

1. In the same room in which he found the Anan seal and in close association with it, Fred also gathered a number of clay balls about an inch or two in diameter. It is likely that the balls were used for accounting purposes in keeping track of grain transactions.

2. The engraved portion of the Anan seal is colored with a red pigment. There has been speculation that this is ochre or iron-ore and that it has ritual significance. Fred thinks it is more likely that it is hematite or some other ferrous material that was used to polish the seal to a high sheen. His theory is persuasive, since the red residue has also clung to the damaged part of the graph for "grain." Still, only chemical analysis will provide a conclusive answer to the nature of the red coloring in the Anan seal inscription.

\* 3 I'm very troubled by how closely the Anan seal and the Niyä seal resemble each other (stamp seals with perforated bosses, polished lignite, about same size, about same number of characters in a similar arrangement, both seem to have to do with grain administration, both with Chinese characters and yet both so far away from China — and no models for this type of grain administration seal in China proper) and yet how distant they are from each other in time! What's going on here? Could the Niyä seal be much earlier than the Han Dynasty (which Chinese scholars, not without reason [Niyä

is primarily a Han period site - it was known to the Chinese of the time as <sup>the country of</sup> Jingjue; the shape of the seal; the small seal forms of the characters] assume it to be)? We must remember how small these seals are - almost small enough to slip through a screen with a quarter inch mesh, and easy to be mistaken for a mere, <sup>dust-covered</sup> pebble even when caught in the screen with other stones, dirt, and debris. Even with the careful techniques of modern archaeology, little seals like this are liable to get tossed out with the backfill. Maybe there were a lot more seals like this in Central Asia, and now that Fred <sup>has</sup> caught one - plus the extraordinary match with the find from Niya - excavators will be all the more careful, with the result that more will start turning up.

4. It's not so odd to find Chinese characters at Niya, certainly not for the Han Dynasty, but it is absolutely mind-boggling to find them at Anau at 2300 BCE. I am convinced, as are Professor Qiu and other excellent paleographers, that the inscription on the Anau seal bears graphs that are Chinese characters (their view) or are closely related to the Chinese writing system (my view). But what is the nature of that relationship? \*

5 The Chinese script is usually thought of as evolving through the following <sup>early</sup> stages: oracle bone inscriptions (roughly late Shang [1200-1045] BCE), bronze inscriptions (roughly Zhou), small seal [Qin and Han]. Is it pos

sible that the small seal form of the script (as on the Niya seal) could have evolved earlier? That does not seem likely, since it was the result of Qin reforms of earlier "big seal" (daqinwen) forms. In other words, the progression of the Chinese script (oracle bones, bronzes, big seal, small seal, and so on) seems to be a natural one (the evolution of the forms from archaic to developed is evident). So we are stuck with the Niya seal really being a Han period product, albeit out there in Eastern Central Asia. It's very hard to nudge it back closer in time to the Anau seal. Even though geographically Niya & Anau are both out there in Central Asia with large, temporally there's an enormous gulf between 2300 BCE & 100 CE/AD. And yet I think it's fairly obvious that these two seals belong to the same tradition. This assumes an impressive degree of continuity over more than two millennia. But such things do happen, and right there in Central Asia. I really must close now (I have other work to do!) and will do so with one very convincing example of the continuity of culture in Central Asia. At Loulan (Korssain/Korair), we find pointed felt hats with feathers stuck in them and cords wrapped around them (un-  
 family resembling Alpine hats in these respects) from 1800 BCE  
 to around 100 CE/AD.

The implications of the Anau seal inscription are vexing. I have lost a lot of sleep over this pretty little piece of black stone and will undoubtedly lose a lot more.

Yesterday I met with Fred again for long talk when I showed him photographs of the Nijzi seal, he was stunned how similar it is to the Anau seal. We spent the next and half talking about the relationship between the seals and, once more, reliving step-by-step the moment exact circumstances under which the Anau seal was found

Fred showed me dozens of slides of the excavation site. I have now become so familiar with the surroundings that I feel as if I have actually been there myself

The walls and floor of the building from which the seal emerged are very solid, as is the earth which covered everything to a depth of 2.5 meters. I saw absolutely no evidence whatsoever of intrusion due to water, birds, or rodents.

