

## Research Article

### Human Dark Skin and Equatorial Africa: Toward a Critique

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**Abstract:** While skin color represents one of the most common markers of humans, the theories that explain it remain largely unknown both in academia and industry. Meanwhile, fraught with theoretical shortcomings about skin color, as clear from its body of knowledge, racial studies has not addressed skin color with needed attention. Consequently, misconceptions about human skin color have proliferated. This paper discusses anew Gloger's theory and its widespread impact in the social sciences and general public. Gloger explained dark skin by heat. Not surprisingly, dark skin is believed to be the product of and response to ultra violet radiation in Equatorial Africa. One reason might be the fixation of the debate on the white-black binary. Another reason might be the commonplace belief about the African heat. The present paper calls into question the Equator-Africa presentation of black skin. To this end, the paper situates the debate in the broader spectrum of social science disciplines, and investigates the ways in which black skin is presented. The paper advocates for the consideration of skin complexity and of minorities in the field of skin color. The goal is to work toward a deeper understanding of others and their traits, with a view to raise awareness among policy makers, the general public, and social science experts. The paper takes an encyclopedic approach to best cater to these audiences.

**Keywords:** Africa, black skin, caucasian, equator, Gloger's theory, minorities, pigmentation

## INTRODUCTION

In various parts of the world, race and related concepts (e.g., skin color, ethnicity, culture, history, etc.) assure the cohesion, interaction, and promotion of nations and communities, but they also lead to the exclusion and as has been the case several times, extermination of individuals and their properties. The goal of any scholarly research is to enhance the understanding of humans and their fuller actualization. However, we cannot help (any group of) humans by promoting or bypassing the incorrect assumptions being held about them. Moreover, it can be said that, in more ways than one, academicians do not address the misconceptions held by the general public, assuming that these misconceptions will disappear with people's education. Meanwhile, with the increased segmentation of disciplines, scholarly discussions remain disparate and bound to silos of specialized and oftentimes sophisticated knowledge. Consequently, misconceptions proliferate in academia and industry concerning human skin (Goodman *et al.*, 2012; Hall 2013). In slightly sharper terms, Hall (2013) remarked,

As a member of the social work academy and one who values knowledge, I have agonized over the manner in which people of color are regarded worldwide... For many reasons, the topic [of dark skin] has remained an unspeakable taboo in

practically every sector of the Western academy and society at large. (p. xi)

Despite the rigor required of academic career, spurious explanations, as clear below, are being deliberately/unquestionably propagated with regard to dark skin. In other words, while skin color might be understood in specialized fields of biology, it carries continual confusion among policy makers, the general public, and experts. To add to the conundrum, skin color represents one of the stickiest topics of social science literature. This paper intends to serve both experts and the general public.

More specifically, since the classification, research, and representation of human skin are too often met with anger, denial, rejection, or disdain, they call for a fresher and calmer perspective. Human variations are not as racial as commonly claimed. As Goodman *et al.* (2012) explained,

Systems of inequalities were built and maintained around the unchallenged idea that racial differences and inequalities were biological and natural. These notions reverberate today. However, it is clear that they are refutable and simply based on bad science. This is why we felt compelled to educate that *race is powerful, but not based on genes or biology, rather than a cultural and changeable concept* [emphasis in original]. (p. xii)

Notwithstanding fierce outcries from different exemplars in the course of years, especially the 1920s, 1940s, and 1950s, in the hopes of defending and promoting its value and peoples (DuBois, 2009; Fanon, 1952; Montagu, 1945), black skin continues to be the target of misconceptions, among both educated and uneducated people. In a recent issue of *The Social Science Journal*, Baek and Lee (2012) noted that “racial studies... fails to capture recent increase in racial diversity... which accounts for theoretical shortcomings” (p. 127). This paper captures the shortcomings of theoretical discussions with regard to skin color. Owing to both its complexity and salience, the topic of skin color involves a wide array of social science disciplines. For an extended discussion of skin color theories, see Diamond (2006, pp. 110-121; 376-377) and Sandefur *et al.* (2004, pp. 23-52), among others. This paper focuses on the Equator-skin color theory since this theory is applied most easily and commonly to Africa.

The paper looks at the broader spectrum of Equator-skin color theory. The goal is more to raise awareness among readers than to settle the debate. Equatorial Africa and related concepts such as heat, forest, and darkness have been used as the core elements of skin color documentation. Jablonski (2009), claimed, “the earliest humans evolved in high UV [ultra-violet] environment in Equatorial Africa. The earliest members of our lineage, the genius *Homo*,” Jablonski remarked, “were darkly pigmented, and we all share this incredible heritage of having originally been darkly pigmented 2 million 2 and ½ million years ago”. As is apparent below, while such a statement (Jablonski, 2011, pp. 7-8) might hold some truth, it raises questions in several respects. Still, this is not to say that Jablonski or any proponent of Equatorial Africa-caused black skin is a racist. A closely related topic is race classification. Race classification has received varying accounts since Antiquity, but it has gained popularity in the second half of last century in the aftermath of postcolonial movements. In fact, the social sciences have engaged the topic of race classification in areas as diverse as politics, history, mixed race, categorization, etc. (Fortney, 1977; Jones, 2005; Keita, 2002; Leverette, 2009; Teasley and Ikard, 2010; Vora, 1981). These and similar studies have questioned the validity of the concept race and related misunderstandings. Nevertheless, despite new scientific data, preconceived ideas concerning black-skinned people have persisted. Misunderstandings can be fostered by the ways in which race and skin color authors and their works are treated. “Even today,” Diamond (2006) remarked, “few scientists dare to study racial origins, lest they be branded racists just for being interested in the subject” (p. 111). Also it needs to be noted that the present paper takes the concept of social sciences in its broadest sense: the traditional social

sciences (e.g., anthropology, sociology, political science, etc.), humanities (e.g., philosophy, linguistics, history, etc.), and natural sciences (e.g., biology, astrophysics, physics, etc.) insofar as skin color cross-cuts these areas of research.

As mentioned above, a number of reasons account for the misunderstandings that plague skin color literature. One reason is the misconceptions surrounding Africa. While Africa represents a key point in the argument of skin color (detail below), it remains one of the least understood places of the world. Prendergast (1996) wrote, “unfortunately, Africa is usually only mentioned in the media when there are famines and civil wars” (p. 1). More than a decade later, this remark still holds true. In 2010, Dowden (2010) deplored, “the news of Africa has been almost exclusively about poverty, wars, and death” (p. 4). Only rarely does one find in the Western media -- mainstream or independent -- a picture of normal and healthy Africans (e.g., a wonderful husband, wife, and happy children smiling and playing around). Charity organizations and donor associations vividly relay disaster-led images and these are what people in the West see, learn, and know about Africa (Prendergast and Cheadle, 2010; Prendergast and Mattocks, 2011). If there are positive images about Africa, they simply deal with wildlife for tourism purposes. Even there, positive images are often accompanied by images of violence and sexual behavior, as has become somewhat of a norm in modern film industry. Such a twisted representation hinders the understanding of the African continent among both the general public and experts.

The second reason, perhaps most pertinent to our discussion, is the image of darkness. “The image Africa conjures up in most people’s minds is the Dark Continent, the heart of darkness” (Dowden, 2010, p. 2). This image holds important implications for skin color literature. Related to the idea of darkness is, as Dowden (2010) put it, “the African heat” (p. 46). To no small degree, Africa has been identified with heat and humidity. “When I get back at midday I am exhausted by the heat and humidity” (Dowden, 2010, p. 170). In one of his accounts, Dowden (2010) described the temperature (in Africa) as “often unbearably hot and humid” (p. 358). For better or worse, these ideas have a profound impact on people’s understanding of Africa’s realities.

