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ON THE SETTLEMENT OF EASTER ISLAND: IN RESPONSE TO PAUL BAHN

George W. Gill, Ph.D.

In his recent article in *RNJ* Vol.7(3) entitled "Rapa Nui Rendezvous: A Personal View" Dr. Paul G. Bahn very effectively recapitulates some of the events of the August 1992 Rapa Nui Rendezvous in Laramie, Wyoming. Those of us involved in the organization and conduct of the Rendezvous, including some committee members from far away from Laramie (such as Sonia Haoa from Easter Island who did a lot of work on the conference) wish to thank Paul for his generous comments. We also concur with almost all of his criticisms. For instance, we all felt afterward that much more discussion time was needed following the papers. We wish to urge future organizers to plan much better for this. They should keep in mind that Rapa Nui researchers have more interest in topics *outside* of their own discipline (as long as it relates to Rapa Nui) than most other conference groups comprised of scholars from disparate backgrounds.

Bahn's Comments

Be all that as it may (and we will hopefully have plenty of time to discuss such details in the future), my primary purpose for writing at this time is to respond to Paul's comments regarding my co-authored paper (with Haoa and Owsley) "Easter Island Origins: Implications of Osteological Findings." Initially Paul characterizes succinctly the basic premise ". . . that a bunch of Marquesans headed east to South America, stayed there a while, and then, in heading home to Polynesia, accidentally (in the Humbolt current) reached Easter Island and never left it. Hence they were Marquesans but had acquired some South American physical features, and they came from the west but arrived from the east!" Then Bahn goes on to say, "In some ways it's a satisfying idea, but alas it doesn't hold up to scrutiny in terms of either botany (the sweet potato, supposedly of South American Origin, is found throughout Polynesia, not just on Easter Island) archaeology (the above-mentioned lack of Peruvian culture on the island) [no potsherds, no pressure flaking, no textiles], or genetics: Erika Hagelberg's soon-to-be-published data on the mitochondrial DNA of Easter Island skeletons will have a marked impact on this theory."

I guess I feel that this is where Paul must have missed a few of the key points of the paper (as well as Chapman's related report). Perhaps we failed to make completely clear in our papers that we hypothesize *no introductions* (culturally or physically) by South American Indian females into this overwhelmingly East

Polynesian population. Chapman's view (different from my own) was quite carefully stated in his presentation. He visualizes--according to the Rapa Nui folklore as related by Englert (1970)--that a small boat load of *Hanau eepe* men arrived from South America in the Middle Period, and took wives among the *Hanau momoko*. My own theory of a much earlier introduction of the South American Indian trait (on board the very first Polynesian canoe, as Bahn relates) also does not necessarily postulate the presence of Amerindian females. In our paper I mentioned the possibility of a couple of stone carvers (which I assume would be men and not women). Gene flow throughout human history (particularly when it is introduced in small doses) seems to often be the contribution of only males--from the large parental population to the newly encountered one (Garn 1971, Stanford 1993) (traveling traders, hunters, soldiers, sailors).

So, neither Chapman nor I would expect potsherds, textiles (both products of female activity) or the slightest trace of South American mtDNA (which comes *only* down the maternal genetic line) on prehistoric Easter Island. Developed lithics with pressure flaking might be a different story. If the skills for the production of the nicely developed pressure-flaked lithics common to many South American cultures were skills possessed by all South American Indian males (even those with specialties as fishermen or stone carvers), then we would expect to find such stone working on Easter Island. If, on the other hand, this kind of lithic production was the work of specialists, then we would probably not expect to find evidence of it. As a physical anthropologist, Paul, I guess I will direct the question back to you!

