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From Racial Types to Aboriginal Clines: The Illustrative Career of Joseph B. Birdsell

ABSTRACT

The mid-twentieth century Australian fieldwork of Joseph B. Birdsell illustrates, perhaps uniquely, the transition from typological structuring in physical anthropology before World War II to human biology's increasing interest in the geographical or clinal patterning of genes and commitment to notions of drift and selection. It also shows that some morphological inquiries lingered into the postwar period, as did an attachment to theories of racial migration and hybridization. Birdsell's intensive and long-term fieldwork among Aboriginal Australians eventually led him to criticize the settler colonialism and white racism that had made possible his expeditions and data collection. Yet he continued to regard Aboriginal communities as "island laboratories" and to treat Aboriginal people as convenient research subjects, distancing himself from their life worlds and experiences of dispossession and exploitation.

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"I entered the field with full confidence in the typological approach," wrote American biological anthropologist Joseph B. "Jo" (as he was known) Birdsell in 1987. "After the first few months of field work with real populations, that

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The following abbreviations are used: *ADJ*: *Australian Daily Field Journal*, in Birdsell Papers; Birdsell Papers: AA689, South Australian Museum (SAM) Archives; Hooton Papers: 995-1, Peabody Museum, Harvard University; Wright Papers: Sewell Wright Papers, MS. 60, American Philosophical Society.

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set of assumptions was discarded.” Birdsell was reflecting on his anthropometric and serological studies of mixed-race Aboriginal people across Australia, which began in 1938, some fifty years earlier. As a graduate student at Harvard, he learned from his advisor, Earnest A. Hooton, how to discern “types” of humans through distillation of multiple body measurements and other morphological characteristics. Birdsell recalled that Hooton, the senior Harvard physical anthropologist, regrettably “championed the anthropometry of the individual and never accepted the development of the new [biological] systematics.” Like most of the prewar generation of anthropologists, Hooton had “little use for and no real knowledge of the emerging field of genetics.”¹ Conventionally, he clung to the doctrine that contemporary humans descended from ancestral “pure” races or types, modified only through mixture or hybridization. Traveling in the outback, Birdsell came to believe that “this typological approach was totally in biological error.” He saw that:

Throughout the long decades in which students of racial anthropology groped for understanding and continued their fumbling analyses, biological principles were glaringly absent from their work. . . . They all began with archetypal races of unexplained origin, from which they derived the living peoples of the world by hybridization alone.²

Yet there was Birdsell in 1938, measuring and bleeding Australian “hybrids” in the company of social anthropologist Norman B. “Tinny” Tindale, part of the Harvard-Adelaide Anthropological Expedition—and thus still stuck on a typological agenda he would later claim to have scorned.³

With his faith in typological verities supposedly shaken, Birdsell during the 1940s read widely in evolutionary and ecological theory.⁴ Back in the United

1. Joseph B. Birdsell, “Some reflections on fifty years in biological anthropology,” *Annual Review of Anthropology* 16 (1987): 1–12, on 9, 1, 4. See Earnest A. Hooton, “Methods of racial analysis,” *Science* 63 (1926): 75–81.

2. Joseph B. Birdsell, “The problem of the evolution of human races: Classification or clines?,” *Social Biology* 19 (1972): 136–62, on 139.

3. Warwick Anderson, *The Cultivation of Whiteness: Science, Health and Racial Destiny in Australia* (Durham, NC: Duke University Press, 2006 [2002]), chap. 8. There, I discuss Birdsell’s pre-war studies but not his post-war research; and I provide the broader context for Aboriginal policies in settler Australia.

4. Eugenia Shanklin and Larry L. Mai, “Joseph B. Birdsell: A conceptual biography,” in *The Perception of Evolution: Essays Honoring Joseph B. Birdsell*, eds. Larry L. Mai, Eugenia Shanklin, and Robert W. Sussman (Los Angeles: Anthropology UCLA, 1981), 21–53.

States, the young anthropologist consulted contemporary biological literature, especially the work of Julian Huxley, Sewall Wright, Ernst Mayr, and Theodosius Dobzhansky. Dutifully following the routines of an Air Force anthropometrist in World War II, Birdsell nonetheless found time to review and digest the new population genetics, learning about natural selection, drift, founder effects, mutational pressures, and gene flow. Having squandered his research data in a specious classificatory exercise, he longed to return to Aboriginal Australia to repair the biological deficiencies of his prewar fieldwork. He was convinced that “*the investigation of the nature and intensity of evolutionary forces is the endeavor to be pursued*, while the pleasures of classifying man fall away, perhaps forever.”⁵ Accordingly, as an affectionately grumpy professor of biological anthropology at UCLA, Birdsell ventured again into the Australian outback in 1952, hoping this time to reveal evolutionary processes in the “full-blood” Aboriginal population, while dismissing the “half-castes” and mixed types that had so captivated prewar anthropologists. With Tindale again, he chose to concentrate on groups around the desert fringes of Western Australia, surveying tribal isolates that might “constitute small, unique, and finite genetical universes.”⁶ He wanted to shift from an earlier taxonomic gaze, over figures abstracted from the environment, in order to inquire instead into biological interiority, located across a particular landscape. It would prove the making of Birdsell as a population geneticist. He spent the rest of his career writing up the results of his desert odyssey.

Even as his research projects changed scope and shape, the nature of Birdsell’s relations with Aboriginal Australians endured. “The Australian Aborigines possess very special features which give them some of the characteristics of a carefully designed laboratory experiment,” he wrote.⁷ Once, they had performed a unique experiment in human hybridity; later, a singular experiment in micro-evolutionary processes. Birdsell never tired of asserting that Aboriginal Australia “presented a unique kind of laboratory for the testing of evolutionary hypotheses.”⁸ Thus he treated the native inhabitants of northwest Australia as a species of desert *Drosophila*, as human insects, the breeding patterns of which might disclose genetic

5. Birdsell, “The problem of the evolution of human races” (ref. 2), 141 (original emphasis).

6. *Ibid.*, 144.

7. *Ibid.*, 142.

8. Joseph B. Birdsell, “Physical anthropology in Australia today,” *Annual Review of Anthropology* 8 (1979): 417–30, on 417.

secrets.⁹ At the same time, he was capable of cultural sensitivity and insight, and frequently he displayed sympathy and concern for the plight of those he regarded as alienated and degraded people on the margins of a ruthless settler society. Yet, while he appreciated that natives could think, their thoughts seemed to have little bearing on evolutionary theory. He was interested in their bodies, not their sensibilities, belief systems, or structures of feeling. He wanted knowledge about the environment, but he discounted how Aboriginal people imagined their place in the world. The conceptual parameters and mundane experiences of his research subjects, their subjectivity, rarely impinged on his scientific calculus—rather, for him these people became epistemic objects to be inserted into an evolutionary synthesis. To be fair, Birdsell did admit toward the end of his career that working with desert Aborigines had “left the investigator with a profound feeling of the injustices suffered by native peoples under colonial regimes.”¹⁰ If pressed, he would support Aboriginal self-determination and land rights. But such critical and ethical perception came late to him, long after departing the distant scene of investigation.

In following Birdsell into the outback, we thus can locate a singular example of what the supposed transition from typological investigation to population thinking in human biology actually meant on the ground, in anthropological fieldwork. While we know a lot about the somewhat piecemeal theoretical shift in the sciences of human difference after World War II, Birdsell’s career, perhaps uniquely, allows us to situate and complicate further this intellectual history. We learn, too, about the durability in practice of many prewar morphological concepts and racial tropes. Above all, we can scrutinize continuing social and political distancing in postwar fieldwork in human biology, the persistent need of investigators to remake living persons into manageable things, compliant objects, and immutable mobiles—even if no longer so rigidly classified into racial types. Birdsell shows us that population genetics, no less than morphological study, can be an effective, and shameful, means of disengaging from Indigenous social relations and evading politics.

9. See Robert E. Kohler, *Lords of the Fly: Drosophila Genetics and the Experimental Life* (Chicago: University of Chicago Press, 1994).

10. Joseph B. Birdsell, *Microevolutionary Patterns in Aboriginal Australia: A Gradient Analysis of Clines* (New York: Oxford University Press, 1993), n.p.