Fred "introduced" me to Volodya, who was in the room excavating when the seal was brought out, and to Merdan, who was manning the screen when the seal was caught in it and tossed over onto the backdirt pile

Murad, Fred's colleague, was driving back from town where he had gone to take care of business relating

encrusted pebble. Certainly it was not shining when Fred first received the seal from Murad. It was because he wanted to get a better look at the seal that Fred took it over to the irrigation canal and washed off all the caked-on dirt. Realizing that he had discovered a stamp seal, Fred was naturally pleased (especially because it was so pretty and gleaming), but he was — at the same time — disappointed because he thought he had come upon a Harappa or Harappa-like seal, and that is far from what he would have expected to find at Anax circa 2300 BCE.

After my third marathon session with Fred, I immediately called Naomi Miller — at his suggestion. Naomi is a research specialist in the world famous Museum Applied Science Center for Archaeology (MASCA) at Penn. She is much sought after by expedition leaders (not just from Penn) who rely upon her expert identification of paleobotanical materials. Naomi has vast experience and the most impeccable credentials. She was present at the site in late May — early June when the Anax seal was discovered. As usual, she was working in her flotation shed, extracting seeds and other lightweight materials from sample buckets of soil. Her recollection of the discovery of the seal dovetails per-

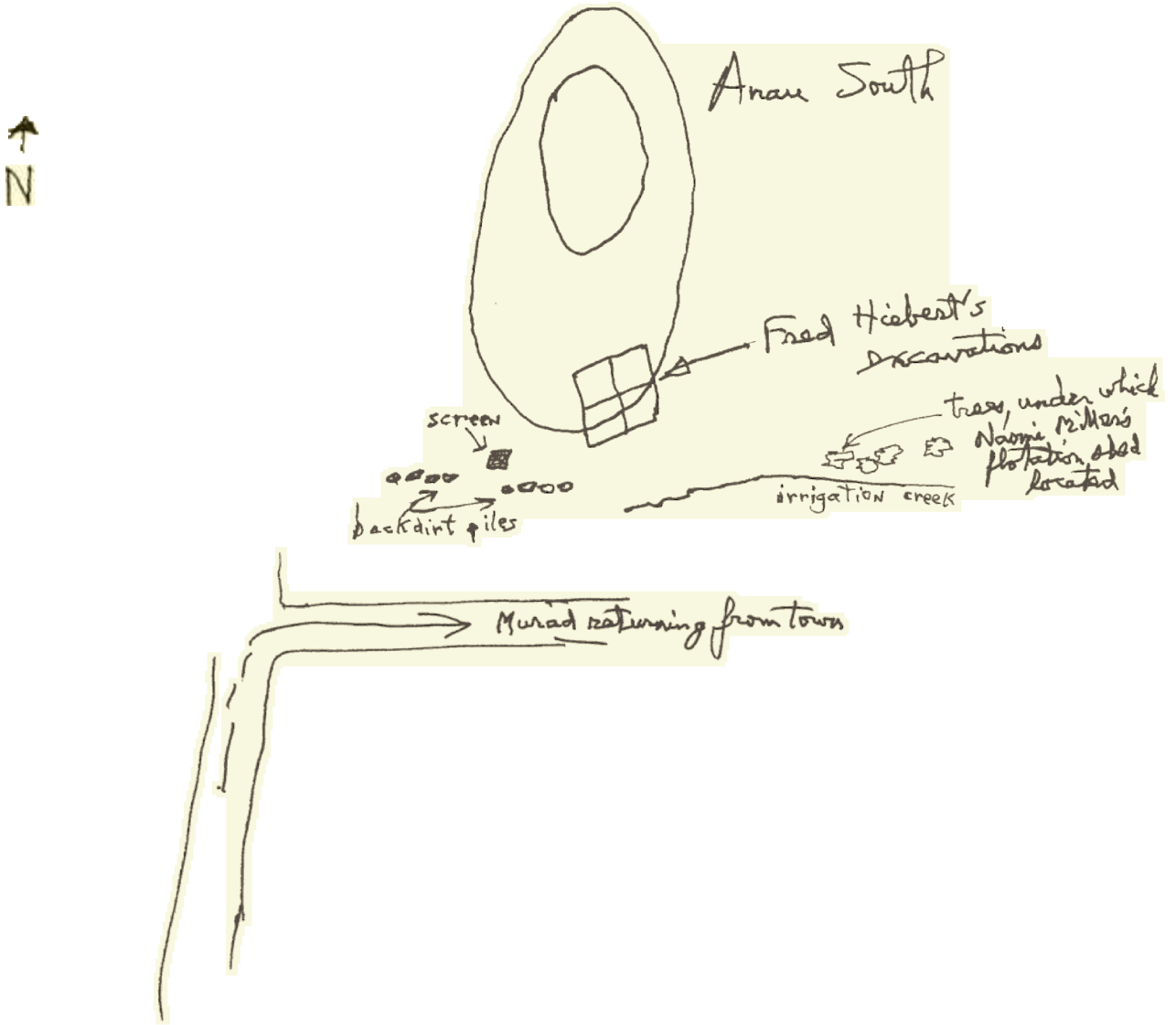
partly with Fred's.

