how unique cultural characteristics developed. Whether it be language, music, dance, art, architecture, clothing, cuisine, religions, political ideologies, skin colour, body types, or physical appearance, all were subject to the same process: migration, time, isolation, environment and adaptation. This formula has worked 100% of the time and in 100% of the cases. The dispersion of humanity (post-migration) throughout the vast regions of the planet actually set up an ideal environment for the incubation of uniqueness, distinctiveness and variation. In fact, it would have been virtually impossible, under these conditions, for any two cultures to have developed identical characteristics.

Imagine you are looking at a blank sheet of paper. From the far left edge a black bar (one inch thick) moves across, towards the centre of the page. When the bar reaches the centre, it begins to break up into hundreds of fine hair-lines and each hair-line proceeds to wander independently around the right half of the page. After randomly meandering for a while, each hair-line comes to a stop and is marked by a small red dot. This simple example illustrates the history of multiculturalism, before and after migration.

In essence, we are all members of one family who have split up for a period of time and have developed our own variations of doing things, saying things, building things, inventing things, etc. But the variations are so slight compared to the depth of our similarities. Those similarities include everything that makes us human – our emotions, feelings, beliefs, and ideas; our universal desires for peace, dignity, human rights, security and self-fulfillment; our sense of right and wrong, and our sense of justice, compassion and caring. All human beings can experience joy and hurt, love and hate, generosity and greed; we can all laugh and cry, sing and dance; and all experience awe at the sight of a shooting star or the birth of child. Borders and cultural distinctions have absolutely no effect on these deeper human characteristics. Like the iceberg analogy, the qualities and substance that connect human beings are all hidden beneath the surfaces of appearances and cultural distinctions.

Consider language for a moment. If we were to study every language and dialect currently existing on the planet, one fact would become clearly evident – although the words all sound different, we are all pretty much saying the same things. Every distinct culture has its own word for dog, sun, moon, father, rain, hunger, up, down, out, in, run, jump, food, sleep, journey, happiness, hand, bowl, cold, hot, dry, one, two, three, etc. This list could go on and would eventually fill many, many pages but the point is, there may be a thousand different ways of saying the word ‘dog’ but they all mean the same thing. If you have ever watched a foreign film with English subtitles you will notice right away that no matter what foreign language is being spoken on the sound track, there is a corresponding sequence of English words and phrases spelled out in the subtitles, sentence for sentence. When you really think about it, in terms of the above formula, how could it be any other way. Humans have had tens of thousands of years of relative isolation to developed a thousand different ways of saying basically the same things.

(Note: Although global cultures have developed words and terms assigned to common aspects of the world in which they live, the grammatical construction varies from one to the other. The English language is mostly derived from Latin, Greek and German and is broken down into specific parts of speech, but the grammatical constructions of other languages have uniquely different breakdowns, some relying more on verbs and adjectives and less on nouns and prepositions, or vice versa.)

Next, we’ll consider architecture. One of the essential needs of all human beings, going back beyond the Stone Age, has been shelter. From its humble beginnings, and fuelled by the rise of the Roman, Greek, Egyptian, Persian and Chinese empires, shelter has evolved into the complex variety of architectural styles seen all over the world today. Although the variety of styles is mind-boggling, once we break it all down to the basics, what do we have? A floor, a ceiling, walls, windows and a door. Whether 50, 500, or 5,000 years ago, the basics have never changed, regardless of the culture or the geography. Donald Trump’s palatial penthouse in New York City and a simple hunter’s hut in the jungles of Borneo both provide the same essentials – a floor, a ceiling, walls, windows and a door. What we do in our dwellings is also common amongst all cultures – we sleep, eat, bathe, socialize, entertain, procreate, raise children and do business – these have never changed. What has changed is the variety of unique building styles that have evolved over thousands of years of relative isolation. Architecture is the marriage of form and function – the outward form has changed, depending on the culture, geography and time, but the deeper, human function remains the same.

We could spend, literally, hours and hours examining every aspect of every cultural identity, dissecting each and reaching the same conclusion – that underneath the thin veneer of style and variation, we are deeply similar, deeply human.