The third reason springs from modernity-based beliefs. It is generally believed that contemporary societies are better than previous societies. It follows that attitudes and opinions concerning Africa, for example, are thought to be much better than ever before. Therefore, “ethnicity and race had been expected to disappear as forces to be reckoned with in the modern world” (Cornell and Hartmann, 2007, p. 5). Modern societies are conceived of as free from or unfit for race and ethnic topics. Debates of misconceptions

concerning skin color are considered to be long settled, antiquated, and irrelevant. Although they often imply the consultation of experts, media reports regarding skin color are seen as mere popular belief and lack of education. Meanwhile, “from around the world... race and ethnicity continue to serve as vehicles of political assertion, tools for exclusion and exploitation, sources of unity, and reservoirs of destructive power” (Cornell and Hartmann, 2007, p. 5). This paper looks at one of the most common interpretations of black skin.

The fourth and last reason concerns the growing segmentation/specialization of scientific disciplines. While specialization achieves an indispensable role of scholarly work, it carries some challenges. For example, what is published in one branch of the social sciences (e.g., history) is barely quoted in other social science branches (e.g., anthropology, political science, sociology, etc). With an insular segmentation within and between our areas of work, we cannot “be drawn deep into unfamiliar territory [e.g., human skin in Africa], walking in borrowed literary shoes so to speak, towards a deeper understanding of foreign peoples, cultures, and situations” (Achebe, 2010, p. xiv). Skin color research is called to provide a deeper understanding of others and their realities. The segmentation of the social sciences requires relentless cross-discipline analyses. This paper takes the debate of racial studies to the roots of skin color research. To this end, the paper undertakes a critical cross-discipline approach. Several topics undergird dark skin research, of which the present paper has selected the four most important:

- Jungle/rainforest
- Hot temperature
- Skin color and the Equator
- Diversity and ethnic conflicts

### **JUNGLE/RAINFOREST**

Curiously, although it is systematically unused in academia (e.g., climatology, forestry, geography, zoology, etc.), the word jungle represents one of the most leisurely employed qualifiers concerning Africa. The term has virtually become synonymous with the African continent. On this basis, however, as misconceptions went on the deepest, Yale University (USA) American anthropologist Murdock (1959) lamented,

Popular [educated as well] opinion also *greatly exaggerates* [emphasis added] the extent of tropical rainforest, or “jungle”, in Africa. Actually this covers only restricted coastal strips of Madagascar, Mozambique, and the Guinea coast [Guinea-Conakry] and a larger area in the Northern Belgian

Congo [Democratic Republic of Congo] and adjacent Cameroon and French Equatorial Africa [ex-French colonies of West Africa], and even here it is less dense than in comparable regions in Southeast Asia or South America. (1959, p. 6)

To date, this remark does not seem to have lost its value. In fact, nearly half a century after Murdock (1959) remark, sociologists Allen and O’Neal (2000) observed, “a European-inspired and -dominated cartography has successfully institutionalized blatantly misrepresentative views of African topography... More subtly,” underscored Allen and O’Neal (2000), “the world’s geographic view of Africa has evolved to attribute a unidimensional image of Africa as consisting wholly of lush, impenetrable, tropical forests. Tropical rainforests represent only the smallest fraction of Africa’s myriad landscape” (2000, p. 61). To carry the discussion a little further, the point is not only about the extent of forest in Asia and South America, compared to Africa, but also related wild animals (e.g., chimpanzees, gorillas, snakes, lions, leopards, etc.) that have been equated with Africa. Meanwhile, the largest forest in the world, the Amazon, is located in South America, not Africa. Kozloff (2010) maintained,

The Amazon is the single largest rainforest sink...It’s the largest rainforest on Earth and is approximately the size of forty-eight contiguous United States. It covers 40% of the South American continent, including parts of eight South American countries... Perhaps even more startling, the Amazon is home to more species of plants and animals than any other terrestrial ecosystem on the face of the Earth. (p. 3)

It is inexplicable that the African continent has been viewed as having the largest rainforest and the highest number of animals and plants on earth. Such an image has been used to explain the rise of *Homo sapiens* in Africa (detail below).

Associated with the rainforest is the idea of rainfall/humidity. Rainfall is another ready-made descriptor of Africa. However, Africa is not the rainiest and the most humid place on earth, nor the second. So ironically, “Cherrapunji [India] in the Shillong Plateau just north of Bangladesh receives 450 inches (1, 143 cm) [per year] making it the second rainiest place on earth; after Mount Waialeale in Hawaii (460 inches, 1, 168 centimeters)” (India, 2004). Though there might be differences of opinions, authors concur that Waialeale and Cherrapunji, neither of which is on the Equator or Equatorial Africa, are the wettest places in the world. With compelling details, Potterfield (2006) pointed out,

The rainiest place in the world, by actual meteorological measurement, is just a few miles

away from Kalalau Valley [Hawaii, USA]... The peak of Wai'ale'ale holds the [world] record, with more than 600 inches (15 m) in a year. That's a lot of rain, and a fact that goes a long way toward explaining the water-carved features of the ineffably beautiful Na Pali Coast. No wonder this is the land of 4, 000-foot (1, 200 m) waterfalls, a landscape flaunted in dozens of Hollywood films. (p. 200)

These empirical data can serve to dispel misconceptions about rainfalls in Africa or Equatorial Africa. Hile (2009) affirmed that the mount of Waialeale has an annual average record of 350 days of rain. Basically, it rains every day. As Potterfield (2006, p. 200) described, "rain is a fact of life on Kauai [island, which is home to the mount of Waialeale], particularly on the north shore". Note that although away from the Equator, more precisely from (Equatorial) Africa, such a wet climate implies extreme heat. Potterfield (2006) observed, "hikes at the high end of the scale, such as the hike along the Na Pali Coast on the Kalalau trail, are rated high because of long days, typically problematic weather conditions due to heat and or rain" (p. 10). One can argue that, though not located exactly on the Equator, Waialeale (22°N) and Cherrapunji (25°N) lie in the equatorial zone. Still, the argument belies the claim that the closer is human skin to the Equator, the greater is the UV exposure, and the darker is human skin (Relethford, 1997, 2012). Therefore, as demonstrated in this paper, the Equator is not the best predictor of solar radiation and human skin color of *Homo sapiens*. "Evidently, sunlight has not been the sole selective factor that influenced skin color" (Diamond, 2006, p. 115). Related to rainforest is also the idea of hot temperature.

**Hot temperature:** A strong and widespread belief in the West is that Sub-Saharan Africa is the hottest place on earth. The Dictionary of Geography (1997, p. 4) indicates that Africa is "the hottest continent". Nonetheless, specialized materials have not confirmed such a sweeping assumption. To illustrate, an Australia-based team of meteorological researchers (World Temperature Extremes, 2005) on the one hand, and the Arizona State University (USA) School of Geographical Sciences in collaboration with the United Nations World Meteorological Organization (School of Geographical Sciences, n.d.), on the other hand, have each shown the list of the hottest places on earth with the record of extreme temperatures, none of which is located in Sub-Saharan Africa, much less on or near the Equator in and outside Africa. It is also curious that none of the coldest places on the planet are situated in Norway, Sweden, and Denmark, the alleged hub of White Caucasians. A few illustrations are helpful.

Data concerning two African countries on the Equator indicate that in Gabon (2012): "average temperature ranges in Libreville are from 24°C (75°F)

to 27°C (81°F) all year" and in Uganda (2012) "Annual average temperature ranges in Kampala are from 22° Celsius (72°F) in January to 20°C (68°F) in July." The data show the consistency of temperatures throughout the year. According to the US-based weather website (<http://www.weatherbase.com/>), the average high temperatures of two African cities located on the Equator read as follows, Mbandaka [Congo-Kinshasa] (latitude 00 01N): between 87°F (29°C) and 90°F (32°C) and Entebbe [Uganda] (latitude 00 01N): between 75°F (24°C) and 78°F (26°C). The data also help see that the Equator is not the best indicator of African skin variation. Away from the Equator and Africa are two startling illustrations of average high temperatures: Death Valley [California, USA] (latitude 36 28N): between 64°F (18°C) and 114°F (46°C) and Palm Springs [California, USA] (latitude 33 49N): between 69°F (20°C) and 108°F (42°C). In detail, Death Valley has the following high temperatures: June 107°F (42°C), July 113°F (45°C), August 114°F (46°C), and September 105°F (41°C).