THE ROMANCE OF THE AUSTRALIAN “HALF-CASTES”

Born into a leading industrialist family in South Bend, Indiana, in 1908, Birdsell initially followed his male ancestors' path into engineering, studying at MIT.¹¹ Uninspired, he later drifted into the credit information business in lower Manhattan, serving as an analyst at the recently merged Dun and Bradstreet company, which was recovering from the economic depression. Having read about Hooton in the *New York Times*, he decided in the mid-1930s to enroll in the PhD program in physical anthropology at Harvard. The subject was appealing, suited to someone with scientific inclinations and tabulating ability. Before long, Hooton was suggesting that Birdsell join an expedition to examine physically Aboriginal Australian “hybrids,” a recently mixed people whose genealogies were still traceable and whose increase troubled the Australian state, which was predicated on white nationalism. As so-called half-castes proliferated—numbering in the tens of thousands by the 1930s—experts in Aboriginal matters feared that the ostensibly white nation might become demographically imperiled. They began to speculate on the potential to absorb biologically these new people, to breed out the color, so mixed-race Aborigines would sink and show no trace, or at least turn into an acceptably dusky proletariat.¹² Hooton heard this from Tindale in 1936, when the Adelaide anthropologist visited Harvard as a Carnegie Research Fellow.¹³ It struck him as an attractive and convenient topic for a promising graduate student. Moreover, Tindale assured Hooton that the Australian research subjects were pliant and timid and easily mustered.

For years, Hooton had urged on his graduate students—the “Peabody boys”—the study of race mixing or miscegenation.¹⁴ American physical

11. The Birdsell Manufacturing Company made clover hullers, farm wagons, and carriages in South Bend from the middle of the nineteenth century.

12. Paul Hasluck, *Shades of Darkness: Aboriginal Affairs 1925–1965* (Melbourne: Melbourne University Press, 1988); Russell McGregor, *Imagined Destinies: Aboriginal Australians and the Doomed Race Theory 1880–1939* (Melbourne: Melbourne University Press, 1997); Anna Haebich, *Broken Circles: Fragmenting Indigenous Families 1800–2000* (Fremantle, WA: Fremantle Arts Centre Press, 2000); and Anderson, *Cultivation of Whiteness* (ref. 3), chap. 8.

13. Tindale reported to J. B. Cleland, the professor of pathology at the University of Adelaide, that Hooton was especially interested in studying first generation hybrids; 7 May 1937, in Cleland papers, University of Adelaide, box 1, file 1. Clark Wissler had previously written to Cleland urging the physical study of “natives in contact with civilization”; 23 Feb 1937.

14. Warwick Anderson, “Racial anthropology and human biology in the island laboratories of the United States,” *Current Anthropology* 53 (2012): S95–S107, and “Hybridity, race, and science: The voyage of the *Zaca*, 1934–35,” *Isis* 103 (2012): 229–53.

anthropologists in the early twentieth century became obsessed with race mixing for theoretical and political reasons. Through assessing and deconstructing hybrid morphology, they hoped to reveal ancestral racial types, shake out remnant Mendelian factors, thereby displaying the origins of modern humans. Equally important, miscegenation and passing in the United States was animating fierce public discussion and controversy during this period. As W.E.B. Du Bois observed, fear of race mixing was “the crux of the so-called Negro problem in the United States.”¹⁵ People of diverse origins made many whites uneasy. “The importance of research on this subject cannot be too strongly urged,” Franz Boas, the professor of anthropology at Columbia University, wrote in 1911, “since the desirability or undesirability of race mixture should be known.”¹⁶ In the 1920s, Boas instructed his graduate student Melville Herskovits to assess physically the mixed-race African Americans who sparked the Harlem renaissance.¹⁷ In Chicago, the sociologist Robert E. Park and his student Edwin B. Reuter also were evaluating the potential of mixed-race peoples—the new “marginal men”—during the fraught interwar decades. Park even imagined charting a “miscegenation map” of the world.¹⁸ Meanwhile, eugenicist Charles B. Davenport, with Morris Steggerda, conducted

15. W. E. B. Dubois, “Miscegenation [1935],” in *Against, Racism: Unpublished Essays, Papers, Addresses, 1887–1961*, by W. E. B. Dubois, ed. Herbert Aptheker (Amherst: University of Massachusetts Press, 1980), 90–102, on 99. See Peggy Pascoe, “Miscegenation law, court cases, and ideologies of ‘race’ in twentieth-century America,” *Journal of American History* 83 (1996): 44–69; Joel Williamson, *New People: Miscegenation and Mulattoes in the United States* (New York, 1980); Paul R. Spickard, *Mixed Blood: Intermarriage and Ethnic Identity in Twentieth-Century America* (Madison: University of Wisconsin Press, 1989); Werner Sollors, ed., *Interracialism: Black-White Intermarriage and Ethnic Identity in American History, Literature, and Law* (New York: 2000); and David A. Hollinger, “Amalgamation and hypodescent: The question of ethn racial mixture in the history of the United States,” *American Historical Review* 108 (2003): 1363–90.

16. Franz Boas, *The Mind of Primitive Man* (New York: Macmillan, 1911), 275. See also Boas, “The half-blood Indian [1894],” in *Race, Language and Culture* (New York: Free Press, 1940), 138–48.

17. Melville J. Herskovits, “Variability and race mixture,” *American Naturalist* 61 (1927): 68–81; “Social selection and the formation of human types,” *Human Biology* 1 (1929): 250–62; and *The Anthropometry of the American Negro* (New York: Columbia University Press, 1930).

18. Robert E. Park, “Race relations and certain frontiers,” in *Race and Culture Contacts*, ed. Edward B. Reuter (New York: McGraw-Hill, 1934), 57–85, on 78. See also Robert E. Park, “Our racial frontier in the Pacific [1926],” in *Race and Culture: The Collected Papers of Robert E. Park* (Glencoe, IL: The Free Press, 1950), vol. 1, 138–51; and “Human migration and the marginal man [1928],” in *ibid.*, vol. 1, 345–56. For E. B. Reuter, see *The Mulatto in the United States* (Boston: Badger, 1918), and *Race Mixture: Studies in Intermarriage and Miscegenation* (New York: McGraw-Hill, 1931).

a notorious study of race mixing in Jamaica in 1929, which concluded that Caribbean hybrids were physically degenerate and mentally deficient.¹⁹ No wonder, then, that Hooton regarded the study of miscegenation as “perhaps the most important field of research in anthropology today.”²⁰ When his Peabody boys found North American mixed communities indifferent to their pleas and resistant to their calipers, they could always venture abroad, to virgin fields like outback Australia, where research subjects seemed abundant and tractable.

A brief encounter with Tindale in Cambridge, Massachusetts, in 1936 opened up a new world to Birdsell. Then in his late thirties, Tindale had made a name for himself as an industrious and enthusiastic social anthropologist at the South Australian Museum. A keen fieldworker who spent months each year with various Aboriginal tribes across the continent, Tindale was particularly adept at eliciting details of kinship and genealogy, and dedicated to affixing tribal and linguistic boundaries. Educated largely in Tokyo, as the son of Salvation Army missionaries, he grew up obsessed with insect collecting and enthralled by the expedition narratives of evolutionary biologist Alfred Russel Wallace. Drawn into the orbit of the South Australian Museum as a youth, he reveled in the company of the antiquarians, naturalists, medical scientists, and amateur anthropologists who clustered there, venturing out each year to work up one tribe or another. Tindale’s abiding interest in natural history, ecological adaptation, and material culture pervaded and charged his fieldwork. For the following fifty years, he and Birdsell would collaborate on studies of Aboriginal population dynamics.²¹

Initially, Birdsell professed eagerness to study “the capacity of the hybrids for adapting themselves to European civilization, since this group of the

19. Charles B. Davenport and Morris Steggerda, *Race Crossing in Jamaica* (Washington, DC: Carnegie Institution, 1929); and Charles B. Davenport, “Effects of race intermingling,” *Proceedings of the American Philosophical Society* 130 (1917): 364–68. See William B. Provine, “Geneticists and the biology of race crossing,” *Science* 182 (1973): 790–96; and Paul Farber, “Race mixing and science in the United States,” *Endeavour* 27 (2003): 166–70.

20. Earnest A. Hooton, “Progress in the Study of Race Mixtures with Special Reference to Work Carried on at Harvard University,” *Proceedings of the American Philosophical Society* 65 (1926): 312–25, on 312. See also Hooton, “Race mixture in the United States,” *Pacific Review* 2 (1921): 116–27.

21. P. G. Jones, “South Australian anthropological history: The Board for Anthropological Research and its early expeditions,” *Records of the South Australian Museum* 20 (1987): 71–92; and “Obituary for Norman Barnett (‘Tinny’) Tindale,” *Aboriginal History* 18 (1994): 5–8.

population constitutes a government problem.”²² When Davenport heard of Birdsell’s plans, he invited the young physical anthropologist down to his institute at Cold Spring Harbor, ostensibly to discuss new measuring techniques. For decades, the aging eugenicist had advocated the physical and moral assessment of Indigenous peoples of Australasia and the Pacific, ever since he visited the southern continent in 1914 to attend the British Association for the Advancement of Science meeting in Melbourne. During this visit, Davenport made a detour to Brewarrina in outback New South Wales to calculate, in a perfunctory and dismissive way, the quality of the half-castes concentrated there.²³ Repeatedly, Davenport sought funding to colonize biologically the humans of the south Pacific, but always he was rebuffed—now, the opportunity had fallen to the rising generation. “My sole interest,” Davenport reassured Hooton, “is to get the best set of data concerning these living representatives of Neanderthal man before they are all hybridized. If I were ten years younger I would go myself.”²⁴ It appeared Davenport had acquired a false impression of the purpose of the expedition, but as it happened, his senile blunder proved prescient.

