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# Towards a Decolonial Computing

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## ABSTRACT

In recent years, computing and ICT have increasingly been subjected to interrogation from a range of critical perspectives. Enquiries have generally been informed by a commitment to one of three approaches – critical race theory, Marxist political-economy or, more recently, postcolonial theory. While each of these approaches has some merit in that it contributes toward the development of a “critical computing”, all three remain problematic when considered from the “decolonial computing” perspective developed herein. Decolonial computing is grounded in a synthesis of the ‘oppositional’ critical race theory of Charles Mills (1997, 1998, 2003) and the work of Latin-American scholars such as Walter D. Mignolo (2000, 2011), Ramon Grosfoguel (2011, 2012) and Nelson Maldonado-Torres (2004, 2010) who attempt to think from and at the margins / borders / periphery of the world system, foregrounding issues of geo-politics and body-politics in order to expose the persistence of modern / colonial structures in the contemporary post-modern / post-colonial period.

Earlier ‘mainstream’ and later ‘progressive’ critical engagements with computing and ICTs include studies of differential access to / usage of ICTs and the so-called “Digital Divide” (Compaine 2001) (Moss 2002) (Warschauer 2003) (Hargittai 2008); investigations of identity construction and power relations between different ethnic and racial groups within informational spaces such as social networks and virtual worlds (Kolko et al. 2000) (Nakamura 2002) (Nakamura and Chow-White 2011); and studies showing how digital technologies can be and have been harnessed for the promotion of overtly racist white nationalist / supremacist agendas (Back 2002) (Daniels 2009). More recently, enquiries have tended to focus on “new media” such as social networks and mobile technologies under the banner of internet studies, and increasingly from a critical race theoretical perspective (Nakamura and Chow-White 2011) (Daniels 2012). By contrast, radical or ‘leftist’ approaches to critical engagement with computing and ICTs have tended to adopt some variant of critical theory grounded in Marxism / materialist political economy analysis resulting in critical theories of ICT4D and design (Fortier 2001), critical theories of communication technology (Feenberg 2009), critical theories of the internet (Fuchs 2011) (Feenberg 2012) and critical theories of information (Lash 2002) (Fuchs 2009).

The radical / leftist approach can be shown to be problematic when considered from a critical race theoretical perspective in which, following the lead of Mills (1997) and others, race / racism is formulated in global systemic terms, viz. as white supremacy (Ali 2012, 2013). However, this is also true of mainstream / progressive approaches which engage more explicitly with critical race theoretical concerns. For example, Daniels (2012)<sup>1</sup> maintains that state-centric approaches such as the racial formation theory developed by Omi and Winant (1994) constitute “an unsatisfying

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<sup>1</sup> Daniels’ (2009) earlier investigations of race and the web focused on more crude / overt forms of what, following Feagin (2006), she refers to as “systemic racism” and neglected to engage with more refined / covert – and arguably hegemonic – ‘liberal’ forms of racism studied by critical race theorists such as Goldberg (2008) and Bonilla-Silva (2009).

theoretical framework for interrogating the complicated connections between racism, globalization and technoculture in which the internet is implicated.” On her view, such approaches “focus very little theoretical attention on racism, and when they do they tend to dismiss the significance of racism by locating it within individual racialized prejudices [thereby obscuring] more structural (or institutional) views.” (p.16) However, while endorsing her criticisms of racial formation theory, Daniels’ adoption of the ‘systemic’ conception of racism developed by Feagin (2006) and articulated in terms of a “white racial frame” is itself problematic. This is because racism is here conceptualised as ‘systemic’ yet articulated with reference to a particular, local – that is, ‘sub-systemic’ – context, viz. the United States. This results in “systemic racism” that obscures alternative formulations of the concept that are more global in scope, both geographically / spatially and historically / temporally, local differences in racist articulation notwithstanding. Adopting a decolonial perspective, wherein race / racism is conceptualised as a “colonial matrix of power” (Grosfoguel 2011) – that is, a global “entangled heterarchy” or multi-dimensional system of asymmetric power-relations – and analysed in terms of *who* is speaking (body-politics of knowledge) and from *where* (geo-politics of knowledge), it might be argued that Daniels’ and other white commentators’ understanding of race and the internet remains fundamentally modern / Eurocentric in orientation, obscuring the “dark underside” of modernity that is “coloniality”<sup>2</sup>.