Despite available knowledge and better-equipped research tools, Africa has been almost irreversibly considered as the hottest, most humid, and sunniest place on earth, all of which has obscured the understanding of the skin color of Africans.

**Skin color and the equator:** While skin color has been an emerging object of discussion the last several decades, its literature constitutes one of the strongest catalysts of stereotypes concerning Equatorial Africa.

Living under high UVR [ultraviolet radiation] near the equator, ancestral *Homo sapiens* had skin rich in protective eumelanin. Dispersals outside of the tropics were associated with positive selection for depigmentation to maximize cutaneous biosynthesis of pre-vitamin D(3) under low and highly seasonal UVB conditions. (Jablonski and Chaplin, 2012, p. 785)

Before we begin our discussion, a brief history is helpful. Although more or less addressed in times as early as Antiquity, skin color discussion arguably goes back to the tenets of the nineteenth-century German biologist (Gloger, 1833). Gloger's rule states that birds' plumage is darker in hot climates and brighter in cold climates. This was applied also to animals and plants. Although Darwin (1871, chap. 7) argued that race is arbitrary, and that skin color is climate independent, several modern skin researchers (Eiberg *et al.*, 2008; Jablonski, 2004, 2009; Jablonski and Chaplin, 2000, 2012; Parra, 2007; Relethford, 1997, 2002, 2009, 2012) have espoused Gloger's line of thought. Consequently, the closer the skin is to the Equator, the darker and more melanized it is. The closer the skin is to the pole, the lighter and less melanized it is. In sum, "human skin

is darker in the Southern Hemisphere than in the Northern Hemisphere at equivalent latitude” (Relethford, 1997, p. 449). It is also argued that solar radiation is at its peak on the Equator. “The association between dark skins and sunny climates is a very imperfect one. Native peoples had very dark skins in some areas receiving relatively little sunlight, like Tasmania” (Diamond, 2006, p. 115). Meanwhile, skin color authors have not included animals and plants in the claims about latitude-bound pigmentation. Our discussion unfolds in three phases:

- Pigmentation/melanin
- Siberia
- Human evolution

**Pigmentation/Melanin:** Perhaps to the contentment of Darwin (1871), pigmentation literature has fallen under sharp criticism. There have been cautionary reactions from within skin color field, pointing to misconceptions about pigmentation. “Even skin that has no pigmentation can develop photoprotection... Skin color may be similar between individuals, but their response to UVR may vary several fold” (Rees, 2003, p. 72). Because of increasingly mixed results of research on melanin and the almost intact rise of melanoma, the nature of melanin needs deep research and explanation. Wu (1999) claimed, “until scientists can sort out this tangle, people shouldn’t rely on melanin to protect their skin from the sun’s rays” (p. 190). Western cosmetic companies have been waging massive pro-light-skin campaigns regarding skin protection, yet these campaigns overlook skin complexity. “Skin color is a key determinant of UVR sensitivity, but not the only one, nor should we equate color completely with our current understanding of melanin structure” (Rees 2003, p. 72). The overall logic of Equator-bound explanation of skin color is objectionable. A thorough analysis of Gloger’s (Gloger, 1833) rule reveals that Equatorial Africa was not the target/center of darker plumage. For example, the rock sparrow (*Frangilla petronia* L.) with darker plumage is found in Africa, Arabia, and Syria (Gloger, 1833, p. 152). As problematic as they are, views of Equator-skin color equation are also refuted by historical materials. Apart from those of Ethiopia, Herodotus distinguished three kinds of Ethiopians around the globe: Ethiopians of Asia, Ethiopians of Libya, and Ethiopians of Nubia (1950, 3.97; 1957, 7.69-70). These groups of Ethiopians were not related to one another nor to Africa nor to the Equator. The Greek word Αἰθιοπία [aithiopsis], which derives from the Greek verb αἶθω, meaning to burn, blaze; and from the Greek noun ὄψις [opsis], meaning look, face, is translated by the English word negro (Liddell and Scott, 1996). Migrations of these groups of Negros from (Equatorial) Africa were not noted nor claimed. Perhaps even more inconsistent, linguistic and

historical studies do not show the origins of Africans (e.g., Bantus) to be on the Equator (Cornevin, 1974; Heine and Nurse 2000; Vansina, 1966). Despite such strong remarks, some authors continue to see skin color as the descriptor of human identity based on latitude.

Most troubling, and largely due to the complexity of the skin, the field of skin color does not have a global map that is *comprehensively* and *individually* representative of human skin variation. The most influential map upon which noted skin color experts and various designers of skin maps continue to draw is the one caricatured by nineteenth- and twentieth-century Italian naturalist traveler Renato Biasutti (Cavalli-Sforza *et al.*, 1994; Chaplin, 2004; Chaplin and Jablonski, 1998, 2009; Jablonski and Chaplin, 2000, 2012; Parra, 2007; Relethford, 1997, 2000, 2002, 2009, 2012; Skin Color Maps, n.d.) for the purposes of his travels and interests. This map is outdated and inefficient, not to mention detrimental to and irreconcilable with the diversity and uniqueness of minorities. Robins (1991) elaborated,

The skin colour map of Biasutti was based on data derived from the von Luschan tablets. Not only did the latter method of measurement have definite shortcomings but, for regions where no information existed, Biasutti simply filled in the map by extrapolation from findings obtained in other areas. (1991, p. 188)

Skin color literature has remained unresponsive to, un-protective of, and uninformed about minorities. Not surprisingly, modeled on the Biasutti’s classification, the Fitzpatrick’s diagram of skin types (I-VI) raises questions. “Depigmentation has been practiced for decades and documented in the literature, but the practice in Fitzpatrick skin type VI [dark skin that tans] is not well-documented” (Black *et al.*, 2012, p. 57). For example, the media have been discriminating against the strongly dark-skinned woman, simply because of her color and hair. This might explain the use of skin bleachers and artificial hair among some dark-skinned women. Yet all humans need to be respected, irrespective of their individual traits.

Today, the various manifestations of physiological colonization are dramatic... By submission to the discourse of race, alien ideals pertaining to skin color evolved a self-destructive dynamic... People of color then act out various forms of discrimination against other people of color as a manifestation of psychological colonization. Race is all but totally irrelevant... Thus, those who are lightest by skin color are the most celebrated among nonphysiologically Western populations. In contrast, those who are darkest have been denigrated as inferior by their least proximity to the

Western ideal even to the point of being denied their humanity. Similar to physiological colonization, this more covert psychological version [of colonization] ... is historically rooted in white racism and is acutely insidious. (Hall, 2013, pp. viii-ix)

Copied and pasted from nineteenth-century textbooks, the classification of African populations that skin color experts propound markedly misrepresents and occults the enormous skin diversity of Africans within the continent, individual countries, communities, neighborhoods, families, and individuals, not to mention aboriginal Black populations outside Africa as well as African descendants dispersed in the diaspora over the course of centuries.

In a powerful description of skin color seen in central Africa, at the heart of the Equator, Wack (1905), an expert in central African affairs in the 19th century, wrote,

The numerous Central African tribes, as they exist to-day, exhibit *marked differences* in height, shape, language, habits, customs, and *even in colour*, some being an intense black, some of a chocolate hue, some reddish brown, and some of a bronze aspect [emphasis added]. (p. 153)

From as clear a statement as the above, the diversity of skin color in Africa defies the blackening effect of the Equator, with the red, brown, and bronze African colors being some of the most unquoted and unexplained characteristics of Africans.

One compelling explanation might be that “modern conceptions of race are derived from a hierarchical European worldview that assigns the lowest status to Africans, who are equated with blackness – the opposite of whiteness or European ancestry... ‘White’ and ‘black’,” elucidated Allen and O’Neal (2000), “are more political designations than physical ones... Although there are indigenous Africans who have lighter complexions than some indigenous Europeans, widespread views of Europe as white and Africans black persist” (pp. 61-62). The rampant ideology of limiting Africa to one skin color loses its relevancy in many respects. This can only undermine the identity of dark-skinned people.