Before departing for Adelaide, Birdsell received gratuitous advice in the corridor of the Peabody Museum from Clyde K. M. Kluckhohn, a junior faculty member at Harvard whose rivalry with colleague—and graduate student favorite—Carleton S. Coon was closely observed. Kluckhohn insisted that Birdsell try some blood grouping of Aboriginal Australians, a procedure that Hooton and Coon, as ardent morphologists, had breezily dismissed. Kluckhohn called William C. Boyd, an immuno-chemist at Boston University, who agreed to provide Birdsell with instruction in technique and some

22. J. B. Birdsell, “Joint research of the University of Adelaide and the Division of Anthropology of Harvard University, with the cooperation of the Museum of South Australia,” 5 May 1938, in Hooton Papers, box 22, folder: “Birdsell—Australian project.” See also Birdsell, “A project for the investigation of the black-white hybrids of Australia,” Hooton Papers, *ibid*.

23. Charles B. Davenport, “Notes on the physical anthropology of Australian Aborigines and black-white hybrids,” *American Journal of Physical Anthropology* 8 (1925): 73–94. On Davenport, see Charles E. Rosenberg, “Charles Benedict Davenport and the irony of American eugenics,” *Bulletin of the History of Medicine* 15 (1983): 18–23; and Daniel J. Kevles, *In the Name of Eugenics: Genetics and the Uses of Human Heredity* (Cambridge, MA: Harvard University Press, 1995).

24. C. B. Davenport to E. A. Hooton, 16 May 1938, Hooton Papers, box 7, folder 1: “C.B. Davenport correspondence 1931–44.” For an example of Davenport’s scheming to set up an expedition to Australia, see C. B. Davenport to Edwin R. Embree, 3 March 1924, RG 1.1, series 410D, box 3, folder 23, Rockefeller Archive Center, Tarrytown, New York.

standard antisera he could use in his fieldwork.²⁵ Discovered in 1900, and associated with heredity and ethnicity during World War I, the ABO blood groups during the interwar period served commonly as genetic markers in population surveys.²⁶ In the 1920s, the serological discrimination of populations had gripped the imagination of physical anthropologists in Australia—especially the Adelaide pathologist and natural historian John B. Cleland, who never tired of bleeding Aborigines as he travelled, even though the agglutination results soon became predictable. No full-blood Aborigine in central Australia seemed to possess any B factor, which is common among Asians; instead, the typically European or Caucasian A predominated. Although Cleland conceded that “blood-grouping fails to provide an infallible test of race,” he remained convinced that “the ease with which it yields measurable results, the precision of its applications, the definite inheritance of the factors concerned, furnish it with advantages that no other anthropological method possesses.”²⁷ But blood grouping had occurred only in piecemeal fashion across the continent between the wars, and certainly not on the scale or with the density that Birdsell was envisaging in the late 1930s.

25. Birdsell, “Some reflections” (ref. 1). See William C. Boyd, *Genetics and the Races of Man: An Introduction to Modern Physical Anthropology* (Boston: Little, Brown, and Co., 1950); Boyd also became critical of racial typologies, emphasizing instead the geographic distribution of blood groups. On Coon’s inconsistent tendency to brush off blood grouping, see Rachel Silverman, “The blood group ‘fad’ in post-war racial anthropology,” *Kroeber Anthropological Society Papers* 84 (2000): 11–27.

26. Karl Landsteiner, “Zur Kenntnis der antifermentativen, lytischen und agglutinierenden Wirkungen des Bluteserums und der Lymphe,” *Zentralblatt für Bakteriologie* 27 (1900): 357–62; and Ludwik Hirsfeld and Hanka Hirsfeld, “Serological differences between the blood of different races: The result of researches on the Macedonian front,” *Lancet* 194 (1919): 675–79. The Hirsfelds demonstrated that the A factor was more common in the inhabitants of northeastern Europe, and diminished in the southeast; the B factor was more frequent among those from Asia. They called the distribution of the ratio of A to B the biochemical index, and claimed that the wandering and intermingling of races accounted for its variation.

27. H. H. Woollard and J. B. Cleland, “Anthropology and blood grouping with special reference to Australian Aborigines,” *Man* 29 (1929): 181–88, on 184. See J. B. Cleland, “Blood grouping of Australian Aborigines,” *Australian Journal of Experimental Biology and Medical Science* 3 (1926): 33–35; and “Further results in blood grouping central Australian Aborigines,” *Australian Journal of Experimental Biology and Medical Science* 7 (1930): 79–90. See also A. H. Tebbutt, “Comparative iso-agglutinin index of Australian Aborigines and Australians,” *Medical Journal of Australia* 2 (1923): 346; Tebbutt, “Second report on the comparative iso-agglutinin index of Australian Aborigines and Australians,” *Proceedings of the Pan-Pacific Science Congress*, ed. Gerald Lightfoot (Melbourne: Government Printer, 1923), vol. 1, 242–47; and D. H. K. Lee, “Blood groups of North Queensland Aborigines, with a statistical collection of some published figures for various races,” *Medical Journal of Australia* 2 (1926): 401–10.

Birdsell and Tindale, accompanied by their wives, set off from Adelaide in Ford trucks in April 1938, embarking on an 18-month, 29,000-kilometer journey across the continent, planning to sample scores of Aboriginal missions, settlements, and encampments. Over this time and distance, they acquired genealogical, physical, and serological data on more than 1,500 people, most of them mixed race. Birdsell concentrated on the anthropometry and blood grouping, while Tindale compiled genealogies and charted tribal boundaries. "All submitted gracefully to our bleedings, our measurements, and our enquiries as to their antecedents," Tindale recalled, buoyantly and somewhat disingenuously.²⁸ The expedition skirted around central Australia, the region that Adelaide anthropologists and others had already worked over and cultivated, surveying instead relatively neglected communities. They focused on identifying and recording the first-generation offspring of mixed liaison, the F_1 crosses, though all available Indigenous bodies, even full-blood, came within their remit. Tindale soon found "several types of crosses to study," including those with African and Asian ancestry, and "the question constantly arose, 'What is his effage?'"²⁹

Not surprisingly, it was around the ancient fish traps at Brewarrina, long a site of Aboriginal interaction and mixture, that the expedition really gained momentum. They reached the "mission" there in June 1938, and soon boasted more than 250 bodies in their "catch," including some thirty full-bloods and twenty-five of the "important and elusive F_1 ."³⁰ So plentiful were the F_1 crosses, Birdsell came to regard Brewarrina as a "dream."³¹ The Australian hybrids, he wrote, were "rather pleasing in feature, and although showing Aboriginal morphology markedly, somehow the product of crossing here seems to show less disharmony than among American mulattos, to give more the impression of a dark, aberrant white type, than reveal any true Negro strain in the background."³² Indeed, the investigator might even assume that "two kinds of whites had mixed."³³ He noted that Aboriginal-European crosses "smell like dirty

28. Norman B. Tindale, "Reminiscences," in Mai et al., *The Perception of Evolution* (ref. 4), 1–9, on 6. For examples of resistance and evasion, see Anderson, *Cultivation of Whiteness* (ref. 3), chap. 8.

29. Tindale, "Reminiscences" (ref. 28), 3.

30. N. B. Tindale and Joseph B. Birdsell to J. B. Cleland, 16 Jul 1938, in Cleland papers, University of Adelaide, box 1, file 1. On the "catch," see J. B. Birdsell to E. A. Hooton, 28 Dec 1938, in Hooton Papers, box 22. Birdsell also repeatedly describes "bagging" full bloods and others; see, e.g., J. B. Birdsell to E. A. Hooton, 20 Apr 1939.