Recently, another approach to critical engagement with computing and ICT has been proposed, viz. “postcolonial computing”. Grounded in postcolonial theory, postcolonial computing examines issues of culture and power at work in computing and ICT contexts including ICT4D, HCI and design methods (Irani et al. 2012) (Philip et al. 2012) and ubiquitous computing (Dourish and Mainwaring 2012). While recognising the constructive possibilities associated with such a project, adoption of a decolonial and critical race theoretical perspective exposes a number of shortcomings with this approach.

Firstly, postcolonial theory – and hence, postcolonial computing – tends to privilege cultural issues over political-economic concerns, resulting in an idealistic perspective that obscures materiality, more specifically, *racial* materiality including embodiment.

Secondly, postcolonial theory, at least as represented in the works of canonical figures such as Edward Said, Gayatri Spivak, and Homi Bhabha, engages in the epistemic questioning of the concept of totality and is critical of modernity. However, since it is grounded in the post-structuralism of Foucault, Lacan, and Derrida, it remains a project of critical transformation that remains internal to Europe; in short, postcolonial theory of this kind ultimately constitutes, at least epistemologically, a Eurocentric critique of Eurocentrism<sup>3</sup>. By contrast, decolonial thinking is grounded in non-Eurocentric perspectives associated with figures located at the margins / borders / periphery of the racial world system. Importantly, the decolonial project, which entails delinking and border-thinking, requires consideration of the geo- and body-politics of knowledge, that is, the *material* dimensions of epistemology. Crucially, such materiality is not that of the race-less / de-raced structures of

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<sup>2</sup> Daniels (2012) makes only one reference to colonialism, invoking Lisa Nakamura’s assertion that “the visual culture of the Internet complicates race and racism in new ways that are still closely tied to a politics of representation with ties to colonialism.” (p.5)

<sup>3</sup> In this connection it is interesting to note that Mignolo (2011) considers Latour to be a “decolonial European thinker” analysing the imperial / modern side of modernity / coloniality. On this basis, decolonial thinking and actor-network theory (ANT) might be viewed as complementary endeavours.

political economy, but that of the corporeal experiences of those who have been excluded from the production of knowledge by modernity<sup>4</sup>.

Thirdly, and from a critical race theoretical perspective, it appears that postcolonial computing is concerned more with how ideas from postcolonial theory can be used to inform and transform disciplines such as ICT4D, HCI and design methods, than with questioning the historical origins of these disciplines and their ongoing disciplinary (or controlling) function within the modern racial world system<sup>5</sup>. For example, Irani et al. (2012) maintain that:

Postcolonial computing points to the many ways histories, power relations, and epistemology tacitly underpin engagements in design, *offering HCI researchers and practitioners new lines of inquiry* [emphasis added]. (p.7)

Crucially, postcolonial computing discourse is noticeably silent about past injustices and does not engage with the matter of reparations, an issue that is only partially addressed, if at all, by ICT4D. According to Philip et al. (2012), postcolonial computing practitioners should “move forward together, rather than remaining mired in regretful contemplation of past biases.” (p.3) From decolonial and critical race theoretical perspectives, this position is ethically suspect since it might be argued that practitioners of postcolonial computing are “beneficiaries”, willingly or otherwise, of an asymmetric system of power and privilege established by the “signatories” of the methodological “Racial Contract” that underpins the modern racial world system (Mills 1997). This means that “past biases” are not located only in the past, but persist in the present and into the foreseeable future<sup>6</sup>, reproduced by structures and the agencies, both human and non-human, embedded within them. However, Baker (1987) insists that reparations, which he formulates in terms of “reverse discrimination”, are ethically justified:

To be sure, the past victims of racism and sexism *should* themselves be compensated, and the past oppressors *should* pay. That would be a fair piece of egalitarian justice, all right. But the argument for reverse discrimination is not that the debts of parents should be visited on

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<sup>4</sup> Both approaches – critical theories of ICT and postcolonial computing – are flawed in that they privilege one of two sites – material or cultural, respectively – largely to the exclusion of the other, and in this sense, they reproduce the shortcomings of world systems analysis and postcolonial theory as pointed out by decolonial scholars such as Mignolo and Grosfoguel.