One of the best ways of describing pigmentation in relation to the Equator, as criticized in this paper, is with the idea of red skin. Inexplicably, as noted earlier, this is one of the skin colors that is neglected by skin color research (Cribier, 2011). It is the case that some of us have a red skin, irrespective of race and location. It is also very often the case that some humans become red under the effect of anger. The more anger they feel the more red they get. In this respect, it can be argued that *Homo sapiens* species were born with a specific

skin color (e.g., white), but because of persistent frustrations (anger) with the weather over a long period of time, the skin of *Homo sapiens* had turned reddish. Therefore, red skin color, it can also be argued, is an anger-adapted product. Put differently, anger represents the main cause/factor of natural selection for red-skinned people. One will thus use the theories available in academia to support and justify this red skin-related belief. While it is true that anger can render the skin red, it is simplistic to reduce red skin color to anger. This is what happens with black skin. The case of black skin is even more suggestive since the sun never renders the skin black, but only dark.

Another important aspect that some skin color researchers have left aside by lumping all of Africa together in one skin type has to do with Black Africans, North of the Sahara (Maghreb). Extensive ancient historical material shows various black-skinned communities to be aboriginal to North Africa (Herodotus, 1957; Snowden, 1970). Attention has been trained so much on the Equator that Supra-Saharan Africans are discounted by skin color research. Meanwhile, in his 2004 global study, Chaplin concluded,

Africa was the most heterogeneous continent with respect to UVR regimes due to its *large latitudinal* [Equator-based] range, large west-to-east extent north of the equator, a wide variety of humidity regimes, and a *large altitudinal* [sea level-based] range from west to east (and within the east from north to south). (p. 299)

Such strongly proven heterogeneity of African individuals (Equator and sea level) is inexplicably ignored in literature, and misconceptions persist. Public and private surveys, within and between nations, gravely lack data concerning skin diversity in Sub-Saharan Africa, among aboriginal Black populations above the Sahara and outside Africa, and African slavery-descendants outside the US. Aboriginal and diasporic Black populations around the world are greatly understudied or simply ignored.

Most researchers generally agree that these categories [of skin color] are primarily social constructions that have changed and will continue to change over time... Race and ethnicity are words that carry heavy intellectual and political baggage, and issues surrounding racial and ethnic identities are often contested within and across groups (Sandefur *et al.*, 2004, p. 25).

Curiously enough, none of outside-Africa aboriginal Blacks live on the Equator. One challenging example, among others, aboriginal Australian Blacks and the Khoisans (South Africa) live within the same

latitudinal range (15°S-30°S), but they have differing skin color, let alone South America has no aboriginal Blacks within and outside that range. The limitation to, equation with, and fixation on Africa-Equator assumptions have all but obscured the understanding of dark skin. Perhaps the most alarming example concerning the skin-Africa-Equator rationale is skin color in Siberia, Russia.

**Siberia:** Although virtually unaddressed by skin color research (Chaplin, 2004; Chaplin and Jablonski, 1998, 2009; Jablonski, 2004, 2009; Jablonski and Chaplin, 2000, 2012; Parra, 2007; Relethford, 1997, 2000, 2002, 2009, 2012) Siberia represents one of the most informative places for the body of knowledge regarding skin color. Perhaps surprisingly, dark pigmentation is prominent in Siberia. Several Siberian aboriginals readily display dark skin, black and brown eyes and hair, and thick lips (Kolga *et al.*, 2001; Mäll, 2001), leaving the so-called light skin and blue eyes a minority in the coldest place on earth. This comes in sharp contrast with the widely propagated link between solar radiation on the Equator and dark skin, eyes, and hair. A few examples, among others, as Kolga *et al.* (2001) noted, the Kerets (Northern Siberia) “are short and stout. Their skin is dark, their eyes and hair dark” (2001, p. 177). The Nivkhs have dark skin, eyes, and hair, and thick lips. The Koryaks have a flat nose, coarse hair, dark brown and black eyes. The Ingrians have fair skin and blue eyes. In other words, Siberia proves to be home to human variation.

Meanwhile, several ethnic groups in Siberia have gone extinct, and those groups so far listed are still in danger of extinction (Mäll, 2001; Viikberg, 2001). Reasons for this extinction include massive Russification, sparse settlement, vernacular decline, and estrangement in their own territory. Despite diversity among Siberians, studies on Siberia have not addressed skin color variation (Jin *et al.*, 2010; Mooder *et al.*, 2006; Pakendorf *et al.*, 2003; Snodgrass *et al.*, 2008; Starikovskaya *et al.*, 2005). Such a limitation leaves us with a flawed understanding of global pigmentation.

Perhaps the most engaging and challenging fact about dark pigmentation in Siberia is the presence of Black communities in the Caucasus mountains. “The question which has generated the most diverse opinion is the origins of the Black Sea Negroes” (Blakely, 1986, p. 9). Further up-to-date scholarly evidence is discussed below. It should not be surprising that Black communities had peacefully lived in Siberia. Stephan (1996) pointed out, “the Far East [of Russia] has been a meeting ground for diverse peoples and cultures for many centuries” (p. 2). Therefore, the definition of the Caucasian race -- inherited from the Biasutti’s map (discussed above) -- constitutes a significant distortion and misrepresentation of Caucasian skin variation. The ignorance of the general public about and the danger of

extinction for Black communities in this part of the world is not untypical. “When one considers the rugged terrain of this region [Caucasus], it is not surprising that these black Caucasians remained highly isolated for centuries and were generally unknown to the Russian public” (Blakely, 1986, p. 5). This might also explain the paucity of scholarly research about skin variation in this place of the globe.

The origins of Black communities in the Caucasus mountains have been explained in two manners. The first and most prevalent explanation is that scattered African slaves had lived and served in various royal palaces and villas in Europe, including in Russia (Blakely, 1986). It is also argued that Turks or Egyptians might have brought African slaves to the Caucasus mountains. The second explanation is that these communities were aboriginal to the Caucasus mountains along with other communities. This explanation is supported by Vadrii, the first Russian traveler (Blakely, 1986) to encounter an entire village of Black communities in late nineteenth century, members of which were fluent in the local language, Abkhazian. A few years later, another traveler encountered “isolated colonies of Negroes of relatively unmixed blood” (Blakely, 1986, p. 8). At this point, some explanation was available. “From his interviews [with the Black communities], Vadrii determined only that several groups of Negroes had lived near Batumi [in the Caucasus area] since ‘immemorial time’” (Blakely, 1986, p. 9). But, the Russian traveler (Vadrii) did not elaborate on the reasons that led to his conclusion, and the slavery-based explanation prevailed, leaving aside one of the most informative stories of the social sciences (for further reasons see Blakely, 1986, pp. 5-12, or English, 1959). For space purposes, however, this paper suggests four major reasons:

- Archaeological
- Historical
- Political
- Sociological

The first reason springs from archaeological findings. In the 1990s and early 2000s, excavations had been conducted in the Caucasus region, precisely in the historic small village of Dmanisi, currently east of Georgia. Though establishing some links to fossils found in Asia, diverse analyses of excavated skulls have confirmed numerous similarities between the Dmanisi skulls (1.7 million years) and those of Africa (Gabunia and Vekua, 1995; Gabunia *et al.*, 2000a, b; Lordkipanidze *et al.*, 2007, 2006; Rightmire *et al.*, 2006). These findings might be the most indicative link between Africa and the Caucasus. Paleontologists Rightmire *et al.* (2006) stated, “there are numerous phenetic resemblances [of the Dmanisi skulls] to H.