In order to drive the point home before moving on to Part Three, we will look at just one more unique cultural aspect – religion. The human species had been evolving for approximately 4-5 million years prior to migration out of Africa. When the first tribes crossed the land-bridge into what is now Saudi Arabia and began the long and arduous journey that would eventually populate the entire planet, they took with them all the

ingredients necessary to create a multicultural, multi-ethnic world. Those ingredients – advanced intelligence, creativity, innovation, adaptation and continued evolution – were written right into their genes.

Genetic momentum, which had guided the human species for millions of years, all the way from the primate stage through to the advanced homo sapiens stage, continued to function perfectly during the period of 70-80,000 years after migration. This means that burgeoning cultures all over the globe, though being relatively isolated, continued to develop the same basic ideas, beliefs, dreams, aspirations, communication skills and survival techniques simultaneously. This explains why hundreds upon hundreds of unique and isolated cultures developed such a wide variety of expressions and styles, through a very exact and uniform set of mediums: music, art, architecture, dance, language, tools, social and political ideologies. Regional cultures, spread throughout the world and isolated from one another, were doing many of the same things, at the same time. The whole process, including diversity, was genetically pre-destined.

At last count there were 212 different religious and spiritual movements covering the globe, some major, some minor. The major religions of today – Christianity, Judaism, Islam, Buddhism, Hinduism, Sikhism, etc. – all began as small, regional movements (often headed by a leader or teacher), which grew, mainly due to the efforts of propagation. But what is important to remember is that these movements were born in very specific locations, which were spread far and wide throughout the Eastern and Western hemispheres. (Many will be pointed out on the world map.) This was all happening, by the way, courtesy of genetic momentum. All peoples of the world, whether the indigenous cultures of the Americas, The Aborigines of Australia, the Celts of Northern Europe, the Zulu of South Africa, the Babylonians in Western Persia, etc., were driven to express their own innate sense of a higher power and/or an afterlife. It's amazing to look at a world map and realize that, over tens of thousands of years, nomadic and isolated cultures in every region of the newly inhabited planet were each responding, in their own way, and simultaneously, to the deep human need to know and understand higher things.

(Note: In regards to language, if teachers find it useful, Dennis can provide a scientific explanation of how the dynamics of speech work – from an idea in one person's brain triggering a chain reaction of physical apparatus to produce uniquely pitched and shaped soundwaves, transmitted through the atmosphere and received by another physical apparatus, where the sound is processed, translated and eventually understood as an idea by another person's brain.)

(Note: An interesting exercise for students is to assign to them any one of a dozen common cultural characteristics – music, art, dance, costume, cuisine, alphabets, currency, inventions, transportation, agricultural methods, political ideologies, etc. – and, using the formula for multiculturalism, have them construct their own account of how that unique characteristic developed.)

## Part Three

### Melanin and the Biology of Colour

In recent years Dennis has had the opportunity to speak to thousands of students, from grade 4 to grade 12 levels, and when asked to define racism, the majority of students (approx. 70%) have indicated skin colour as being the number one reason that people are racially discriminated against. Therefore, Part Three will be entirely dedicated to examining the biological workings of human skin and the chemical melanin, the dark brown pigment responsible for skin colouration. This is an attempt to illustrate the fact that melanin, or colour, is simply and purely, Mother Nature's sunscreen – a precious gift and not something to be used for the purpose of racial discrimination or prejudice.

Superimposed on the world map will be the blow-up of a detailed cross-section of human skin. Many of the older students may be familiar with this kind of illustration from biology class but they will be asked to focus on one particular cell structure known as melanocytes. All human beings (with the exception of albinos) have this type of cell structure functioning less than a millimetre beneath the surface of their skin.

It is important to remember that, like all the other characteristics of culture, variations of skin colour and physical appearance were developed over a long period of time.

#### Why Is Melanin So Important?

Skin is the largest human organ and the busiest. Underneath a square inch of human skin is a virtual laboratory of chemical processes and biological mechanisms that are essential to the human being's welfare and existence. Folate (the source of Iron) and Vitamin D are two of the most important nutrients manufactured in this laboratory and without these the human being would not survive. Through the natural process of photosynthesis, plants capture and store the sun's energy and heat. When humans consume plant calories, they are, in fact, eating stored sunlight. A person's skin also captures energy from the sun in the form of Ultraviolet B (UV-B), which triggers the production of Vitamin D. Too much UV-B destroys folate and may cause skin cancer, whereas too little causes a Vitamin D deficiency. So, a balance must be struck between too much and too little UV-B and this is the role that melanin plays.