31. J. B. Birdsell to E. A. Hooton, 4 Jul 1938, in Hooton Papers, box 22.

32. J. B. Birdsell to E. A. Hooton, 20 Apr 1938, in Hooton Papers, box 22.

33. J. B. Birdsell, 20 Apr 1938, *ADJF* (1938–39), vol. 1, p. 1 (original emphasis).

whites, not offensive in kind only in degree.”³⁴ Birdsell reported to Hooton that “the material to be obtained here in Australia is so rich as to leave the field worker gasping with astonishment that it has never been adequately touched before.”³⁵ Hooton believed that the expedition performed “the most comprehensive work on race mixture which . . . has ever been accomplished.”³⁶

In an extensive report, Tindale concluded that the racial experiment occurring inadvertently in outback Australia supported hybrid absorption into the dominant white population. Mixed Aboriginal-Europeans could be merged into the white nation without risk of degeneration:

Complete mergence of the half-castes in the general community is possible without detriment to the white race. Their Aboriginal blood is remotely the same as that of the majority of the white inhabitants of Australia, for the Australian Aboriginal is recognised as being a forerunner of the Caucasian race. . . . Two successive accessions of white blood lead to the mergence of the Aboriginal in the white community. There are no biological reasons for the rejection of people with a dilute strain of Australian Aboriginal blood. A low percentage of Australian Aboriginal blood will not introduce any aberrant characteristics and there need be no fear of reversions to the dark Aboriginal type.³⁷

Tindale even devised a genealogical table of “absorbability,” with “octoroons” the most readily absorbed and those with 7/8th Aboriginal ancestry requiring further crossing with whites.³⁸ Accordingly, with careful breeding part-Aborigines could produce swarthy proletarian whites. Indeed, “the introduction of a low percentage of a primitive Australian strain may provide just that extra range of variation necessary for the ultimate selection and development of a white stock adjusted to the tropical parts of Australia.”³⁹ But while Tindale, more sensitive to national political imperatives, applied his anthropological research to validate the White Australia Policy, Birdsell remained silent. He

34. Birdsell, 4 Jul 1938, *ADFJ* (1938–39), vol. 1, p. 19.

35. J. B. Birdsell to E. A. Hooton, 13 Feb 1939, in Hooton Papers, box 22.

36. E. A. Hooton to J. B. Birdsell, 25 Apr 1939, in Hooton Papers, box 22.

37. N. B. Tindale, “Survey of the half-caste problem in South Australia,” *Proceedings of the Royal Geographical Society of Australasia, South Australian Branch* 42 (1940–41): 66–161, on 67. The other major report was N. B. Tindale, “Distribution of Australian Aboriginal tribes: A field survey,” *Transactions of the Royal Society of South Australia* 64 (1940): 140–231.

38. Tindale, “Survey of the half-caste problem” (ref. 37), 68, 120–21.

39. *Ibid.*, 124. Hooton wrote to Tindale (7 Jun 1944) to tell him that the paper on the half-caste problem “makes a perfectly swell introduction to this subject which, after all, was the primary purpose of the whole expedition” (Hooton Papers, box 25, folder 10: “Tindale 1944–45”).

was supposed to supplement Tindale's white racial triumphalism with physical and serological charts, but he never did.

Instead, Birdsell became obsessed with Aboriginal heterogeneity. In the 1890s, John Mathew had argued for multiple migrations of different Aboriginal stocks—a “trihybrid” theory—but most physical anthropologists before World War II believed that Aborigines consisted of a single, homogeneous race.⁴⁰ Conventionally, Adelaide anatomist Andrew A. Abbie continued to insist on Aboriginal homogeneity through the 1950s and 60s, assiduously compiling metrical data to support the hypothesis.⁴¹ But Birdsell was convinced that he could discern separate ancestral types in contemporary Aboriginal populations, corresponding to three ancient waves of migration. According to this trihybrid theory, continental Australians were an amalgam of early Oceanic Negritos (“Barrineans”), a large element of primitive Caucasians (“Murrayians”), and a previously unidentified racial group (“Carpentarians”). Residual features of the Oceanic Negritos could be identified among the Tasmanians and a few rainforest tribes in the hinterland of Cairns, around Lake Barrine. Birdsell's measurements tracked their origin to a people of short stature and dark skin, with woolly hair, a round head and a narrow face.⁴² A second wave of

40. John Mathew, *Eaglehawk and Crow: A Study of the Australian Aborigines including an Inquiry into their Origin and a Survey of Australian Languages* (London: D. Nutt, 1899). For the standard view of Aboriginal homogeneity, see Frederic Wood Jones, *Australia's Vanishing Race* (Sydney: Angus and Robertson, 1934). Tindale and Birdsell would have known of Frank Fenner's arguments for Aboriginal homogeneity: F. J. Fenner, “The Australian Aboriginal skull: Its non-metrical morphological characters,” *Transactions of the Royal Society of South Australia* 63 (1939): 248–306.

41. Andrew A. Abbie, “Recent field work on the physical anthropology of Australian Aborigines,” *Australian Journal of Science* 23 (1961): 210–11; and “The homogeneity of Australian Aborigines,” *Archaeology and Physical Anthropology in Oceania* 3 (1968): 223–31. As Abbie insisted, “there is, needless to say, no case whatever for any division into Carpentarian and Murrayian ‘local races’” (“Comment on ‘Geographic and microgeographic races,’” *Current Anthropology* 4 [1963]: 192–93, on 193).

42. The “discovery” of this type in Queensland is announced in Norman B. Tindale and Joseph B. Birdsell, “Tasmanoid types in North Queensland,” *Records of the South Australian Museum* 7 (1941): 1–9. More generally, see Joseph B. Birdsell, “New data on racial stratification in Australia,” *American Journal of Physical Anthropology* 5 (1947): 232; Birdsell, “Preliminary data on the trihybrid origin of Australian Aborigines,” *Archaeology and Physical Anthropology in Oceania* 2 (1967): 100–55; and Malcolm D. Prentis, “From Lemuria to Kow Swamp: The rise and fall of trihybrid theories of Aboriginal origins,” *Journal of Australian Studies* 45 (1995): 79–91. Historian Manning Clark accepted Birdsell's trihybrid theory; see C.M.H. Clark, *A History of Australia* (Melbourne: Melbourne University Press, 1962), vol. 1, on 3. Hooton promoted it internationally in works such as *Up from the Ape*, 2nd ed. (New York: Macmillan, 1947).

immigrants, “an archaic white or Caucasian group”—the “Murrayians”—had driven the primitive Negritos into the rainforests and to Tasmania, or amalgamated with them elsewhere. Birdsell described the usurpers as short in stature, with light skin and wavy hair, a long head, large brows, and a wide nose. A third racial type, clustered around the Gulf of Carpentaria, arrived still later. They were tall and dark, with wavy hair, a narrow head, and a very broad nose. In Birdsell’s opinion, their general appearance was “extremely primitive . . . and non-white.” They seemed to represent a fourth major racial division, equivalent in status and additional to “the White, Mongoloid and Negroid groups.” The last surviving representatives of this group were “the much-mixed dark-skinned peoples of India and the less-mixed Aborigines of northern Australia.” Evidently, Birdsell believed during the 1940s and later that it still was necessary “to consider existing populations as merely transient by-products of the complicated processes of racial dynamics, a field in which hybridization seems nearly always to have played an important role.”⁴³ His durable commitment to typological thinking—and ready recourse to explanations of variation based on processes of hybridization—contrasted with avowed misgivings about prewar racial classification, a discomfort supposedly acquired in early fieldwork. Adherence to the trihybrid theory over the remainder of his career vitiated or impaired much of his evolutionary analysis of Aboriginal variation, rendering him vulnerable to criticism from other population geneticists. Try as he might, he could never completely abandon taxonomic thinking.

FROM TYPES TO GENE FREQUENCIES

And yet, it is clear that Birdsell returned from his first Australian expedition thirsty for more complex and realistic evolutionary explanations of Aboriginal variation. Even as he asserted his trihybrid theory, the budding biologist was reading Julian Huxley’s description of clines, or graduations in the features of populations across a geographic and ecological range. In 1938, Huxley proposed the word “cline” to refer to such geographical gradients in phenotypic characters of organisms.⁴⁴ He discounted any direct

43. Joseph B. Birdsell, “The racial origin of the extinct Tasmanians,” *Records of the Queen Victoria Museum* 2 (1949): 105–22, on III, II4.

44. Julian S. Huxley, “Clines: An auxiliary method in taxonomy,” *Nature* 142 (1938): 219–20. Huxley envisaged a new systematics, bringing in genetics and ecology; see Julian Huxley, “Genetics and ecology in relation to selection,” *Nature* 138 (1936): 748–49.

environmental cause of these gradients, arguing instead for the effect of natural selection. One of his main examples was the gradation in pigmentation of the brush opossum, which is gray on mainland Australia and increasingly black across Tasmania. Huxley believed that most clines are adaptively correlated, though he did wonder whether others could be derived from migratory patterns. He expected that the steepness of such clines depended on the degree of environmental discontinuity and the magnitude of gene flow through the population. This new “descriptive tool,” he claimed, would “undoubtedly shed light on problems of the differentiation of subspecies, their range changes subsequent to differentiation, selection-pressure, the rate of spread of genes, and many other questions of general biological interest.”⁴⁵ Birdsell was intrigued, and wondered how the concept might be applied to Aboriginal Australian populations.