[homo] habilis (sensu stricto) from East Africa [Olduvai Gorge, Tanzania; Turkana Basin, Kenya]" (p. 138). African affinities were observed by several authors. Gabunia *et al.* (2000) stressed, "unlike all other hominids found outside of Africa so far, the new Dmanisi specimens show clear affinities to African *H. ergaster* rather than to more typical Asian *H. erectus* or to any European hominid" (p. 1024). Several explanations have been proposed to make sense of the African-akin Dmanisi skulls. Rightmire *et al.* (2006) wrote,

One [explanation] is that an early Homo population left Africa and settled in the Caucasus, where it was ancestral to the Dmanisi hominins. Dating does not presently rule out the possibility that *H. erectus* originated in Eurasia and that some [not all] groups then returned to Africa, where they evolved toward *H. erectus ergaster*. (p. 140)

The second of these explanations is inconclusive since *Homo ergaster*'s affinity is limited to Dmanisi. One can safely argue that, whatever the Caucasian climate was, Caucasus skulls resist both the exclusion of an African connection and the limitation of the term Caucasus to describe White Caucasians. More specifically, the Equator becomes an inadequate and misleading proxy of African identity.

The second - historical - reason has to do with Herodotus (1957, 1960) writings about Black communities in the Caucasus mountains. This text is the oldest work, to my knowledge, to be explicit about Blacks' existence in the Caucasus mountains. Herodotus (1960) wrote, "they [Colchians] are dark-skinned and woolly-haired" (2.104). According to Liddell and Scott (1996) long standing authoritative *Greek-English Lexicon*, the Greek word used by Herodotus for the English word dark-skinned is μελαγχροες (melagchroes). Literally, this word, μελαγχροες, has two particles: μελαγ-χροες (melagchroes), deriving from the Greek adjective μέλας (melas) [black] and the Greek noun χρώ (chr s) [skin]. As can be seen, the English translation should be black-skinned. In his works (e.g., 2.22), Herodotus consistently ascribes the meaning of black to the Greek word μέλας. Most pertinently, the words dark-skinned and dark-haired are translated as κυανόχρω (kuanochrōs) [dark-skin] and κυανότριξ (kuano-thrix) [dark-hair], respectively, which has a softer nuance than black-skinned/haired (Liddell and Scott, 1996). In addition, Herodotus did not use the word ούλοτριχες (oulo-trikhēs) [woolly-haired] for Whites. In fact, Herodotus (1957) clearly described the Ethiopians of Libya as having "of all men the woolliest hair" (7.70). Black populations in Andaman and Nicobar Islands (India and Myanmar), for example, are described as

having woolly hair (Kashyap *et al.*, 2003; Thangaraj *et al.*, 2003). One can see the depiction of hair and skin being carefully and distinctly applied to Blacks.

Perhaps stronger historical evidence can be found in Brook (2006) and Dunlop (1966, 1967) works. Brook (2006) asserted, "Al-Istakhri [a 10th-century Persian historian and geographer] added that there were 'Black Khazars' and 'White Khazars,' alleging that the latter were light skinned and handsome while the former were dark-skinned" (p. 3). In the Khazarian language, White Khazars and Black Khazars were identified with the determiners *ak* or *aq* Khazars and *kara* or *qara* Khazars. *Ak* and *kara* mean white and black, respectively (see glossary, Brook, 2006, pp. 252-253). The word black was unequivocally used to identify the Kara Khazars. Furthermore, it is no accident that "Soviet historians and archeologists were forced to adopt the view that the Khazars were not Turkic migrants from the East but rather were natives of the north Caucasus" (Brook, 2006, p. 5). Also significant, the Caucasus region was not thought to be confined to light-skinnedness or whiteness. While scholars disagree about the origins of the Khazars, they display consensus on several facts. One indication of consensus is that the Black Khazars are shown to be aboriginal to the Khazarian empire (Dunlop, 1967, 1966). The assumption of considering the Black Khazars as slaves does not hold since the Black Khazars were accepted as full members of the Khazarian empire. Another indication is that authors do not associate the Black Khazars with the heat or the Equator. The Khazarian empire lasted for fairly all the Medieval Ages, from the sixth to sixteenth centuries. Beside the Black Khazars, other Black communities, the Kuban Bulgars [Kuba river flows through the Caucasus mountains] or Black Bulgars and Black Ugrs or Magyars were mentioned among the peoples of the Russian lands (Brook, 2006). The existence of unmixed Black communities in Russian cold-prone lands proves to be irrevocable.

The third reason, after textual analysis, refers to the political situation of the Colchians. In greater detail, Herodotus (1950) described the Asian kingdoms he visited as follows:

Babylon and the rest of Assyria rendered to Darius a thousand talents of silver and five hundred boys to be eunuchs; this was the ninth province...The thirteenth, the Pactyic country and Armenia...paid four hundred...The Paricanii and Ethiopians of Asia, being the seventeenth, paid four hundred... The Indians made up the twentieth province... Gifts were also required of the *Colchians and their neighbours as far as the Caucasian mountains* [emphasis added]. (3. 92-94. 97)

The Colchians must have been a locally recognized government and kinship in order to be able to organize



services and goods in their territory to pay tribute and gifts. Slaves and strangers cannot be allowed to form a government and kingdom in a foreign land with the ability to send abroad protected delegations with money and gifts offered as tribute. This might also be explained by the remarkable integration (and intermarriage) of Black populations in the Caucasus mountains, to which Russian travelers contrasted the status of Black populations in the US (Blakely, 1986). Also, the climatic and geographic conditions proper to Siberia are more unforgiving for foreigners and slave traders.

The fourth and last reason for the presence of black-skinned people in the Caucasian region relates to the sociological background within which the Colchians lived. The Caucasian region (5th century BC) did not present such projects as grand scale plantation, massive building, war, irrigation, ship making, etc., as would lead to the import of a whole community of slaves and foreigners. A more powerful sociological point is that Caucasian Black communities proved to be among the best-off in the land, able to own and make linen and send gifts to Darius in Babylon (Herodotus, 1950). Slave communities are usually recognized by systematic poverty as they are deprived from basic services and goods in the host society. The presence of Black Caucasians can be inferred in various instances: the Dmanisi skulls, 1.7 million years ago (Gabunia and Vekua, 1995; Gabunia *et al.*, 2000a, b; Lordkipanidze, *et al.*, 2007, 2006; Rightmire *et al.*, 2006), 5th century BC (Herodotus, 1950, 1957, 1960), 4th century AC (English, 1959), 6th to 16th centuries AC (Brook, 2006; Dunlop, 1966, 1967), and the 1800s and 1900s (Blakely, 1986). In light of these and many other reasons, it is arbitrary to deny that these dark-skinned communities are aboriginal to the Caucasus region.

Dark pigmentation is also prominent in well-known people groups in the polar regions: the Inuits (American Eskimos) and Aleutians (Siberian and other American Eskimos). The explanation that dark pigmentation is due to fish consumption in the former (O'Neil, 2012) or Vitamin D consumption through fish and maritime mammals (Jablonski, 2004, 2011) in the latter is not plausible. Aleutians (like most Siberians) live predominantly on reindeer, whereas the Finns, for example, are renowned for having a considerable fish industry and for heavy fish consumption, but they are among the least pigmented humans on earth. Arguments for latitude-dependent dark pigmentation do not fare well on a number of grounds, let alone the increased consumption of Vitamin D-fortified food in Northern Europe. One of the most influential proponents of skin color acknowledged,

The distribution for skin color ... tells little about global population history and relationships. It is

ironic that one of the most visible human characteristics and one that has dominated in racial classifications is the least illuminating about underlying patterns of global human genetic diversity. (Relethford, 2002, pp. 397-398)

The inadequacy of global race classification highlights the flaws inculcated in skin color literature. Recently, Relethford (2009) insisted, "the number of races and the cutoffs used to define them are arbitrary... The elevated degree of differentiation in human skin color by itself does not provide support for a view of discrete and differentiated human races" (pp. 16-17). Skin color does not explain race classification. In the US, according to "one-drop rule" (Davis, 2001), suffice it to say that a biological child of a White parent is regarded as Black simply because one parent is Black. The hardcore line of latitude-dark skin rhetoric, however, derives from the literature that is concerned with human evolution.