Melanin is a dark brown chemical pigment (manufactured within the melanocytes) that regulates the amount of UV-B rays that penetrate the skin. When you go for a winter holiday in Mexico and are exposed to higher levels of UV-B, the brain sends a signal, through the nerve endings under the skin, to the melanocytes, triggering these cells to produce more melanin and inject it into the top layer of skin. The result is that you develop a nice tan for

the duration of your holiday and then upon arriving back home you begin to lose it. This is melanin at work. This is also human biology and Mother Nature at work.

Next, we will apply this understanding to the central issue being presented, which is racism.

Because the earth's axis is perpendicular to the sun, the regions near the equator (variable within the tropics of Cancer and Capricorn) receive the most intense amounts of sunlight (UV-B). And because of the curvature of the earth, the further north or south one proceeds, the less intense the sunlight, until one reaches the poles where there is very little sunlight. Cultures that have existed for tens of thousands of years at certain latitudes have genetically adapted to the amount of sunlight available at those latitudes. The human body has regulated the amount of melanin necessary for UV-B protection, thereby creating a variety of different skin tones throughout the world. (Important note: this biological process also applies to the eyes and hair. Melanin is manufactured and supplied to the eyes and hair for the same purpose, to regulate sunlight and protect against the damaging effects of UV-B.)

These facts will be illustrated by projecting onto the screen colour photographs of six individuals, representing six unique cultures from six different latitudes, all progressing northwards from the equator. The six individuals and cultures are: Congolese, Sudanese, Arabian, Italian, French and Swedish.

As the photographs are displayed in relation to their latitudes (from the Congo north to Sweden) it is easy to see that the individual's skin colour progressively changes from extreme dark brown or black at the equator (lots of melanin), to extremely pale or white in Sweden (very little melanin). The colour of the individual's eyes also changes proportionately, from very dark brown (near the equator), to light blue, green and light brown (at the sixtieth parallel). And lastly, the hair, also containing melanin, is dark and very coarse for the Congolese and progressively changes to blond, auburn, red and very fine for the Swedes.

Skin colour is not a trait by which to measure class, intelligence or whether one person is inferior or superior to another. Skin colour is, in fact, a feature built right into the genetic code of the human body and designed by Mother Nature to allow the human species to survive in a variety of different geographical regions, north and south of the equator.

To sum up, the top layer of skin (the epidermis) contains the melanocytes, which, when instructed to do so by the brain, produce the dark brown chemical melanin and inject it into the extreme uppermost layer of the skin, that layer being what we actually see when looking at a person. This uppermost layer is so thin that it can only be seen, as a cross-section, through a powerful microscope. It is thinner than a piece of rice paper, thinner than the finest hair, and yet this layer is designed to contain all the colour that a person exhibits. It is upon this thinnest and most superficial of human features that much of the brutality and degradation of racism is based.

Dr. Christina Williams, a Gynaecologist and Fellow at the I.V.F. Program of Vancouver General Hospital, upon hearing of Dennis's approach to racism, remarked that over the past

many years she has performed countless surgical operations on women of all ethnic backgrounds and all colours. She stated that, during an operation, when the scalpel passes beyond the epidermis (which contains the melanin or colour), everything, including internal organs, veins, arteries, bones, fat, muscle tissue, and even blood looks indistinguishable, from one patient to the next, regardless of ethnicity.

To drive this point home, five photographs of actual human organs (hearts in this case) will be projected on to the screen. These five human organs were photographed during autopsies and came from the bodies of individuals from five different ethnic backgrounds with corresponding skin colours. The ethnic backgrounds are: Chinese, Norwegian, African, Persian and Portuguese. The students are then asked to identify which organ belongs to which ethnic group. It is impossible to tell the difference.

### **A Few Words About Concepts**

The science of astronomy estimates there are between 100 billion and 400 billion stars in our galaxy, the Milky Way. They also estimate there are approximately 140 billion galaxies in the universe (ours being one of the smaller ones). This means that we earthlings are pretty small potatoes when it comes to the grand scheme of things. But this hasn't stopped us from coming up with some extremely eight-ball ideas and concepts about our stature and importance in 'the big picture'. For example, since pre-historic times man developed the concept that the earth was flat and you can't really blame him because there was no science and no perspective to prove that it was otherwise. Another deep-seated concept was the so called geocentric system, meaning that the earth was at the centre of the universe, with the sun and the stars revolving around it.