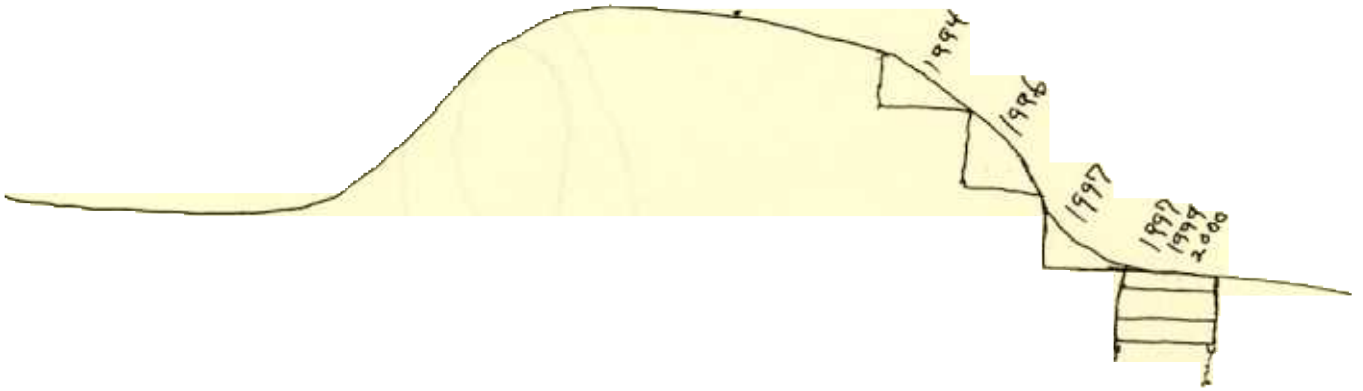
Naomi described Murad as a highly professional and honorable archaeologist who could not conceivably have planted the seal on the back dirt pile. She described Murad's excavations of the North Mound twenty years earlier as being of such excellent quality that Fred's expeditions from 1994 to 2000 were able to rely on them with complete confidence in making correlations with ~~his~~ <sup>their</sup> own work.

After I told her about the Niyi seal and Chinese-like nature of the writing on the Anan seal, Naomi also volunteered the possibility of intrusion. However, <sup>1</sup> he was intimately familiar with the stratigraphy and the telluric features of the site. In her estimation, the Anan seal came from the 2300 BCE level and properly belongs with it. I have to trust Naomi, because I know her to be a scientist of unerring judgement and awesome reputation.

Considering all of the evidence that I have been able to assemble during weeks of investigation, I can only conclude that the Anan seal must really date to 2300 BCE. Since the inscription it bears is inescapably linked to the Chinese writing system, which hitherto was known only to have arisen 1200 years later and thousands of miles to the east, the Anan seal forces us to rethink — in a most radical fashion — the origins of the Chinese script.

Sketch of Site  
(very rough)





Anau South (side ew)

Fred Hebert's excavations  
99 2000

Raphael Pumpelly's trench of the early twentieth century was higher up on the mound. A large water tank now rests upon it.

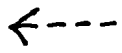
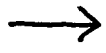
On the following page is a photograph of the room in which the Anan seal was found. The exact spot is marked by the intersection of the two solid arrows in the upper left corner. The intersection of the two dotted arrows marks a nicely finished threshold stone. The large, sun-dried bricks are also well formed. The high quality of the construction is evident throughout.

The same room with the seal were found a number of clay accounting balls.