**Human evolution:** One of the leading lines of thought with which some authors have persisted in supporting the correlation between the Equator and dark pigmentation is Out of Africa model. Out of Africa model (Klein, 2008) states that the first humans (*Homo sapiens*) evolved from chimpanzees 100 to 200 thousand years ago, lived in Africa, in the area of current Ethiopia, East of Africa, and migrated --- 30,000 to 50,000 years ago --- to breed with or replace *Homo neanderthalensis* in Europe and *Homo erectus* in Asia. Out of Africa model is supplemented by two other models: the multiregional model and the hybridization model. The multiregional model asserts that there was no single geographic origin of humans and the hybridization model posits the blend of genes between African *Homo sapiens* and non-African species. Nevertheless, skin color authors draw heavily on Out of Africa model.

It should be clarified that the term *Homo sapiens* represents a series of species and populations. Think of species of dogs, cats, beetles, etc. These species cover a variety of color, race, and traits (e.g., black, grey, flat, tall, multicolor, brown, white, reddish, etc.). Therefore, it is inconclusive to claim, as does the bulk of skin color research (Jablonski, 2009; Jablonski and Chaplin, 2012), that *Homo sapiens* species are limited to one race or trait (such as dark skin). Even when the species can have one color, which is extremely rare for most mammals, traits remain various and unique from group to group, subgroup to subgroup, and between individuals. One of the most misleading aspects of *Homo sapiens* terminology is the use of *Homo sapiens* in the singular, more specifically the use of *Homo sapiens* as a person taken to be the ancestor of human kind. It is regrettable that this distinction is not clear in most accounts of *Homo sapiens*, not to mention skin

color literature. The issue is not about the first human but the evolution of human organs and traits. Even when considering the first person and ancestor, one needs generations and generations to begin to see evolution patterns. The most graphic illustration of this is with the evolution of languages. The issue is not about the first language of humans, but the evolution/transformation of words over time and space. Only when each and every inch of the earth has been dug will we be able to draw firm conclusions about the oldest human populations. What we have is what is available.

Furthermore, while extensive human evolution literature (Klein, 2008; Tattersall, 2003, 2009; Tattersall and Schwartz, 2009; Tishkoff and Verrelli, 2003) has determined Africa to be the location wherein *Homo sapiens* species originated, it has not mentioned the temperature, rainforest environment, and skin color of *Homo sapiens*. On this note, it is inexplicable that considerable skin color literature (Chaplin, 2004; Chaplin and Jablonski, 1998, 2009; Jablonski, 2004, 2009; Jablonski and Chaplin, 2000, 2012) has defined and defended *Homo sapiens* by the concepts of jungle/rainforest, temperature, black skin, and dark hair, thus giving rise to some of the most ingrained misconceptions of the history of academia regarding human traits of Africans and related descendants. To confirm the misconceptions, Tishkoff *et al.* (2009) situated the origins of *Homo sapiens* species further South of Africa, at the costal border of Namibia and Angola (15°S), not on or near the Equator. Also, the dark/black hair argument for *Homo sapiens*' skin evolution is untenable (Chaplin and Jablonski, 2000; Jablonski, 2004). Experience shows some White people who have more black hair in all body regions than do some heavily dark-skinned people who live near the Equator. Therefore, *Homo sapiens* species did not have to be on or near the Equator to have black skin and hair in order to adapt to solar heat. It is one thing to state that humans originated in Africa, as has been confirmed by various archeological materials, it is another thing to suggest that early humans had a dark skin and lived in equatorial Africa. The word equatorial Africa needs precision. It is helpful to know the line of demarcation between equatorial and non-equatorial Africa.

Curiously, Jablonski and Chaplin (2000) acknowledged that, for pregnancy exigencies of high calcium consumption, females across all populations and regardless of skin color have a lighter skin. This again confirms the point of this paper that (proximity to) the Equator is not the sole factor of skin variation. If the Equator in Africa were the hub of black skin, there would be patterns of clusters of dark-skinned Africans all along the Equator and the forest, and the widely confirmed African migrations (Cornevin, 1974; Vansina, 1966) would reflect those patterns. However, this is not the case; Africans' skin color is

*indiscriminately* and *confusedly* distributed across the continent and even across the globe. One can argue that this is due to intermarriages between different peoples (lighter- and darker-skinned individuals). But, intermarriages would need to be high and common enough across the entire continent to be able to erase all, not some, Equator-concentrated skin patterns. Moreover, studies of African migrations (Cornevin, 1974; Vansina, 1966) strongly attest to movements of populations Southward from the North, and nothing significant is said to happen from the Equator toward the North, and across the continent. For example, while Scandinavians had been in Scandinavia only four thousand years or so, Tasmanians (Blacks of Australia) are known to have lived in their land the last ten plus thousand years, in a freezing cold and virtually sunless climate, longer than any population on earth had inhabited a land, yet Tasmanians have pitch-black skin (Diamond, 2006, p. 116). Equatorial Africa does not explain black skin. Diamond clarified, "either Scandinavians acquired their pale skins long ago in some other area with a different climate, or else they acquired them in Scandinavia within half the time that [American] Indians have spent in the Amazon [a heat- and Equator-traversed area] without becoming dark-skinned" (2006, p. 116). Another scenario of the latitude-centered logic of skin color could be the tendency of populations to settle closer to the Equator in order to enjoy the most UV radiation since this is where Africans' skin (hence body) is believed to be best adapted. The most populous African country, however, is Nigeria (2012), which is further away from the Equator than many other less-populated countries. One can be of any skin color and still be well protected against and adapted to the heat. Or one can very well be vulnerable to the heat with a black skin.

Perhaps the most dubious aspect of the alleged Equator-adapted skin of *Homo sapiens* is the oversimplification of the heat's effects and solar radiation on the human body. Experience shows that the effects of the sun's heat are not limited to the outer layer of the skin, but, far deeper than the skin, the heat penetrates and affects all the internal parts and organs of the human body. The logic could be that dark-skinned people take too long to die from the heat, or that the organs of dark-skinned people (e.g., heart, lungs, brain, etc.) are resistant to the heat, dehydration, and perspiration. However, that is not the case; when exposed to the heat, all humans suffer and die alike, irrespective of skin color and latitude. Claims of skin color literature assume that the only heat-adapted organ (by natural selection) that the so-called Black *Homo sapiens* had acquired over the years was a darker skin (Jablonski, 2004, 2009, 2011; Relethford, 1997, 2000, 2002, 2009, 2012), thus discounting the effects of the sun on the rest of the body. Most cogent is the example of a car. The example might seem simplistic, but it

highlights the extent of the statements that are usually made about black skin. Imagine that we submit a white car to extreme heat till the car's surface (skin) turns entirely black-burnt. How would the interior of that car (e.g., cushions, belts, dashboard, mirrors, mats, etc.) be? Would the black-burnt surface of the car be the sole factor that differentiates the burnt car from non-burnt cars? Understandably, the car's interior will turn to ashes, and the car will differ from other cars both interiorly and exteriorly. The same happens with the human body. The human body is burnt by the sun till the skin turns black, as goes the argument, but, *inexplicably*, the interior of the body (i.e., organs) remains intact and identical whether a person lives on the Equator or in the polar regions. Also cogent is the fact that an object, for example, a car left under the sun does not become black over time, let alone sunscreen lotions are not made of black dye. The belief of the Equator-caused black skin implies that the blacker is the sunscreen lotion the more sun-proof it is. However, newly improved sunscreen lotions are colorless and inconspicuous once they are applied on the skin.

As to solar radiation on or near the Equator, the sun does not wait till one gets to the Equator in order to damage and affect the skin. This fact brings home a further challenge concerning albinos. "Total albinos have pale skin that does not tan" (Mosby's Pocket Dictionary of Medicine, Nursing, and Health Professions, 2010, p. 47). It is questionable that despite the considerable amount of solar radiation on the Equator, total albinos on the Equator do not tan. This shows that the Equator determinism is not absolute. Perhaps more problematic is the fact that some individuals ranging from the white to brown/dark types of skin do not tan (Beynet *et al.*, 2009; Fitzpatrick, 1975, 1986, 1988; Goodman, 2009). Yet, per the Equator determinism, brown-skinned individuals that live on or near the Equator should tan.

