



# **Heredity and Environment: Making (Non)sense of Human Isolates**

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# **Heredity and Environment**

## **Making (non)sense of human isolates**

*Current Anthropology*, Volume 61, Number 4 - August 2020, pp. 455-457

Response to:

**Ricardo Ventura Santos, Carlos E.A. Coimbra Jr., and Joanna Radin,**  
**“Why Did They Die?” Biomedical Narratives of Epidemics and Mortality**  
**among Amazonian Indigenous Populations in Sociohistorical and**  
**Anthropological Contexts, *Current Anthropology*, Volume 61, Number 4**  
**- August 2020, pp. 441-455**

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The article by Santos, Coimbra and Radin published in this issue of *Current Anthropology* makes for a fascinating read for many different reasons (Santos et al. 2020). Their thorough examination of the long-lasting disagreement between two prominent American biomedical scientists, Francis L. Black and James V.G. Neel, about the political implications of researching the biology and health of Amazonian Indians could not be more topical. Neel’s warning, first issued as early as 1976, that Black’s promotion of “miscegenation” as a means for Brazilian Indigenous populations to alleviate their (allegedly) genetic vulnerability to pathogens “could play directly into the hands” of the military dictatorship that ruled the country at the time has gained extra, worrying relevance, now that the “amalgamation” of Indian populations has been put back on the political agenda by those who would not accept any hindrance to the exploitation of the Amazonian Eldorado. First among them, the recently elected president of Brazil, Jair Bolsonaro, could not let his Inauguration Day pass without starting to unravel the legal protections extended to Indigenous populations by the Constitution adopted in 1988 – a landmark in the return of the country to democracy.<sup>1</sup>

Incidentally, it is also somehow ironical to learn that Neel, who was publicly accused (shortly after his death) of having treated Amazonian Indians as mere human guinea pigs, actually paid more attention to the political implications of his research than one of his staunchest advocates in the controversy that ensued – namely Black (Tiernay 2000; AAA 2002).

Black and Neel were obviously not the first scientists to study human isolates as a window on otherwise inaccessible biological realities – if not exactly “virgin soil”—, or to discuss the possible genetic virtue of miscegenation. Long before pioneer population geneticists laid the scientific basis for the kind of research favoured by Neel and Black (Wright, 1922; Dahlberg 1929), Italian positivist anthropologists had already started researching isolated populations as a means to shed light on the process of human degeneration, and the role played by “atavism” in human heredity (Sighele 1890; Niceforo 1897; Caglioti 2017). It is perhaps less well known that their rather crude methodology was later refined by a tiny group of pioneer population scientists led by the prominent statistician and eugenicist Corrado Gini – the Gini coefficient, or index, is named after him – who worked under the umbrella of the Italian Committee for the Study of Population Problems (Comitato Italiano per lo Studio dei Problemi della Popolazione, CISP). The ten or so scientific expeditions they launched between 1933 and 1940 aimed either at human isolates – from the Samaritans of Palestinian to the Dawada of Fezzan, in Libya, etc. – or, less frequently, at racial admixtures – including various groups of Mexican mestizos –, as a way to document the link between inbreeding and isolation, and the symmetrical benefits of “hybridization” between similar enough populations (Berlivet 2017). The political motivation of the whole enterprise was to scientifically vindicate the criticisms levelled by the ‘Latin eugenicists’ – of whom Gini was a prominent leader – at their British, American, German and Scandinavian counterparts concerning both the alleged value of race purity, and the purported predominance of nature over nurture. Unsurprisingly, considering their fascist inclinations, the question of the “cultural integrity and self-determination of Indigenous peoples” [Santos, Coimbra and Radin 2020: 452] was not even mentioned by the Italian scientists in their praise of what one might call well-

tempered miscegenation.

Finally, when one looks besides the major differences between the politics of science in the interwar periods and during the Cold War, an interesting common thread between the story told by Santos, Coimbra and Radin, and CISP's investigations is the centrality of an all-too-famous dichotomous conceptual dyad: heredity and environment. There is little doubt that Black's reframing of isolation in classic Mendelian genetic terms as an issue of increased homozygosity was far more sophisticated than Gini's.<sup>2</sup> However, it is striking to note how little Neel, in his dissenting analysis of Black's hypothesis, elaborated upon the kind of environmental differences that could have explained the differences observed between indigenous and other populations. In his first paper on the topic, the "socioeconomic and epidemiological structure" which he believed could explain "at least 80% of the high mortality among some primitive groups from measles, smallpox, influenza, tuberculosis" were mentioned without further discussion (Neel 1977:155-156). Perhaps was it just a matter for the American geneticist of not stating what he believed was obvious; but, as a result, in Neel's reasoning environmental factors – that most plastic syntagm – were reduced to a black box whose agency was postulated rather than thoroughly analysed. It would take a few more years before "the environment" took the centre stage again, or at least started to share it with "the genes". The study of "gene-environment interactions" would become the new Grail of biomedical research, although misunderstandings about the two notions and their relationship did not miraculously fade away (Keller 2010).

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## Notes:

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<sup>1</sup> The first executive order signed by the freshly sworn in President shifted the responsibility of designating protected lands for indigenous people from FUNAI (the National Indian Foundation) to the Ministry of Agriculture. The Brazilian agribusiness caucus and resource extraction industries have long favoured the “amalgamation” of Indigenous people as a way to gradually reduce the size of the restricted areas.

<https://www.pbs.org/newshour/world/brazils-bolsonaro-targets-indigenous-groups-lgbtq-rights-on-1st-day-as-president>; <https://www.theguardian.com/world/2019/jan/02/brazil-jair-bolsonaro-amazon-rainforest-protections> (last accessed on February 14 2019).

<sup>2</sup> Although apparently critical of traditional, stigmatic characterizations of indigeneity as the lack of a specific element existing in more civilized populations, Black’s views rekindled it in a more euphemistic way: while “the newly contacted people” were not plagued by “deficient immune systems” or “inappropriate genes” they suffered from “less internal genetic diversity” (Black 1992).