Then along came Copernicus and Galileo who, based upon scientific calculations, suggested that the opposite was true – that we actually existed in a heliocentric system with the sun at the centre and the earth and other planets orbiting around it. Early man's development of a geocentric concept of the cosmos, especially given the limited vision and understanding of the mind-boggling scope of it all, can easily be forgiven. They just didn't know any better.

But big problems arise when these concepts, no matter how near-sighted or unfounded, become so deeply entrenched in people's minds that they become, for them, truths. Such is the power of a concept. And heaven forbid that someone should come along and challenge those 'truths'. The road through history is littered with tragic examples of individuals, usually scientists, challenging concepts that were developed back in the Dark Ages.

It is remarkable that in the year 2006, with our advancements in technology, travel, education and information gathering, some people still appear to be living in the Dark Ages when it comes to the concepts and attitudes they hold towards other members of the human family.

## Part Four

### Racism is a Concept

First, we start with a simple, yet true story.

An interesting experiment was conducted a few years ago by the Sociology Department of the University of California at Berkeley, in which seven young children, all four years of age and representing seven different ethnic backgrounds, religions and skin colours, were placed inside a nursery's play area for a one-hour period. The children's parents were on hand in case of emergencies but, for the most part, the toddlers were free to play with toys and to interact with each other. Sixteen video cameras, equipped with microphones and all hooked up to recorders, were positioned at strategic locations around the play area in an attempt to capture, as much as possible, the children's interactions during the one-hour experiment.

When the experiment ended the videotapes were taken back to the University, where, for the next three weeks, they were viewed and analyzed by a number of academics, including ethnologists, sociologists and child psychologists. Every motion, every touch, every look, every sound, and every gesture recorded during the one-hour period were pored over and scrutinized by the specialists and their observations and opinions entered into a computer data bank. A couple of weeks later the Sociology Department issued its findings, stating that all of the scientists, without exception, had reached the conclusion that not an iota of racism existed amongst the seven children during the entire one-hour experiment.

The students are encouraged to talk about this experiment: What really happened, what were the messages behind the experiment, and what did it mean? Most students will readily recognize that racism did not exist amongst the children because they were too young to understand the concept or it had not been taught to them. The experiment also strongly suggests that children are not born with racism. So, the question put to the students is, if a child is not born with racism and has no understanding of it at four years of age and probably not at five, six or seven years of age, then where does racism come from? How is it that some students as young as nine and ten years of age begin to express racist ideas and stereotypes directed towards other students and adults who look different, speak differently or follow a different religion than they do? These same students, by the way, may go on to high school, perhaps university and on into adult life with the same racist attitudes. But the question is, how did they get started?

Dennis has related this story to many high school students across the country and has observed that it is the students themselves who are quick to volunteer the answer; that students learn this concept from someone else, usually someone older like parents, relatives, older students or friends, television, the media, etc.

## What is a Concept?

Webster's defines a concept as simply a thought or idea. A concept isn't actually an object, it has no substance, doesn't weigh anything and is invisible. So, how is it possible then, that concepts have the potential to be the most powerful, and sometimes the most destructive forces on the planet? The answer is actualization. The concept or idea has to be acted upon in order for it to have any power or substance. The man-made world around us is filled with examples of actualization: cars, TVs, skateboards, pencils, movies, buildings, space shuttles, computers, airplanes, light bulbs, and on, and on. All of these things were actualized from someone's concept or idea. Henry Ford had an idea that he could build and mass-produce a motorized vehicle and had he kept the idea in his head, we might still be getting around by horse and buggy. But Mr. Ford actualized the idea, acted upon it, and today we drive around in cars.

Racism is also a concept. It, too, weighs nothing and is invisible but, when acted upon, can cause unimaginable human suffering, whether on a personal level or on the level of societies or cultures.