The argument that NASA satellite pictures (Jablonski, 2009) validate the existence of radiation on the Equator raises numerous questions of validity. The basic principle of lab validity requires the experiment to involve independent factors and settings. It is assumed that the independent variable here is the human dark skin. In order to prove that the effects of radiation enable the black/dark color of human skin, all intervening factors need to be excluded from the setting. In other words, there needs to be valid and proven evidence that apart from radiation all factors do not render the skin black, which in this case, however, is not true. Bruise, infection, stress, etc. can render the skin black (purple or dark). Moreover, a picture taken from several thousand miles away (e.g., satellite) is less likely to be accurate when it comes to color variation (e.g., brownish, darkish, yellowish, pinkish, etc.) Anything can look bright in a picture. Jablonski (2009) spoke of different colors seen on the NASA satellite:

yellow, pink, red, green, and blue. It is important to prove that other colors shown by NASA satellite cannot involve radiation. Also, the criticism of validity holds true for the reflectance experiment mentioned by Relethford (2012). Too many factors can interfere with the reflectance of an object, not to mention the complexity of the skin.

Most defeating to the Equator determinism is the reality of the equatorial zone. In his landmark study, Gloger (1833) noted, "in der Äquatorialzone ist da selten Sonnenschein; Tag und Nacht sind gleich, das Wetter ist veränderlich (Sunshine is seldom in the equatorial zone; day and night are the same, the weather varies)" (p. 47). This statement, inexplicably bypassed by some skin color authors, debunks the idea of high UV damaging human skin on the Equator. "Thus, the dangers from excessive UV radiation exposure that selected for darker skin color in equatorial human populations diminished as humans moved away from the equator" (Relethford, 2012, p. 196). A simplistic view presents the equatorial zone as a wide open field all exposed to the sun, from which to run away.

When one takes cloud cover into account, the world's most dimly lit areas, receiving a daily average of under 3 1/2 h of sunlight, include parts of equatorial West Africa, South China, and Scandinavia, inhabited respectively by some of the world's blackest, yellowest, and palest peoples! (Diamond, 2006, p. 115)

As discussed earlier, the Ethiopians of Asia, Libya, and Egypt (Herodotus, 1957), and Blacks in the polar regions (Blakely, 1986; Brook, 2006; Dunlop, 1966, 1967; Gabunia and Vekua, 1995; Gabunia *et al.*, 2000a, b; Lordkipanidze *et al.*, 2007, 2006; Rightmire *et al.*, 2006) rebut the idea of the Equator as the center of dark skin, not to mention native total albinos on the Equator, the inextricable variety of native light-skinned individuals on the Equator, and materials of African linguistics. The consistent existence of aboriginal unmixed Black communities in the polar regions throughout history ruins the widespread belief of the Equator-caused black skin. In Antiquity, there were no large-scale means of transportation with which to move entire populations from the Equator across the Old World, with vulnerable individuals such as women, the senior, children, and the sick. Another disproving case is that of the Negritos (a large group of Black Asians), unrelated to Africans and spread across Southeast Asia (Kashyap *et al.*, 2003). History shows that black-skinned peoples inhabited Asia, regardless of the climate and the Equator. Equatorial Asia represents only a few pockets of Indonesia, too few to have been the selection birthplace of the various Asian Blacks. To make things worse, the case of human populations in the polar regions, seen above, needs mention.

Although unrelated to those of North America, polar human populations (Eskimos) in Far East Russia display, like their North American counterparts, a steadily high level of pigmentation, all of which remains inexplicable in such a high-latitude and UV-free zone. Particularly questionable is the belief that high UV affects nothing but human skin, leaving aside items of nature as diverse as rocks, plants, mammals, reptiles, mountains, rivers, birds, sand, dirt, etc. Flying birds expose themselves to high UV more than any species on earth since they live, rest, and fly at high altitude.

Therefore, flying birds, especially those living on or near the Equator, should all be black. One of Gloger's well articulated, yet most often forgotten, findings about the Equator, is that average temperatures on the Equator are lower than those on the East coast of North America. As Gloger (1833) asserted,

Denn, obwohl die mittlere jährliche Temperatur in der alten und neuen Welt von Äquator bis zum 20° n. Br. übereinstimmt; so nimmt sie doch in östlichen Nord-america im Vergleiche zu Europa durchschnittsmäßig vom 20° -- 30° um 2°, vom 30° -- 40° um 4.8°, vom 40° -- 50° um 7°, vom 50° an um 9.4° ab. (While the annual average temperature on the Equator, in the Old and New Worlds, consistently reaches 20°C [68°F], on the East coast of North America, it drops from 20°C -- 30°C [68°F-- 86°F] to around 2°C [36°F], from 30°C -- 40°C [86°F-- 104°F] to 4.8°C [41°F], from 40°C -- 50°C [104°F-- 122°F] to 7°C [45°F], from 50°C [122°F] on to around 9.4°C [49°F]). (p. 59)

These findings corroborate the data of average temperatures seen above (e.g., two African cities located on the equatorial zone) and invalidates the idea of the Equator as the hottest place.

Also, the argument (Chaplin and Jablonski, 2009; Jablonski, 2009) that solar radiation is at its peak on the Equator needs confirmation by atmospheric sciences and astrophysics. Astrophysicist Lean (1997) warned, "although numerous associations are apparent between solar and terrestrial fluctuations, full comprehension of the physical mechanisms responsible for the many facets of radiative Sun-Earth coupling remains to be accomplished" (p. 33). This dilemma does not spare skin color scholarship. Relethford (1997) acknowledged,

The interpretation of hemispheric differences in UV radiation underlying a hemispheric difference in skin color may not be that straight forward because the factors producing the former have varied over time... This is certainly the case for the earth-sun distance... Past seasonal and latitudinal variation in UV radiation would have also been affected by changes in the obliquity of the earth's

axis... These cycles interact to produce complicated changes in received solar radiation over time and space... While it is tempting to suggest that there is a direct link between hemispheric variation in UV radiation and skin color, we would need to know the time and rate of skin color evolution relative to the past distribution of UV radiation, which is not possible. (p. 454)

One needs a more robust longitudinal research covering the hemispheric variations under which the *Homo sapiens* species had lived in order to advance firm conclusions regarding skin color variation. Worth mentioning here is the argument whereby high pigmentation and UV is thought to be correlated with native/unmixed dark-skinned individuals that live on the Equator (Relethford, 2012). This correlation, however, clashes with the demonstrated existence of unmixed black-skinned aboriginals of Libya, Egypt, Asia (Herodotus, 1957; for Blacks in Asia see also Kashyap *et al.*, 2003), and Caucasus mountains (Blakely, 1986; Brook, 2006; Dunlop, 1966, 1967; Gabunia and Vekua, 1995; Gabunia *et al.*, 2000a, b; Lordkipanidze *et al.*, 2007, 2006; Rightmire *et al.*, 2006). Unmixed black skin does not predict latitude. The *equatorialization* and *Sub-Saharanization* of black skin are contradicted by extensive historical materials.

A convincing argument for the effect (s) of solar heat/Equator upon human skin might be tan lines. Regardless of race, usually covered/clothed body parts (e.g., genitals, breasts, nipples, etc.) have a less dark complexion than those usually exposed/uncovered (e.g., neck, face, upper breasts/chest, etc.). However, with female *genitalia* being the least (sun-) exposed parts of human body, clothed or naked, it is revealing that not a small number of unmixed white women have from dark to black inner lips aka *labia minora*. A study/finding, targeting anatomy textbooks suited to the supremacy of white (pink) women, notes,

To make matters worse, most anatomy books portray the female genitals as small and uniform, and often times leave out significant detail. If the illustrations are in color, the inner structures of the vulva are usually shown as being uniformly pink [white]. These references seldom address women of color... For many women, their inner lips are larger than their outer lips, their labia majora... *Many if not most women do not have the simple heart shaped labia shown in popular texts. The color of their labia could be brown or black rather than the expected pink* [emphasis added]. They are thick and wrinkled versus thin and smooth... Most anatomy books are based on Caucasian ideals. (*The clitoris.com*, 2013, see Female sexual anatomy section)

This well-known biological/medical fact underlines further the inadequacy of Equator- or heat-enabled black skin.