After his return from the field, Birdsell also discovered the biological theories of Sewall Wright and Theodosius Dobzhansky.⁴⁶ He read with growing fascination Dobzhansky’s *Genetics and the Origin of Species* (1937), realizing that it presented a model for the analysis of geographical variation in the genetics of natural populations, which might help to restructure his Australian full-blood data.⁴⁷ Immersion in the work of Sewall Wright disturbed the anthropologist’s typological assumptions even more profoundly. In 1931, Wright had proposed a “shifting balance” theory of evolution, whereby random or stochastic changes in gene frequencies—“genetic drift”—can alter the pattern of variation available for selection. In small populations, genetic drift might lead to the elimination of particular genes altogether, depending on the extent of gene flow from nearby groups—that is, on the degree of separation. Wright speculated that in “isolated subgroups in widely distributed populations,” such random changes in gene frequency could deliver a much

45. Julian S. Huxley, “Clines: An auxiliary method in taxonomy,” *Bijdragen tot de Dierkunde* 27 (1939): 491–520, on 517 (This is an elaboration of his earlier article in *Nature*). The concept is used in Frank B. Livingstone, “On the non-existence of human races,” *Current Anthropology* 3 (1962): 279–81.

46. It is likely, though not certain, that Birdsell met Huxley, Dobzhansky, Wright, and Mayr at the December 1939 American Association for the Advancement of Science meeting in Columbus, Ohio. See Vassiliki Betty Smocovitis, “Organizing evolution: Founding the Society for the Study of Evolution (1939–1950),” *Journal of the History of Biology* 27 (1994): 241–309.

47. Theodosius Dobzhansky, *Genetics and the Origin of Species* (New York: Columbia University Press, 1939). See Lisa Gannett, “Theodosius Dobzhansky and the genetic race concept,” *Studies in History and Philosophy of Biological and Biomedical Science* 44 (2013): 250–61.

faster rate of evolution than previously expected.⁴⁸ A few years later, Birdsell encountered Ernst Mayr's concept of "founder effect," where a small group might show less genetic variability than the parent population because a single breeding pair had started the group.⁴⁹ Closely related to Wright's random genetic drift, founder effect similarly might explain some phenotypic and serological anomalies of remote Aboriginal clans. Thus a variety of evolutionary processes—including adaptive mechanisms like natural selection as well as stochastic events such as mutation, genetic drift, and founder effect—came during the 1940s to crowd in upon Birdsell's reflections on his Australian research, mixing ungracefully with his continuing preoccupation with migration and hybridization.

When Birdsell and Boyd wrote up the results of blood grouping the "full-blooded Australian Aborigines," they emphasized the trihybrid origins of the research subjects, but additionally they took care to refer to clines and to cite Wright and Dobzhansky. They speculated on processes of mutation and drift, and they wondered how blood groups might be subject to natural selection. "If a population is found to be strikingly different from the majority of mankind," Birdsell and Boyd concluded, "then it would seem possible to interpret this as the result of environment, inbreeding, mutation, isolation, or selection, or some combination of these factors."⁵⁰ But Air Force anthropometry came to restrict his research time for much of the 1940s, causing him to set aside his prewar Australian data. At the end of the decade, he was caught up helping his friends Coon and Stanley M. Garn write their short book on the problem of human race formation. Although persistently classificatory and typological, the retrograde tract did at least try to relate morphology and physiology to environmental circumstances, and it considered the impact of mutation and selection and drift on human populations.⁵¹ Birdsell was not proud of the

48. Sewall Wright, "Evolution in Mendelian populations," *Genetics* 16 (1931): 97–159, on 150. See William B. Provine, *Sewall Wright and Evolutionary Biology* (Chicago: University of Chicago Press, 1986).

49. Ernst Mayr, *Systematics and the Origin of Species* (New York: Columbia University Press, 1942). See William B. Provine, "Founder effects and genetic revolutions in microevolution and speciation: An historical perspective," in *Genetics, Speciation, and the Founder Principle*, eds. Luther Val Giddings, Kenneth Y. Kaneshiro, and Wyatt W. Anderson (New York: Oxford University Press, 1989), 43–76.

50. Joseph B. Birdsell and William C. Boyd, "Blood groups in the Australian Aborigines," *American Journal Physical Anthropology* 27 (1940): 69–90, on 67, 83.

51. Carleton S. Coon, Stanley M. Garn, and Joseph B. Birdsell, *Races . . . : A Study of the Problems of Race Formation in Man* (Springfield, IL: Charles C. Thomas, 1950).

collaboration and criticized Coon when the Penn anthropologist later recanted and reverted to vulgar racism.⁵²

In 1950, the young assistant professor at UCLA received an invitation from Dobzhansky to present his Australian material at the Cold Spring Harbor symposium on human origins. Birdsell recalled the meeting as a turning point in his career. He explained to the assembled biologists “the need for revitalizing racial anthropology” through borrowing from the new population genetics. Sadly, his fellow anthropologists had fallen for the “specious beauty of exact measurement,” abandoning any search for “biologically meaningful measurement.”⁵³ In contrast, Birdsell wanted to understand human differences using “gene flow models in genetic space.” He regarded traditional Australian “tribes,” dispersed across the harsh deserts of the continent’s interior, as genetic isolates. In such small breeding populations, drift seemed a particularly potent means of concentrating frequencies of certain genes, or eliminating others altogether, especially those associated with blood groups. At this stage, he was prepared to admit that “some other evolutionary processes beyond hybridization must have been at work to produce the results observable in Australia.” Birdsell even came close, for a moment, to renouncing his trihybrid theory, musing that the Carpentarian “racial type” could be the result of natural selection rather than migration, since the body build and heavy pigmentation of the northerners “present adaptive advantages in the essentially hot, dry climate which prevails” in their country.⁵⁴ But he quickly retracted the selectionist infidelity. The anthropologist adduced a few other variations in the traits of Aboriginal Australians, deciding the “shift in climate does not seem sufficient to account for a sufficient change in selection to cause the observed differential.”⁵⁵ In the discussion, Dobzhansky generously interpreted Birdsell’s remarks as agreement that “adaptation through natural selection is an agency of paramount importance in organic evolution. . . . The question at issue is whether selection is the only agency of importance in the evolutionary process.”⁵⁶ Of course, Dobzhansky was alluding to drift, not hybridization.

52. Joseph B. Birdsell, “Review of *The Origin of Races*, by Carleton S. Coon,” *Quarterly Review of Biology* 38 (1963): 178–85.

53. Joseph B. Birdsell, “Some implications of the genetical concept of race in terms of spatial analysis,” *Cold Spring Harbor Symposium in Quantitative Biology* 15 (1950): 259–314, on 259.

54. *Ibid.*, 260, 296.

55. *Ibid.*, 308.

56. Th. Dobzhansky in *ibid.*, 313.

At the time of the Cold Spring Harbor meeting, it became evident to Birdsell that his prewar research data could not be simply slotted into the new evolutionary framework. In 1950, he formalized his connection with Roy T. Simmons and John J. Graydon, adroit serologists at the Commonwealth Serum Laboratories (CSL) in Melbourne, and proposed a collaborative genetic survey of the peoples of the Pacific. Before the war, it had been convenient to test blood groups in the field, but the recently discovered Rh factors and other alleles, such as the MN system, meant blood samples had to be conveyed, preferably in “iced thermos flasks,” to a laboratory for analysis. Simmons and Graydon knew how to manage this better than anyone—as a result of their labors, as Birdsell noted in *Science*, “our knowledge of the population genetics of Australasia is more advanced than in other regions of the world.”⁵⁷ The biological anthropologist now hoped to take advantage of the transport improvements that ensued from wartime mobilization to reach previously isolated populations in Australasia and the Pacific. In 1951, he corresponded with Wright, asking how one might calculate the effective breeding population in cultures not yet subject to “universal panmixia.”⁵⁸ The evolutionary biologist recommended a model “in which scattered centers of population are assumed as in the island model but immigrants are assumed to come predominantly from neighboring centers rather than to constitute a random sample of the total.”⁵⁹ Birdsell told him that the Guggenheim and Wenner-Gren foundations, as well as the Fulbright Program and National Science Foundation, seemed prepared to fund a fresh expedition to the desert tribes of Western Australia, where conditions were most “favorable for the collection of data which will further define the nature of the evolutionary processes producing . . . drastic intertribal variation.”⁶⁰ He promised to report to Wright on patterns of microevolution, especially drift, in this natural population.