## How Racism is 'Actualized' in Schools?

Racism knows no boundaries; it can happen anywhere, at any time, inflicted by anyone. Racism can happen in malls, churches, schools, sports facilities, hospitals, airports, buses, playgrounds and especially at home. As an example, we will look at how racism is actualized in schools.

As mentioned before, a concept is invisible. It is impossible to tell if a person has a racist concept locked away in his or her mind. It is only when they act upon it that it becomes evident. To act upon a racist concept usually means to 'do' or 'say' something. In schools, this can take many forms, such as:

- **Racial Slurs:** A racial slur is a word or phrase which is intended to hurt or belittle another person, based upon their religious beliefs, nationality, language or skin colour. A racial slur can cause deep psychological damage to a person's sense of self-esteem and this damage can last a lifetime. (With the teacher's permission, Dennis will give examples of racial slurs.)
- **Bullying:** This is a problem in North American schools, and especially so when used against visible or religious minorities.
- **Exclusion:** By excluding visible minorities from sports and social activities, or by making them feel unwelcome in your circle of friends.
- **Ghetto-izing:** Because visible minorities are not invited into the social activities of the mainstream, they are forced into isolated groups or 'ghettos' and this practice is most evident during lunch breaks or after school.

- **By Looks:** A student with a racist concept can hurt another student by simply looking at them in a way that communicates hate or racism.

Canada, for the most part, is a fairly tolerant society when it comes to visible and religious minorities, especially when compared to other, more overtly racist societies in the world. But make no mistake; racism does exist in Canada. Hardly a day goes by where there isn't a TV news item or a newspaper article about racism in some part of the country. It could be about racism directed at cultural minorities such as Aboriginal people or Asians; or it could be racism directed at religious minorities such as Jews, Christians, Sikhs or Muslims. And these news articles are just the tip of the iceberg.

In an ideal society racism would not exist, but we live in the real world, a global village and, unfortunately, racism is a part of our daily lives. It is therefore important that Canadian schools continue to offer education and dialogue on the subject of racism so as to best equip itself in the ongoing fight against this most destructive of human concepts.

## Part Five

### Education = Understanding

#### The Filing System

The human body is truly the most amazing, wonderful and complex of all creations. Especially when we consider that its genesis begins from a single cell splitting into two, then two into four, four into eight and eventually multiplying exponentially into trillions of individual cells. Each cell, whether it be in your heart tissue, skin, eyes, bones, muscles, blood or toenail is genetically programmed to function perfectly and exclusively in that precise location of the body. A cell from your eyelid can function nowhere else except in your eyelid – it has been programmed that way. When you observe a human being walking down the street you are essentially seeing a form containing within it trillions of pre-programmed cells all working in harmony to allow that human being to exist, to be. Mind-boggling!!

The most awe-inspiring of all human organs is the brain. Nothing in the universe can compare to the brilliance of design and engineering that has gone into the construction of the average 1,350 cubic centimetres of grey matter. Imagine this: a trillion individual cells all working together to process a boat-load of data coming in from billions of tiny nerve endings situated throughout the complex regions of the body. Much of this data is being received from exterior sources via the five senses (what we hear, see, smell, taste and feel through our skin). The brain then stores all of this information in its memory banks allowing it to make informed decisions in future situations. One only has to look at the invention of the modern computer to grasp how the human brain works – the computer was, after all, designed and modeled to replicate the functions of the cranium, although even the most advanced computers of today are mere shadows of the sophistication and complexity of the average person's brain.

Besides managing bodily functions and organizing, processing and storing information from its exterior environment, the human brain also acts as the centre of learning and understanding. When a newborn comes into the world it is equipped with a computer of its own, but the memory banks or 'files' are essentially empty – it knows how to cry and poop and move its arms and legs, indicating that the brain is looking after basic motor skills and muscular functions, but the infant, at that point, doesn't know or understand anything. This is where the child begins to learn – it has a clean slate, so to speak. By repeated exposure to sensory data (its mother's face, her smell, her warmth, her touch, her words, etc.) the child slowly begins to developed a computer 'file' and this 'file' will eventually store and contain all data relating to the category of 'mother'.

The whole learning process, which will continue on through that person's entire lifetime, is nothing more than the building, processing and storing of new 'files'. 'Files' are created on

soothers, playthings, being bounced on someone's knee, or a sweet lullaby. Then onto learning how to crawl, walk, feed and be toilet trained. Then comes the first day in school, how to draw, interact with class mates and play baseball. And on and on. With each new piece of information the brain develops a greater understanding of the world around it.