Running along the outside of the building (i.e., the right side of the photograph) was a road.

is clear from this photograph and from the many other photographs of the site ~~that~~ I have seen that the earth is very solid. Even with a magnifying glass, I could detect no evidence of rodent holes, bird tunnels, or damage from erosion. It is virtually impossible that the Anan seal could have worked its way down through 2.5 meters of hard-packed soil from the surface (500 BCE). Even if a wandering Chinese grain merchant <sup>deserted</sup> since (very far from home!) had decided to climb up on the mound in, say 100 CE (for a better view?) and (in)conveniently lost his stamp seal, I still don't think there's any chance that the seal could have ended up at the 2300 BCE level where it was found.

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Name: P0002562.JPG  
Dimensions: 1024 x 1536 pixels

Courtesy of Fred Hiebert

The discovery of the Anau seal inscription is, in a way, disorienting. Although, to me personally, it is not at all unexpected, it will be very difficult for many scholars to come to terms with; historians who specialize in the origins of Chinese civilization and, especially, Chinese writing; students of the history of writing in general; specialists on Central Asian and Middle Eastern civilizations; and so on.

Like the Harappan script, the Anau script may have been largely limited to seals.

3. Although the oracle bone script appears to have been fully developed writing system, it was restricted exclusively to divination.

Jet is apparently not a common substance for seals. The only two Fred Hiebert knows of are the Anau seal and the Niyä seal.

5. The characters on the Anau seal are extremely well formed and stylized. They do not look primitive or pictographic, although - in comparison with the characters on the Niyä seal - they do appear to be relatively archaic. As I stated the very first time when asked by Fred, the Anau inscription represents a stage of writing that it is relatively advanced. This is not writing at its very earliest stages,

when it is just emerging from pure pictography and ideography. Although the Anau script is still <sup>syllabic</sup> ~~a syllabic~~, the graphs are fairly simple and linear. This is not a writing system that had just been invented out of whole cloth. It undoubtedly has a background of its own.

6. The BMAC and other Bronze Age civilizations of Western Central Asia (e.g., Namagga) are replete with isolated symbols that are found on pottery, figurines, spindle whorls, amulets, and other objects. Such symbols are usually either quite complicated (with many strokes) or very simple (with just a few strokes—two or three). They seldom have a middle ground of 4-7 strokes as do the graphs on the Anau seal. In any event, the Anau seal provides us with a glimpse of a script that was hitherto completely unknown for Central Asia.
7. It is obvious even to the neophyte that the Anau script is unrelated to the Harappan (Indus Valley) and proto-Elamite scripts, its closest neighbors in time and space. The roots of the Anau script lie elsewhere.
8. When Fred showed the Anau seal to Robert Dyson, former Director of the University of Pennsylvania's Museum and a distinguished archaeologist of the Iranian Plateau, Dyson told him, "Good job, Fred! Now go out and find a hundred more like it." In a sense, that is good advice. To document securely the existence of the Anau

script and provide ample materials for its decipherment, many more examples will have to be adduced. Nevertheless, I commend Fred for publicly announcing his discovery of the Anan seal, for it will cause archeologists to be all the more attentive to dirt-caked and dust-covered little stones that may actually be of their precious evidence of lost civilizations. And it will also cause scholars to reassess materials in museum collections and in old publications that have not yet been fully understood, such as the Niyi seal.

9. The Anan seal will surely add fresh fuel to the fires of those <sup>(viz. some of the Nostraticists)</sup> who believe that Sinitic and Caucasian are related. <sup>⊗</sup> I myself am skeptical (although not entirely dismissive) of the Sino-Caucasian hypothesis, since the earliest identifiable loans into Sinitic that I can discern (presumably dating to the early or mid-second millennium BCE) are overwhelmingly Indo-European. A close connection between Sinitic and IE also fits the pattern of archeological and cultural flow from the steppes and down into China at this very

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⊙ hold that they were Indo-Iranian, but not all scholars would agree that this is indeed the case.