In describing his projected Australian research in 1952, Birdsell stated “the primary variable is a spatial factor; the materials for investigation are the varying gene frequencies of half a hundred tribal isolates contiguous in space and traversing a wide range of environments.” His goal was to identify “the results of the evolutionary processes of selection and drift as they have affected

57. Joseph B. Birdsell, “A collaborative genetical survey of the human populations of the Pacific,” *Science* 112 (1950): 25–26, on 25.

58. Birdsell to Wright, 4 Jun 1951, Wright Papers.

59. Wright to Birdsell, 12 Jul 1951, Wright Papers.

60. Birdsell to Wright, 24 Sep 1951, Wright Papers.

these populations.”⁶¹ As a student of Hooton, Birdsell remained invested in determining morphological differences, since these genetically complex traits might reveal more vividly population relationships distant in time and space than genetically simple characteristics such as blood groups. “They must be utilized within a modern evolutionary framework, however,” he insisted. “It is not too much to say,” he continued, “that the apparent discrepancy between the taxonomy of the older anthropology and the genetical approach may result largely from the sole utilization of hybridization to explain all observed population differences.”⁶² (Clearly, he stressed the qualifiers “largely,” “sole,” and “all.”) “As compared to classical physical anthropology,” Birdsell resoundingly concluded, “with its emphasis on the individual rather than the population, its preoccupation with typologies, its use of unanalyzed phenotypic traits, and its very paucity of term for the identification of the basic forces of evolution, human population genetics is a progressive step forward.”⁶³

DRIFT IN THE DESERT

“I will be most willing to spend three months with you in the mapping of tribal boundaries in North-Western Australia if it can be arranged,” Tindale wrote to Birdsell in February 1952.⁶⁴ But duties at the South Australian Museum delayed him. Impatient to get moving, Birdsell, his second wife Esther, and Reed College undergraduate Phillip Judson “Jud” Epling decided to set off together from Adelaide in December 1952, hoping that Tindale would join them the following year when he was free.⁶⁵ The party spent the first week in Koonibba, staying at the pastor’s house, measuring full-blooded Pitjantjatjara who had found refuge at the mission. It was more than one hundred degrees Fahrenheit each day in the hall, their impromptu laboratory, but the local people patiently subjected themselves to the anthropologist’s calipers. Jo Birdsell soon became obsessed with their hair color and teeth configuration. On his previous

61. Joseph B. Birdsell, “On various levels of objectivity in genetical anthropology,” *American Journal of Physical Anthropology* 10 (1952): 355–62, on 357.

62. *Ibid.*, 358, 361.

63. *Ibid.*, 362.

64. Tindale to Birdsell, 8 Feb 1952, JBirdsell Papers, AA689/3/1.

65. Epling later received his PhD in social science from UC Irvine and taught in the School of Public Health at the University of North Carolina. His father, Carl C. Epling, was a biogeographer and evolutionary theorist at UCLA who in the 1940s worked with Dobzhansky on the genetic and ecology of *Drosophila*.

expedition he had observed several blond or tawny-haired Aborigines, but now they seemed far more common. From the 1870s, native blondness had startled many explorers and sojourners in the outback, and the phenomenon excited some debate among biologically inclined anthropologists in the 1920s.⁶⁶ It immediately caused Birdsell to speculate on possible genetic drift. Similarly, Adelaide expeditionary anthropologists in the interwar years, especially T. Draper Campbell, had meticulously examined Aboriginal dentition, without discerning any genetic pattern.⁶⁷ Again, Birdsell was quick to attribute unusual configurations of teeth to the operations of genetic drift in small, isolated populations. Of the teeth changes, he wrote in his journal: “Don’t recall ever seeing like before—drift?”⁶⁸ Yet his travels had scarcely begun.

As they slowly headed northwest across hard country, Jo Birdsell carefully recorded his “ecological impressions” of “sparse scrub land” and “red spinifex and sand.” The immense plains of mulga and saltbush, terribly marginal country, drove them to despair. As they approached the west coast, the “mallee” seemed to “improve.”⁶⁹ The fortitude and resilience of the inhabitants of this demanding country impressed the investigators, but it was not always easy to assemble them for study or to get their cooperation. At Book-able, Birdsell recorded a “slow morning of interacting and waiting”; he was often “played for a sucker”; his days became a “saga of frustrated waiting”; he might be “received with tolerance, but hardly warmth.”⁷⁰ Sometimes people were out kangaroo hunting, or it was “rations day” and they were too busy. At Wiluna, he had to give “another record ‘recital’” to twenty men to obtain their assent to his measurements, but then the “natives here [were] very sweet and fully cooperative”—even though it was 110 degrees Fahrenheit in the shade.⁷¹ At the Cosmo Newberry (Yilka) ration depot, he “started on the women today

66. Ales Hrdlicka, “Light hair in Australian Aborigines,” *American Journal of Physical Anthropology* 9 (1926): 137–39; T. Griffith Taylor, “Variations among the Australian Aborigines with special reference to tawny hair,” *Proceedings of the Third Pan-Pacific Science Congress* 2 (1926): 2386–89; and Andrew A. Abbie and W. N. Adey, “Pigmentation in an Australian tribe with special reference to fair-headedness,” *American Journal of Physical Anthropology* 11 (1953): 339–60.

67. T. D. Campbell, J. H. Gray, and C. J. Hackett, “Physical anthropology of the Aborigines of central Australia,” *Oceania* 7 (1936): 106–39.

68. Birdsell, 3 Dec 1952 (1 Dec 1952–9 Aug 1954), *ADFJ*, vol. 1, p. 3, in Birdsell Papers, AA689/02.

69. Birdsell, 5 Dec 1952, *ADFJ*, p. 5.

70. Birdsell, 8, 10, 13 Dec 1952, 5 Jan 1953, *ADFJ*.

71. Birdsell, 17 Jan 1953, *ADFJ*, vol. 1, pp. 29, 30.

and for a while it looked grim—since minna thought we were going to give them an internal VD examination. Some talking brought them around.”⁷²

At Marble Bar in April, Esther was sick with dysentery and Jo was treating his tropical ulcers. Then Tindale finally arrived, and the mood of the expedition recovered. According to Birdsell, the trip became “‘anthropology without pain’—good company, meals, drink—tea time twice a day.”⁷³ They found the Pilgangoora “natives so genuinely friendly that all of us feel real regret in leaving these good people tomorrow!”⁷⁴ Nonetheless, they still experienced occasional obstruction from white pastoral station managers and missionaries, who could refuse the anthropologists permission to see “their natives.” The boss at Yeeda station, near the Fitzroy River, was “as rude an oaf as I’ve seen in *any* country,” Birdsell wrote. “He quickly made it clear that we were there on tolerance only and could expect nothing from him—a bitter, surly antigovernment lout.”⁷⁵ He allocated them a campsite near the rubbish dump. But they carried on until October 1953, when Birdsell scrawled: “This is a good time to stop—all too tired—rains too close!”⁷⁶ The Birdsells would return to the top end for a few months in 1954, mainly to “clean up” a few tribes they had missed the first time around. Their research finished just in time, they believed, before the full-bloods all perished. “How fortunate to have done these places last year,” Jo Birdsell noted in 1954, “for changes here are both rapid and for the worse in terms of research.”⁷⁷

“I don’t envy you the hard fieldwork you are doing,” Simmons wrote from Melbourne in April 1953, “the life is so much harder than the simple lab life we lead here.”⁷⁸ While Birdsell toured the outback, he corresponded most weeks with the CSL serologists, often sending them blood samples for analysis. In return, Simmons and Grayden dispatched blood tubes, thermos flasks, pipettes, standard antisera, glucose citrate, and copious instructions. Keeping the samples

72. Birdsell, 9 Feb 1953, *ADFJ*, vol. 1, p. 54.

73. Birdsell, 13 Jul 1953, *ADFJ*, vol. 1, p. 176. “Anthropology without pain” was Tindale’s phrase.

74. Birdsell, 14 Jun 1953, *ADFJ*, vol. 1, p. 154.

75. Birdsell, 24 Aug 1953, *ADFJ*, vol. 1, p. 203.

76. Birdsell, 3 Dec 1953, *ADFJ*, vol. 1, p. 241.

77. Birdsell, 13 Jul 1954, *ADFJ*, vol. 2, p. 350. On the articulation of the material cultures of field and laboratory in biomedical science after World War II, see Warwick Anderson, *The Collectors of Lost Souls: Turning Kuru Scientists into Whitemen* (Baltimore: Johns Hopkins University Press, 2008); and Joanna Radin, *Life on Ice: A History of New Uses for Cold Blood* (Chicago: University of Chicago Press, 2017).