The one highly challenging aspect of the human brain, especially in the formative years, is its wholesale acceptance of any and all information as being credible and true. A young toddler develops a sense of trust that all of its needs will be taken care of and that older people (parents, teachers, aunts and uncles, etc.) always know what's right. So, its blank slate, or 'computer files,' are constantly being added to without a single question as to the validity of the information being stored. Hopefully, when the child matures and reaches the age of reason, he or she will begin to question, second guess, investigate, scrutinize and, ultimately 'think for themselves' when it comes to all this data. (Not an easy task, especially in this techno-information age – author Jerry Mander estimates that the average 12-year-old American youngster has already watched 300,000 television commercials.)

So, what it all boils down to is this: a youngster's brain will create 'files' on whatever information it is exposed to. Whether that information is right or wrong, true or false, fact or fiction, the child's brain still creates a 'file'. If, for example, the child is exposed to the idea of 'Aboriginal people' or 'Indians' or 'natives', the brain automatically creates a new file under that category and each new piece of related data will be added to that file. If that information is 'race based,' derogatory, homophobic in nature and prejudicial towards Aboriginal people, then that is exactly the data that is saved in the 'file'. If children hear enough times from adults that native people are drunk all the time, lazy, stupid, dirty, always on welfare, get everything for free, sub-human, savages who don't have rights and don't deserve to get any of their land back, etc., etc., then these becomes their 'truths', unquestionably. It cannot be any other way – the child has no frame of reference to think otherwise. The child goes on into junior and senior high school and the 'truths' become more indelibly imprinted in his or her 'files'. Racist concepts are like family jewels – they are passed down from one generation to the next via the learning process.

On the positive side, children can also be exposed to information which is based on fact, history and science. In the case of Canada's Aboriginal peoples, youngsters can develop an accurate and knowledgeable understanding of the rich history, understated intelligence, and the deep connection these folks had with the natural world. Anthropologists have only recently begun to discover how advanced Canada's indigenous cultures were in the areas of natural medicines, creative arts, egalitarian social structures, spirituality, universal laws, human rights and, last but not least, their profound respect and care for the environment. These are qualities that should be recognized, admired and celebrated, just as we recognize, admire and celebrate the qualities of other cultures. Our Aboriginal people have been through some rough times over the past hundred and fifty years but that does not take away from who they are, which includes their talents, strengths, and value as human beings.

Ignorance fosters racism. Therefore, accurate and fact-based information provided by the education system can go a long way to countering the misinformation and negative stereotypes that children are sometimes exposed to from the outside world.

## **Part Six**

### **Racism and Natural Law**

#### **Going Against the Grain**

If one really looks at things from a scientific perspective, it's clear that racism is, by far, the most un-natural of all human expressions. As a matter of fact, it is probably the most un-natural phenomenon ever to exist.

Try to imagine the following: The most powerful forces in nature, those being the universal laws that have created, nurtured, melded, shaped and guided the human species through 5 million years of development, are all heading in one direction: diversity. And, from the opposite direction moves a tiny, insignificant speck of matter, so minute that it must be viewed through a powerful electron microscope and this tiny speck of cosmic dust appears to be kicking and screaming, shaking its tiny, miniscule fist at the overwhelming power of nature's laws. This is a fairly accurate depiction of racism. The laws of nature stipulate that there will be diversity in all things organic. In regards to humanity, that means a variety of languages and dialects, religions, skin colours, music, styles of architecture, art and other cultural characteristics. But racists say no, everybody should speak one language – their language – and everybody should have one skin colour – their colour – and everybody should practice one religion – their religion – and so on. This type of system is referred to as a mono-culture where everyone is the same in all respects, whether on a regional or global scale. This misconceived world-view totally flies in the face of natural law.

#### **The Pet Shop**

(The students are asked to place themselves into the following scenario.)