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⊗ Because it puts something Sinitic-looking at a place that is not unimaginably distant from the Caucasus and at a time that would be roughly appropriate (although perhaps a millennium or two too late for common identity) for them to have diverged from a single parent. Unfortunately, we have no idea what language(s) were spoken in the <sup>2</sup> BMAC. Some Russian archeologists (e.g., Victor Sarianidi), based on cultural characteristics such as some preparation, would <sup>⊙</sup> alleged

period (bibliographical references <sup>available</sup> upon request, but see especially International Review of Chinese Linguistics, 1.1 (1996)). However, the linguistic matchups between Sinitic and IE are borrowings, not cognates, so Sinitic was probably already formed as a language group by the early 2<sup>nd</sup> millennium BCE. And it is just possible that, during the 3<sup>rd</sup> millennium BCE, there may have been a window of opportunity for a Sino-Caucasian condominium. Still, I believe, <sup>the evidence is very strong that</sup> writing (as opposed to isolated pot-marks) came to China as part of a cultural and socio-political package that included bronze metallurgy and wheeled vehicles, as well as, <sup>specific</sup> calendrical innovations, myths, burial practices, advances in weaponry, the royal hunt, patterns of state formation, etc. Furthermore, these changes are associated with movements across the steppes and down into north China during the 2<sup>nd</sup> millennium BCE when the relevant languages would have been primarily IE. What would have been coming across and down into north China during the third millennium BCE would most saliently have been domestication of ovicaprids and other agricultural practices. These, too, show steppic characteristics (although not necessarily IE).

Wednesday, June 20, I met with Greg Possehl (Chairman of the Department of Anthropology at Penn and an authority on the Harappan script), Holly Pittman (Professor of the History of Art at Penn and a specialist on prehistoric South west Asian seals and symbol systems), and Fred Hiebert from 2-4 in the afternoon at the University Museum

Fred made an outstanding presentation about the background of his excavations at Anau and their progress since 1994. Greg and Holly asked informed questions about the stratigraphy and building levels at Anau. They also pointed out many important correspondences between cultural aspects at Anau & other sites to the east, west, and south

came away from our meeting with the following powerful impression: while the civilization at Anau and elsewhere in the BMAC (Bactria-Margiana Archaeological Complex) may bear a relationship to civilizations of Mesopotamia, the Iranian Plateau, and South Asia, its closest ties are with Central Asia. <sup>The</sup> BMAC is different. Likewise, the writing on the Anau seal is different from writing in

Mesopotamia (not to mention Egypt), the Iranian Plateau,  
 South Asia. The meeting of June 20 only confirmed  
 my initial impressions upon first encountering the Anax  
 seal inscription: it cannot be equated with any of  
 the major writing systems of North Africa, Southwest  
 Asia and South Asia during the mid-3<sup>rd</sup> millennium.  
 The characters that make up the Anax seal inscription  
 are part of a script unto itself. The Anax script may  
 have been, <sup>partly</sup> inspired by some earlier writing system(s),  
 and I believe that, in turn, it may well have inspired  
 the development of writing elsewhere. Still, at this  
 moment, we do not know the precise affiliations of  
 the Anax script. Judging from <sup>Anax's</sup> ~~the~~ archaeological,  
 environmental, and historical connections, however, I  
 would suggest that we should focus <sup>a significant portion of</sup> our investi-  
 gation to the northwest, north, and northeast, rather  
 than merely to the southwest, south, and southeast—  
 as our <sup>usual</sup> cultural predispositions would encourage us  
 (and the culture of which it is) <sup>a part</sup>  
 The most telling linkages of the Anax script may well  
 to the east and west instead of to the south.

I have maintained all along, that the Anau script is not closely related to Proto-Elamite, the Indus Valley script, or any of the other well-known writing systems from the 3<sup>rd</sup> millennium <sup>BC</sup> and early 2<sup>nd</sup> millennium <sup>BC</sup> that lay to the south. To give an idea of the types of symbols that were used at a relatively close southern site dating to the 3<sup>rd</sup> millennium <sup>BC</sup>, I append here the charts of incised and stamped marks that were found at Shahdad. These are taken from the big book of Ali Hakemi, which was kindly lent to me by Holly Pittman. Although the hourglass sign  $\Delta$  does occur (usually oriented as a bowtie  $\bowtie$ ), as does the sign  $\ast$  (though not with an elongated spike extending from the top and bending all the way over down along one side to the bottom), most of the symbols found at Shahdad are more elaborate (even <sup>overtly</sup> pictographic) than the graphs of the Anau inscription. Furthermore, the Anau graphs are extremely well formed. Most important of all, the Anau inscription consists of (at least) three graphs arranged deliberately in such a fashion that they clearly form a coherent group.