78. Simmons to Birdsell, 7 Apr 1953, Birdsell Papers, AA689/3/3.

cold and preventing hemolysis were persistent challenges in the extreme heat. Birdsell tried coaxing his “tricky little kerosene refrigerator”—which he called “the little brute”—but the machine frequently failed.⁷⁹ His attempts to use ether as a disinfectant proved futile, too, as it evaporated in the desert furnace. “The degree of cleansing the skin is most important in maintaining the blood intact,” Simmons warned. He recommended “soap and water followed by methyl alcohol,” which seemed to do the trick.⁸⁰ “Sixty samples free from haemolysis,” the serologist wrote excitedly in 1953, “you are awarded the Order of Lenin forthwith!”⁸¹ Simmons expressed interest in the evolutionary implications of the research. “I can now appreciate the design of the experiment,” he wrote, “and I also see why any intact single sample was so important in the project.”⁸² But the volume of valuable materials from the western deserts soon was overwhelming. “Each week I become more allergic to the name of Birdsell; just as I nearly get my head above water a cove of that name pushes me under again.”⁸³ But in the end he wrote: “I am proud, Jo, that the lab work has helped the job along.”⁸⁴ He was still analyzing samples from the expedition into the 1960s.

Birdsell’s studies of genetic distance and flow were predicated on keeping social distance and restricting personal contact with his research subjects—distinct from the camaraderie of the white investigators. Among Aboriginal people, Birdsell was dedicated to assessing morphology and gauging how best to bleed full-bloods. He wanted just enough rapport to allow him to complete his research. At Ooldea, for instance, the natives seemed “rather heterogeneous and varied in appearance—and surprisingly small in stature! Crisp and curled hair is rather more frequent than might be expected. Nasal tip is usually depressed in males. . . . These are not an appealing people.”⁸⁵ At Forrest River, he got “a tentative feeling that the people to the north of here are ‘messed up’ and highly variable—and possibly more linear than the locals.”⁸⁶ At Mee-katharra, he noted: “Must calculate on people who have come in from desert more recently.”⁸⁷ All the same, Birdsell’s objectification of Aborigines on this

79. Birdsell to Simmons, 28 Nov 1952, *ibid.*

80. Simmons to Birdsell, 6 Feb 1952, *ibid.*

81. Simmons to Birdsell, 21 Apr 1953, *ibid.*

82. Simmons to Birdsell, 24–25 Jun 1953, *ibid.*

83. Simmons to Birdsell, 6 May 1954, *ibid.*

84. Simmons to Birdsell, 14 Oct 1953, *ibid.*

85. Birdsell, 14 Dec 1952, *ADFJ*, vol. 1, p. 13.

86. Birdsell, 15 Mar 1954, *ADFJ*, vol. 2, p. 251.

87. Birdsell, 24 Jan 1953, *ADFJ*, vol. 1, p. 38.

expedition was less demeaning and derogatory than his prewar asseverations—and he reserved his harshest criticisms for the many degraded, brutish whites he met in the outback. At a few places, mostly in the company of Tindale, Birdsell felt attuned to Aboriginal inhabitants, made friends with some of the men, and regretted departing from them. In his journals, his research subjects mostly were “people” and rarely “natives,” “full-bloods,” and “half-castes.” Sometimes their fate dismayed him. Stories of a massacre at Forrest River in 1926—and earlier killings at Skull Creek—disturbed him as he “calculated” the bodies of the survivors. Mount Florence station near Roebourne was “most godawfully depressing—some old, blind, forgotten, ill-rationed, poorly housed wrecks” somehow survived there.⁸⁸ But Birdsell and Tindale accepted the ration system and exploitative labor practices that prevailed in the outback, despite Aboriginal discontent and strikes through the 1940s.⁸⁹ They felt compelled to collude with station managers and missionaries, and endorse their sense of ownership of Aboriginal people, in order to gain access to research subjects.⁹⁰ Even as Birdsell was examining Pitjantjatjara people around Maralinga and testing their blood for evidence of natural selection and genetic drift, British authorities were making plans for nuclear tests in the desert there. In 1956 and 1957, scores of people whom Birdsell had “calculated” were exposed to harmful doses of radiation, and their land was contaminated.⁹¹ But colonial predicaments of this sort did not trouble his meticulous studies of Aboriginal microevolution.

SALVAGE GENETICS AND POLITICAL DENIAL

“For several years it has been apparent that an ecological approach is imperative for all studies in population genetics,” Birdsell wrote in 1953, “including

88. Birdsell, 4 Jul 1953, *ADFF*, vol. 1, p. 170.

89. Ann McGrath, *Born in the Cattle* (Sydney: Allen and Unwin, 1987); and Tim Rowse, *White Flower, White Power: From Rations to Civilization in Central Australia* (Melbourne: Cambridge University Press, 1998). Aboriginal pastoral workers at Pilbara, one of Birdsell’s research sites, went on strike from 1946 until 1949.

90. Geoffrey Gray, *A Cautious Silence: The Politics of Australian Anthropology* (Canberra: Aboriginal Studies Press, 2007). Even so, Fossil Downs, Kalumburu Mission, and Roebuck Plains all refused permission.

91. Adrian Tame and F.J.P. Robotham, *Maralinga: British A-Bomb Australian Legacy* (Melbourne: Collins/Fontana, 1982); and Alan Parkinson, *Maralinga: Australia’s Nuclear Waste Cover-Up* (Sydney: ABC Books, 2007).

those pertaining to man.”⁹² The biological anthropologist believed that mathematical elaboration of population genetics was running far ahead of its application to natural populations, especially humans. “Man is sometimes considered an intractable subject for studies in population genetics.”⁹³ As Birdsell tried to correct this lapse, his attention turned first to environmental influences on human population abundance and distribution. Tindale had pointed out to him the correlation between tribal dispersal and span—in effect, tribal boundaries—and ecological or geographical limits. In Adelaide, Tindale had become aware of the ecological analyses of his friends Charles Birch and Herbert Andrewartha, who showed that insect populations varied with temperature and humidity, which affected food resources.⁹⁴ This Malthusian insect dynamic seemed germane to Aboriginal populations too. Birdsell determined that the size of the territory of a tribe, or genetic isolate, was inversely proportionate to its country’s mean annual rainfall.⁹⁵ “The densities of Australian Aboriginal tribes are rigorously subject to environmental determinism,” he wrote, “these populations must have been in essential equilibrium with their environment.”⁹⁶ Harsh environmental conditions meant that genetic isolates were sparsely distributed over most of the continent, especially the inland, producing genetic distance that Wright predicted would result in rapid evolution.

But the intricacies and sheer magnitude of Birdsell’s Australian research material continued to defy analysis until the 1970s, with the advent of

92. G. A. Bartholomew and J. B. Birdsell, “Ecology and the protohominids,” *American Anthropologist* 55 (1953): 481–98, on 496.

93. Tindale, “Distribution of Australian Aboriginal tribes” (ref. 37). See also Norman B. Tindale, *Aboriginal Tribes of Australia* (Berkeley: University of California Press, 1974).

94. L. C. Birch, “The intrinsic rate of natural increase of an insect population,” *Journal of Animal Ecology* 17 (1948): 15–26. In the 1950s, Birdsell frequently referred to Birch’s work. He took the concept of intrinsic “carrying capacity” from Ellsworth Huntington, *Civilization and Climate* (New Haven, CT: Yale University Press, 1915); and T. Griffith Taylor, *Environment, Race, and Migration*, 2nd ed. (Toronto: University of Toronto Press, 1946).

95. More generally, see Alison Bashford, *Global Population: History, Politics, and Life on Earth* (New York: Columbia University Press, 2014).

96. Joseph B. Birdsell, “Some environmental and cultural factors influencing the structuring of Australian Aboriginal populations,” *American Naturalist* 87 (1953): 171–207, on 201, 202. See also Joseph B. Birdsell, “Some population problems involving Pleistocene man,” *Cold Spring Harbor Symposium in Quantitative Biology* 22 (1957): 47–69; and “Ecological influences in Australian Aboriginal social organization,” in *Primate Ecology and Human Origins: Ecological Influences on Social Organization*, eds. Irwin S. Bernstein and Euclid O. Smith (New York: Garland STPM Press, 1979), 117–52.

improved computer technologies.⁹⁷ “We have now reached a point where the data from natural populations must be used to totally redefine the classic mathematical models of evolution,” Birdsell wrote in 1966. “If all is not chaos in the world of natural population variations, it is nevertheless much too complicated to allow single summary figures to stand for the realities of biological difference.”⁹⁸ And still his colleagues waited for the spirit of Birdsell to dispel the darkness from the face of the deep. In 1972, he offered an intriguing outline of some of the results. During the early 1950s, he had collected data on some 1,678 “full-blooded Australian Aborigines,” who made up the “largest number of tribes continuously distributed in a space which could be samples at that late date.” The twenty-eight tribal isolates constituted “small, unique, and finite genetical universes.” He described the “clinal topography” and “genetic escarpments” of alleles of the Rh blood group, explaining how drift and “bottlenecks” might account for variations in the density of the genes.⁹⁹ But the remainder of his results would be obscure for another twenty years, long after he retired with his third wife Röslein to the house in Malibu Canyon, where he pottered around the garden in his uniform of baggy corduroy pants, flannel shirt, and smashed felt hat, occasionally venturing into campus to run some data through the computer.