To find evidence on prehistoric Easter Island of either textiles, potsherds or mtDNA of South American origin would actually be damaging to my settlement hypothesis and would virtually annihilate Chapman's. It would, however, strongly support Thor Heyerdahl's idea of actual voyages by South American Indians. So, needless to say I will be very surprised if we ever do retrieve evidence of South American mtDNA, potsherds or textiles from Rapa Nui prehistory. Lithics exhibiting pressure flaking of some American style, I for the moment view as probably "neutral" regarding my hypothesis (but think that such evidence would be essential to Heyerdahl's view and quite handy for Chapman's, too--who envisions ten or so men from South America).

Now let's look for a moment at the sweet potato.

Paul Bahn correctly infers, according to my position on settlement, it was in all probability picked up in South America (along with the two or three stone carvers) and arrived with the Polynesian settlers. As to how the sweet potato made it to the rest of Polynesia let me suggest a couple of possibilities. First, it seems to me (remember that this is a physical anthropologist speaking!) that it could have spread from Rapa Nui to Tahiti (and thence to the rest of Polynesia), or it could have made it to the Marquesas Islands first, the same way that it made it to Easter Island (either earlier or later), that is, on board a Polynesian canoe returning (this time successfully) from the Americas to East Polynesia as Peter Buck (1938) postulates. I am afraid that my knowledge of Polynesian plant domesticates (and supposed directions and timing of the diffusion of them) is not sufficient to choose between these two possibilities. I will only say one thing regarding the possible spread of the sweet potato from Easter Island. That is, if Leonardo Pakarati and a handful of other modern Rapanui could make it successfully from Easter Island to Tahiti in a tiny boat, then I am sure that their prehistoric ancestors could have done the same.

Review of Settlement Hypotheses

Just to alleviate the tendency for further misunderstandings, as we all await publication of our Rendezvous reports, let me outline briefly the three hypotheses on the settlement of Easter Island which have been proposed and which still remain consistent with our recent osteological findings:

1. An early South American Indian element on Easter Island, as Heyerdahl (1989, 1993) has postulated, which was later overwhelmed by Polynesians from the west.

2. An East Polynesian population established on Rapa Nui first, and then influenced perhaps in the Middle Period, by a raft load of lost South American Indian sailors who landed there and married into the population, as suggested by Englert (1970), Bellwood (1978) and more recently Chapman (1993) based upon folklore evidence.

3. An East Polynesian migration, probably from the Marquesas Islands, following the equatorial counter current, which made landfall in the Americas. Over a period of years the Polynesians came to inhabit and explore the coastal islands and the coast itself of South America, borrowing some cultural elements, losing others and developing some unique ones. In an attempt to return to East Polynesia on a new colonizing voyage, they were swept into the Humboldt current and eventually arrived on Easter Island (Gill et. al 1993).

It would seem to me at this point in time that the least likely settlement hypothesis is the traditional one, that is, the idea that Polynesian settlers reached Rapa Nui from the west, without prior or subsequent influence of any kind from the Americas. This would

require such incredible coincidence regarding discrete skeletal trait frequencies, from particularly the northeast coast of Easter Island, that for the time being (until further studies of discrete traits in and around the Pacific) we intend to drop it from the list of possibilities (or at least relegate it to the least parsimonious of all existing hypotheses).

For Heyerdahl's view to be validated it would seem that we should not only find all of the items mentioned by Bahn (ceramics, textiles, pressure-flaked lithics and mtDNA from the Americas) but probably stronger suggestions from art, architecture and physical anthropology (craniometrics for instance).

Even though it is quite true that hypotheses #2 and #3 above are not in any way mutually exclusive, for those who wish to support the concept of the Middle Period raft load of lost Peruvians as the sole source of the South American Indian traits on Easter Island, I wish to pose some tough questions. First, could an island-wide reduction in rocker jaw frequencies (from an East Polynesian norm of over 80% down to 48.5% on Rapa Nui (Gill 1990) be the result of a few *Hanau eepe* men marrying into a Polynesian population of thousands? Or could the frequency of elliptic-shaped palates (apparently almost unknown among East Polynesians) reach frequencies on both the northeast and south coasts of over 50% (nearly as high as Peru itself) from the same small, relatively late genetic introduction? These two trait frequencies, supported by several others almost as compelling, force me to an answer of *no!* A very early introduction of even fewer genes of South American origin, however, among a small number of original Polynesian settlers could very easily account for all of the discrete trait frequencies found in our study.