<sup>5</sup> Although Dourish and Mainwaring (2012) recognise a “colonial impulse” within ubiquitous computing, this is analogically formulated with reference to 18-19<sup>th</sup> century British colonialism, thereby occluding earlier colonial projects, specifically those initiated by the Spanish and Portuguese during the 15<sup>th</sup> century, which provided the historical setting for the emergence of the ‘race’ construct (Mignolo 2000) (Grosfoguel 2011). Ironically, an appeal to 18-19<sup>th</sup> century British colonialism should foreground race matters *a fortiori*, yet Dourish and Mainwaring are completely silent about issues of ‘race’, as are other proponents of postcolonial computing who speak in terms of “colonial”, “cultural” and “power” formations. Is postcolonial theory here being used, perhaps unconsciously, to mask / obscure racial concerns? Is this a case of what Mills (2007) refers to as “white ignorance”, that is, an “inverted epistemology, an epistemology of ignorance, a particular pattern of localised and global cognitive dysfunctions (which are psychologically and socially functional)” which involve “white misunderstanding, misrepresentation, evasion, and self-deception on matters related to race” (Mills 1997, 18-19)?

<sup>6</sup> Dourish and Mainwaring (2012) appear to recognise what might be described as the “trans-temporal legacy effect” of the “colonial impulse” within computing, albeit *ubiquitous* computing. As they state, “the overriding question, “What might we build tomorrow?” blinds us to the questions of our ongoing responsibilities for what we built yesterday.” (p.6) However, the pronouns “we”, “us” and “our” in the previous statement need to be subjected to critical analysis from a power relations perspective.

their children. It is, first of all, that these children are themselves gainers and losers from racism and sexism, and so today's white males do owe compensation to their black and female contemporaries. (p.52)

Thus, contrary to Philip et al., it is not a matter of “remaining mired in regretful<sup>7</sup> contemplation”, but of recognizing how individuals are differently embedded – as *de facto* beneficiaries / non-beneficiaries and as potential hegemonic / counter-hegemonic actors – within a hegemonic existential and structurally-systemic reality. For this reason, postcolonial computing needs to be decolonised using decolonial and critical race theoretical logics which foreground systemic racial concerns including, but not limited to, those that engage issues of embodiment and situatedness. In short, and following de Sousa Santos (2010), it might be argued that there is a need to move beyond postcolonial computing to a “decolonial computing” in which the relation between systemic racism – or white supremacy – and computing / ICT is explicated; alternatively, we might want to follow the lead of Chun (2009) and examine “race and / as computing”.

Proponents of postcolonial computing might question the necessity of such a proposal, arguing that postcolonial computing is committed to examining issues of embodiment and situatedness following the lead of feminist theorists such as Haraway (1985) and Suchman (2007). However, as Johar Schueller (2005) has argued, white feminists have a tendency to conflate forms of oppression associated with race, class, gender and sexual orientation despite the existential fact that some forms of oppression are quantitatively more widespread and, arguably, qualitatively worse than others<sup>8</sup>, with the consequence that the “question concerning embodiment” is rarely formulated in racial terms, especially in computing contexts.

To this end, and in order to concretely articulate one form that “decolonial computing” might take, I propose to briefly subject two areas of computing in which embodiment and situatedness feature strongly, viz. AI (artificial intelligence – more specifically, human-like robots) and IA (“intelligence augmentation” or augmented reality, that is, tangible, pervasive and ubiquitous computing), to a decolonial analysis that questions these technologies in terms of both a geo-politics of knowledge and a body-politics of knowledge.