Furthermore, the belief that *Neanderthals* were better adapted to cold climates than *Homo sapiens* has recently been called into question. Tattersall and Schwartz (2009) specified,

At the end of the penultimate glacial, Neanderthals were limited to central and western Europe, only expanding eastward during the kinder conditions of the last interglacial. In particularly cold subsequent periods, Neanderthals avoided periglacial areas in favor of more temperate microclimates, entirely deserting the frigid central European plains.... Given the fact that *Homo sapiens* already established itself above the Arctic Circle... our species [*Homo sapiens*] was better able to accommodate culturally to extreme conditions. (p. 82)

Cold temperature is not incompatible with the evolution of *Homo sapiens*. Popular belief regards the *Neanderthals* as the prototype of light-skinned and cold-adapted species. An important theme to bear in mind is that of diversity. However, African diversity cannot be best examined when misconceptions about Africa abound. One of the most powerful illustrations of the misunderstandings related to Africa is the concept of ethnic conflicts. Western conceptions of Africa are surrounded by ideas of ethnic conflicts.

**Diversity and ethnic conflicts:** While diversity is widely recognized and praised in literature concerning Africa, it is often used to explain ethnic conflicts. Yet, skin color spans a wide diversity of colors and tones: red, chocolate, hazel, caramel, yellow, brown, bronze, etc. The topic of ethnic conflicts has become one of the primary terms by which the African continent is characterized (Amselle and M'bokolo, 1999; Cibangu, 2001). This short-sighted view only propagates misconceptions and obscures research on the diversity of African realities and peoples. Though not the subject of this paper, the paragraphs below showcase how misconceptions have been unwittingly or wittingly promoted. Goulding (1999) counted 25 conflicts on the continent, and the figure does not seem to decrease. A little more than a decade later, *New York Times* reporter, Gettleman (2010), wrote, "half of the continent's 53 countries are home to an active conflict or a recently ended one."

In this respect, cultural diversity has been perceived with regard to colonially imposed borders and countries. Ottaway (1999, p. 299) reasoned, "instead, they [African countries] continue to view such identities [cultural diversity] as the unfortunate residue

of a premodern Africa or as the accursed legacy of the divide-and-rule machinations of the colonial powers". In general, a variety of causes points to ethnic conflicts (i.e., land, power, resources, etc.). Nonetheless, the remedy to ethnic conflicts tends to circle around the thesis of congenial boundaries in Sub-Saharan Africa (Ahluwalia and Zegeye, 2002; Clapham, 1996; Glickman and Furia, 1995; Osaghae, 2003; Oucho, 2002). A wide array of social proponents persistently advocate for the ethno-homogeneity of states in Africa.

Clapham (1996) proposed, "for any given territory or group of people there must necessarily be a corresponding state" (p. 274). For their part, Glickman and Furia (1995) opined, "African politics remain severely divided by ethnic conflict" (p. 3). More to the point, "colonial boundaries clearly divide ethnic groups" (Ahluwalia and Zegeye, 2002, p. 6). In 2010, Dowden remarked, "Africa's nation states were formed by foreigners, lines drawn by Europeans on maps of places they have often never been to. They carved out territories, cut up kingdoms and societies of which they had little idea" (p. 3). One would respond with sympathy that a continent as large as Africa, with more than 2,000 languages (Heine and Nurse, 2000; Lewis, 2009)--- without counting the dialects and the yet-to-be-discovered languages (Sands, 2009)--- for only 53 states, certainly deserves a solution of this nature. However, cultural unity is not a panacea. Brautigam (1999) observed, "a small, multiethnic, island, nation colonized first by the French, and later by the British, Mauritius also stands out in Africa for its lively civic culture, relative social harmony, equity, and impressive economic growth" (p. 137). While multiethnic diversity can be manipulated according to a cynical agenda, it can very well yield economic and civic growth. The social environment can be a factor, too. Scherrer (2002) clarified, "despite early warnings, the United Nations remained disunited and paralyzed in the case of Rwanda. The actions of the Security Council were delayed, diluted, and sabotaged by its permanent members... France [and] the United States" (p. 366). Political manipulation plays a big role. Scherrer (2002) specified, "the identities of those responsible for the state-organized genocide in Rwanda are known" (p. 103). This holds true, for example, for the deaths of Kasayi people in Congo (Bakajika, 1997; Tshibangu, 1993). One should not simply blame cultural diversity.

Van Parys (1996) and Kottak (2008) argued that cultural unity does not suffice to define a society; on the contrary, there are multicultural and multilingual societies that function very well and others that do not. Two revealing examples: Somalia is one of the most homogeneous societies in the history of humanity (Levinson, 1998); so is Rwanda besides some distinctiveness of physical traits. Meanwhile, Rwandans and Somalis have undergone some of the deadliest tragedies of recent history, never experienced in most,

if not all, multicultural societies. Longman (2001) put it well, "Kinyarwanda is a unifying factor within Rwanda, since it is spoken almost universally" (p. 1873). For instance, concerning Malawi, a multicultural society, Dolph (2001) noted, "the many tribes generally have gotten along well" (p. 1357). Interestingly, "despite the tremendous cultural and linguistic diversity among Tanzanians, ethnic groups are united by the use of a common language -- Swahili -- and a sense of national unity" (Carlson and Pratt, 2001, pp. 2190-2191). Cultural diversity can serve the stability of a country.

Note that Africa is not the most culturally diverse place on earth. As Foley (2000) stated,

New Guinea is defined as... a land area of approximately 850,000 km<sup>2</sup> [331, 500 sq mi]... Within this area [roughly 7.5 million inhabitants] are crammed some 1, 200 languages, about 20%-25% of the world's total, from a bewildering multiplicity of language families, groupings, and isolates -- a *linguistic diversity unparalleled anywhere else on the globe* [emphasis added]. (pp. 357- 358)

Africa covers 30.2 million km<sup>2</sup> of area (11.7 million sq mi) with a little more than 2, 000 languages, and more than 700, 000, 000 speakers (Lewis, 2009). While New Guinea has more than 1, 000 languages for 7.5 million people, Africa has only 1, 000 languages for 350 million people. Despite its repeated, very often unpunished, and unaccountable manipulation by specific politicians, African diversity can and should be a conduit of community and national cohesion, but more particularly, it can motivate research on African skin color variation.

### CONCLUSION

In light of various scientific materials, the argument of dark skin color induced by UV in Equatorial Africa proves to be weak. Skin color research can lead to misconceptions about black skin. This paper is intended to be an invitation for further discussion and more informed opinion about Black skin. The persistent white-black classifications of race and the reluctance to debate misconceptions about skin color have obscured the identity of black-skinned individuals and the research and classification that claim them. The fixation on the Equator in Africa as the siege of heat and the swift characterization of *Homo sapiens* as all dark-skinned populations are called into question. The systematic oversight of red skin color across the globe, of dark skin variety, and of high pigmentation and Black aboriginals in the polar regions raises skepticism.

This paper calls for a revision of the Equatorial Africa-limited explanation of black skin. The paper

advocates for the study of varying types of skins within Africa and among dark-skinned peoples. The paper argues for informed and protective research about within- and between-group variation among African communities, aboriginal black-skinned communities in the Maghreb, Caucasus mountains, Asia, and African descendants in and outside the US. The paper invites skin color research and racial studies to work toward a better understanding of minorities and their traits. Interdisciplinary research is most helpful in this regard. The Equator and climate are not the exhaustive proxies of black skin and pigmentation. The usage of the label Caucasian is erroneous. The paper has also highlighted the all too often unaccountable manipulation of African diversity.

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