Most anthropologists having forgotten his research expedition, Birdsell finally published in 1993 *Microevolutionary Patterns in Aboriginal Australia*, dedicating the book to Wright. It was the summation of his fieldwork in the late 1930s and early 1950s, when he examined more than five thousand “Aborigines and hybrids.” He claimed to have proven for the first time in a natural population Wright’s shifting balance theory of evolution, the idea that random and unpredictable changes in the gene pools of small, isolated breeding groups led to rapid evolutionary progress. He emphasized particularly stochastic events such as genetic drift and founder effect, largely discounting adaptive changes. In general, he chose to substitute processes of migration and hybridization for the effects of natural selection. Most of the text was given over to detailed accounts of more than 150 clinal topographies in serology, dentition, and morphology. This implied a remarkably varied genetic terrain.

97. Warwick Anderson, “Following racial paper trails,” in *Health and Difference: Rendering Human Variation in Colonial Engagements*, eds. Alexandra Widmer and Veronika Lipphardt (New York: Berghahn, 2016), 224–31.

98. Joseph B. Birdsell, “Comment,” on W. W. Howells, “Population distances: Biological, linguistic, geographical, and environmental,” *Current Anthropology* 7 (1966): 531–40, on 537.

99. Birdsell, “The problem of the evolution of human races” (ref. 2), 144.

“It would be impossible to pick a single tribal deme from the 600,” Birdsell concluded, “and say this represents the ideal Australian type. There is no such thing.”¹⁰⁰ He still insisted that north-south gradients must indicate different migrations, rather than population adaptation.¹⁰¹ What interested him most, however, were tribal peaks and troughs in blood group alleles and physical features. For example, the amazingly high levels of R^z blood type in three tribes in the Great Sandy Desert of Western Australia probably derived from a founder effect, when a severe drought about three hundred years ago drastically reduced the breeding population. Eventually, gene flow from adjacent tribes would flatten these peaks. Similarly, a founder effect might have caused high prevalence of tawny hair in southern portions of the Western Desert, though its spread elsewhere, Birdsell conjectured, suggested a degree of environmental “fitness.” Birdsell’s focus remained steady on gene flow, which tended to displace to the margins of his analysis any ecological or environmental influence.

Astounded that the book appeared almost fifty-five years after Birdsell began his research, reviewers nonetheless admired the author’s prodigious industry in the field and his meticulous calculations. Usually, they expressed dismay that evolutionary analysis was still hobbled to the trihybrid theory. When younger investigators reassessed Birdsell’s findings, they demonstrated significant associations between climate and the body build of Aboriginal Australians, reflecting biological adaptation to local Holocene conditions. Birdsell’s description of the Carpentarian type matched the sort of bodies one would expect to find in hot places. Committed to the attribution of divergent phylogenetic backgrounds, Birdsell too readily had dismissed processes of natural selection. Additionally, the younger generation criticized his erratic sampling technique, absence of information on age distribution, paucity of women research subjects, and failure to consider lifestyle, nutrition, and health status.¹⁰² But the remnant trihybrid theory did receive commendation from an unlikely, and

100. Birdsell, *Microevolutionary Patterns* (ref. 10), 435.

101. For example: “While local adaptive changes are no doubt present, they have been overshadowed by attributes characterizing the incoming Carpentarian populations from the north” (Birdsell, *Microevolutionary Patterns* [ref. 10], 451).

102. Ian Gilligan and David Bulbeck, “Environment and morphology in Australian Aborigines: A re-analysis of the Birdsell database,” *American Journal of Physical Anthropology* 134 (2007): 75–91. Alan Thorne’s dihybrid theory also was challenged in the previous decades; see Thorne, “The racial affinities and origins of the Australian Aborigines,” in *Aboriginal Man and Environment in Australia*, eds. D. J. Mulvaney and J. Golson (Canberra: ANU Press, 1971), 316–25.

somewhat disreputable, source. In 2002, it featured as a minor skirmish of the Australian history wars, when Keith Windschuttle and Tim Gillin asserted that Aboriginal “extinction” of an earlier pygmy race, which they inferred from the trihybrid theory, validated, or at least naturalized, white invasion and Aboriginal dispossession. Given the atrocities supposedly committed by their ancestors, contemporary Aboriginal activists could not moralize on settler colonialism.¹⁰³ But a biological anthropologist and an archeologist responded that Birdsell’s theory had been abandoned years earlier because there was no evidence to sustain it—not because of “political correctness.” By invoking the discredited trihybrid theory, Windschuttle and Gillin were engaging “in a fanciful and ultimately superficial discussion of Australia’s past.”¹⁰⁴

Looking back on Birdsell’s career, one sees the themes of salvage genetics and sociological indifference or denial emerging with stunning clarity.¹⁰⁵ Although he felt compelled as a young physical anthropologist to express interest in the contemporary hybridization of Aborigines and Europeans—in the fate of migratory whiteness in Australia—the subject never really excited him. Rather, he sought to uncover the biological history of Aboriginal Australians, invoking older waves of migration and hybridization, and later seizing on evolutionary processes such as genetic drift and founder effect, while neglecting natural selection. He wanted to reconstruct the history of Aboriginal gene flow; he hoped to salvage Aboriginal genetic history before it was too late. Birdsell blithely dismissed Aboriginal beliefs about what it means to be human; he had no time for Aboriginal stories of their past, or any assertions of being rooted in the land. His evolutionary time frame thus differed from Indigenous historicity even as it ran counter to settler colonial historicity, which was oriented toward the white nationalist future.¹⁰⁶ For Birdsell, population

103. Keith Windschuttle and Tim Gillin, “The extinction of the Australian pygmies,” *Quadrant* 46 (2002): 7–18. On the Australian history wars, see Stuart Macintyre and Anna Clark, *The History Wars* (Melbourne: Melbourne University Press, 2003); and Bain Attwood, *Telling the Truth About Aboriginal History* (Sydney: Allen and Unwin, 2005).

104. Michael Westaway and Peter Hiscock, “The extinction of rigour: A comment on ‘The extinction of the Australian pygmies,’ by Keith Windschuttle and Tim Gillin,” *Aboriginal History* 29 (2005): 142–48, on 146.

105. On salvage biology more generally, see Radin, *Life on Ice* (ref. 77). On salvage ethnography, see Jacob W. Gruber, “Ethnographic salvage and the shaping of anthropology,” *American Anthropologist* 72 (1970): 1289–99.

106. Issues of historicity, weedy and otherwise, are explored in Warwick Anderson, Miranda Johnson, and Barbara Brookes, eds. *Pacific Futures: Past and Present* (Honolulu: University of Hawai’i Press, 2018).

genetics became a method of ignoring contemporary Aboriginal degradation, suffering, and dispossession, of deflecting attention from the depredations of the settler state, of effacing practices of resistance—a method of sociological and political evasion, in effect. It allowed him to reinvent the Aboriginal past, but it offered contemporary people no grounds for resistance in the present and no path to the future. It was, in this sense, a retreat from Australian modernity, and its attendant racial discrimination and social injustice. When anthropologist Robert A. Littlewood went to Cape Barren Island in Bass Strait to inquire into the people who were numbers in Birdsell's prewar research, he found there "objects of discrimination, demoralized, deculturated, and subject to interviews and teams of welfare workers." He had come "to treat them as biological specimens," but "it became abundantly clear that the islanders would not allow themselves to be treated as objects for purposes of furthering my career." When Littlewood asked Birdsell what he could do, the older human biologist responded "to the effect that he figured his expedition of 1939 was probably the last time one could have taken blood from an islander with a straight face."¹⁰⁷

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107. R. A. Littlewood, "Jo Birdsell, a brief memoir," in Mai et al., eds., *The Perception of Evolution* (ref. 4), 15–20, on 19. On contemporary Aboriginal attitudes toward blood, see Emma Kowal, Ashley Greenwood, and Rebekah E. McWhirter, "All in the blood: A review of Aboriginal Australians' cultural beliefs about blood and implications for biospecimen research," *Journal of Empirical Research on Human Research Ethics* 10 (2015): 347–59.