You are in a pet shop, browsing around when a man enters and approaches the sales clerk behind the counter. You are standing nearby and overhear the exchange between the two individuals. The customer says that he would like to purchase a cat and the clerk directs his attention over to a large wire cage standing against the back wall of the shop. In the cage are all sorts and all colours of cats – black cats, white cats, grey, brown and orange cats. There are also calicos, cross-bred, and multi-coloured cats. After quickly glancing at the cage the man turns back to the clerk and, in an abrupt voice, says that he is only interested in purchasing one particular kind of cat – it must be absolutely pure white and nothing else will do. There is a puzzled look on the clerk's face and he asks the customer if he would be so kind as to explain this unusual request.

The customer replies that, in his opinion, pure white cats are superior to all other cats. He further states that cats of colour, any colour or mixture thereof, are inferior in quality, less

intelligent, dirty, impure and ungodly. The clerk attempts to interrupt the customer but can't get a word in edge-wise. The customer continues his rant, his voice noticeably rising in pitch. He claims that the world would be a better place if it was populated only by pure white cats. He even asks the clerk to imagine what that would be like – pure white cats everywhere, in every city, every region and every country in the entire world. An ideal world, he repeats, would be a world with nothing but pure white cats.

The clerk is getting angry and frustrated by this time but the customer has reached a fever pitch and is now yelling at the top of his lungs. With rage in his eyes and spit flying from his mouth, he screams out that if he had his way, all cats of colour – black cats, brown cats, orange or grey cats and even cats with mixed colours – would be put to death because of their inferior intelligence, lower class, substandard quality. And, in addition, he screams, all cats of colour should be destroyed because they pose a constant threat, through cross-breeding, of contaminating the purity of the white cats.

To most people the above scenario would seem ridiculous and unthinkable. Nobody could be that silly. Unfortunately, when it comes to human beings, this scenario has been played out, over and over again during the past 500 years of, so called, modern civilization. When selecting a cat or a dog as a pet, we do not make judgments as to the animal's intelligence, class or worth based upon its colour – in a sense, we become colour-blind. But in dealing with their own human family, some people insist on classifying certain fellow members as being less worthy, less intelligent and inferior, based upon the colour of their skin, their religious beliefs, their nationality, the way they dress, the way they speak, etc. These folks break humanity down into classes or races, as if the world were occupied by a super-species (theirs) in the midst of inferior sub-species (everybody else).

But we now know this concept is totally off the wall, so to speak. Anyone who has studied science, especially as it relates to the evolution and development of ethnicity, knows that this concept is wrong. We know that humankind, after migrating from Africa, split up and developed unique cultural variations over tens of thousands of years of relative isolation. We know that the slight variations in appearance are due to genetic adaptation to unique environmental conditions. We know that variation in skin colour is caused by long-term exposure to levels of UV-B at certain latitudes. And, finally, we know, thanks to science, that there is no such thing as race or class distinction. Science has proven, over and over, that we are one people, one family and one kind. Our packages may look and sound a little different but our contents are the same.

## **In Conclusion**

### **Cause and Effect**

Sir Isaac Newton's third law of motion states: every action is equal to an automatic and equal reaction. We live in a world of consequences where every aspect of life today, whether on a global or personal scale, is the result of something else and those something else's form a long chain that can be traced back through human history, and eventually, to the beginning of time. Absolutely nothing can escape the law of cause and effect: which means that no one situation or event can be judged purely on its face value or solely in its present-day context – there is always a biological or historical chain reaction that has caused that situation or event to be.

Newton's law of motion forms the foundation for the above formula for multiculturalism. It is enlightening, and at the same time sobering, to view the world through the eyes of science and realize that everything is working perfectly according to the law of consequences, that nothing is out of place and, for better or for worse, the universe is truly unfolding as it should.

(Note: Part Seven has been omitted from this document because it has little to do with science but much to do with history. Part Seven is entitled "Racism: The Concept that Kills" and provides a hard-hitting examination of examples of racism in the past 500 years of civilization. The examples are: the Jewish Holocaust, the African Slave Trade, the Colonization of the Americas and the Indian Residential School system in Canada. This section is designed for mature students (grades 9-12) and includes strong language and graphic images which are intended to leave a lasting impression on the students. Upon request, a copy of "Racism: The Concept that Kills" can be forwarded to teachers or administrative staff for consideration.)

Dennis Lakusta  
1522 Edgemont Rd  
Victoria BC V8N 4P9

dlakusta@canada.com  
www.dennislakusta.com