I wish to thank Paul Bahn for including his comments on my new "settlement theory" along with his excellent write-up on the Rapa Nui Rendezvous. This has not only afforded the opportunity for further clarification of some important points, but opens up the opportunity for needed further dialogue between the human osteologists and other Rapa Nui researchers. A topic this broad certainly needs contributions from all areas of Easter Island research. Grant McCall and others have also relayed valuable information and suggestions to help us along with the testing and development of this new hypothesis. We welcome information and/or criticism from the rest of you too.

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REVIEWS AND PUBLICATIONS

Grau, V., Dr. Juan. 1993. *Aventuras en Isla de Pascua* (Adventures in Easter Island). Ediciones OIKOS Ltda, Agustinas 641-11, Santiago, Chile. 313 pp. (In Spanish).

*Review by William Liller, Ph.D.
Viña del Mar, Chile*

Those who attended the *Rapa Nui Rendezvous* last August in Laramie remember well the tall, bearded Dr. Grau who spoke knowingly about *Jubaea chilensis*, the Chilean palm tree that once may have forested Easter Island. Dr. Grau is well-known to *chilenos* in several ways: as the Secretary General of the Instituto de Ecología de Chile, as a highly respected medical doctor, and most recently as a prolific author. In 1993 alone, OIKOS Ltda, churned out an amazing seven (at least) full-length books of his, ranging in topics from the care and treatment of asthma, the raising and protection of chinchillas, how and why to stop smoking, and three books of a series, *La Ecología del Pequeño José*, relating the adventures of a 12-year old boy in the mountains of Chile, then on the coast of Chile, and now on Easter

Island. In these books, José travels with his widowed mother, his 6-year old brother, their little dog Tuki, and the wise and knowledgeable grandfather, Don Juan, who is none other than Dr. Grau.

Aventuras en Isla de Pascua is thinly disguised as fiction: the group stays at the home of Orlando Paoa whose daughter Julia Paoa Hotus is, in fact, Grau's god-daughter (the book is dedicated to her). On the first morning, José meets Hetereki Hotus Tepano, the 12-year old son of Alberto Hotus, and the two boys set off on horseback on an exciting adventure involving stolen antiquities hidden in a cave on the Poike peninsula.

Later, José attends classes at the island school and learns much of Easter Island from his teachers of history (Ana Maria Arredondo), the Rapanui language (Marikú Hey Paoa), and natural sciences (María Hernández). On week-ends they visit the well-known island sites and learn first hand about them from various local experts (also named). In addition, Don Juan (Grau) gives talks to island groups about the flora, the fauna, and the frail island ecology, and throughout the book he liberally sprinkles stern warnings about the increasingly rapid deterioration of our planet and especially Easter Island--and what we must do to conserve them both.

The book is loaded with information about the island, and for those with ages from 8 on up and able to read Spanish, it is an entertaining introduction to Rapa Nui. There is no question about it being up to date since Dr. Grau refers several times to the *Rapa Nui Rendezvous*. In particular, he tells us about a conversation that he had with Thor Heyerdahl. Grau asked, "How is it that if the islanders migrated from the continent as you believe, they did not bring metal tools with them such as they used every day?" Grau reports that Heyerdahl pondered in silence a short while--and then changed the topic of conversation. Touché!

This nicely--but frugally--illustrated (drawings only) paperback can be ordered directly from the publisher.

[Editor's note: this book has just been released in English (1994) and a version in Japanese is being planned. The price (sent airmail) is US \$25. Specify English or Spanish. Write to Ediciones Oikos, Ltda, Agustinas 641, Depto. 11, Santiago de Chile.]