According to Suchman (2007), the design of human-like robots is largely informed by essentialist and agent-based conception of human beings as autonomous, rational creatures. However, she maintains that this position has tended to marginalise, if not wholly exclude, the political relation between embodiment and sociality (that is, embedding or social context) since all approaches to

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<sup>7</sup> Regret can assume different forms, depending on who is doing the contemplating. For white beneficiaries of post-colonialism / the “Racial Contract”, regret might take the form of passive “white guilt” or a commitment to an activist “Race Traitor” orientation. For non-white non-beneficiaries, regret might assume a passive form, viz. “a sense of failure”, or an activist commitment to the ongoing struggle for decolonial liberation.

<sup>8</sup> According to Johar Schueller (2005), “there is no parallel in sexual oppression to the racial oppression that legitimized the enslavement of Africans in the eighteenth and nineteenth centuries (although the latter certainly included elements of sexual oppression as well); racial difference is marked on the body with a visibility not apparent in a person’s different sexual practices, such as sadomasochism versus ‘vanilla’. The analogical relationships [between race, class, gender and sexual orientation], however, function to suppress the specific differences introduced by race. The seeming equivalence of the analogy and the horizontal seriality suggested by the commas often used by gender [and whiteness] theorists to include concerns of race and class in routinely used phrases such as “race, class, and gender” belie a hierarchy of ontologies that privilege whiteness.” (p.71)

robotic AI, irrespective of whether based on symbolic reasoning (sense-plan-act) or reactive (sense-act) mechanisms, share a commitment to conceptualising the body and its world in physical – that is, functional – rather than social – that is, system-theoretical and phenomenological – terms. However, from a critical race theoretical and decolonial perspective, it might be argued that engaging embodiment in terms of sociality (or embedding) – arguably, a ‘horizontal’ relation – tends to obscure consideration of ‘vertical’ racial matters (Mills 1997), including how the body – a site of racialization – is or is not marked / raced (Hesse 2007). Furthermore, there is a need to decolonize phenomenology following the lead of Maldonado-Torres (2004, 2010) and examine the implications of the “coloniality of being” for application of phenomenology to computing, more specifically, embodied computing technologies such as robotic AI.

In this connection, consider, for example, Edsinger’s (2000) proposal to design a humanoid robot face in order to fulfil social contracts. To what extent can faces – *as* faces – be conceptualised in race-less terms? To the extent that the face constitutes part of the body and the body is a site of racial marking, it might be argued that humanoid robots mask / obscure racial concerns by virtue of their abstract conception. However, from a decolonial perspective, it becomes necessary to interrogate abstract conceptions of ‘face’ since abstractions tend to become universals, yet universals that are, in fact, veiled particulars. In this sense, we might ask “What race is Cog (or Kismet or Domo)?”<sup>9</sup> In addition, Edsinger’s focus on social contracts is interesting when considered in light of Mills’ (1997) thesis that the horizontal social contract is grounded in a vertical racial contract between persons / humans and sub-persons / sub-humans. Where does a *humanoid* robot fit in terms of the “Racial Contract”?

IA (or augmented reality), at least as conceptualised in the phenomenologically-inspired approach to embodied interaction developed by Dourish (2001), similarly re-invokes the figure of the body; however, once again, this is an abstract / universal body, that is, a de-raced / race-less body which masks its Eurocentrism<sup>10</sup>. From a decolonial computing perspective, the “neo-cybernetic turn” toward embodiment and situatedness constitutes a movement from an *abstract* Cartesian (that is, disembodied) computing of the Turing variety to an *abstract* post-Cartesian (that is, embodied) computing which pre-emptively forecloses consideration of the “question concerning embodiment” (to paraphrase Heidegger) from the perspective of the “dark underside” of the “coloniality of being”.

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<sup>9</sup> Robots developed at MIT.

<sup>10</sup> Dourish (2001) grounds his approach in the phenomenology of Heidegger and Merleau-Ponty which is problematic since it presents a concrete / particular *as* abstract / universal, viz. Eurocentric phenomenology (Maldonado-Torres 2004, 2010).

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